

Find out about the latest Toad features!

New In Toad!

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Toad® for Oracle® 9.5

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New in Toad

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What is New in Toad?

These are just a few of the new features and windows. For a full list of new features and bug fixes, please see the release notes.

Version 9.5

In Standard Toad

- A [LOB editor](#) has been added to the Create/Alter table window.
- Data [Import Wizard](#) now supports DBase files.

In the Professional Editions

- There is now an [option](#) to always open the [Parameters window](#) when executing or debugging a procedure.

In the Quest DBA Module

- New [StatsPack Browser](#) lets you browse StatsPack snapshots and view charts and graphs of the data.

In the Quest eBiz Module

- [eBiz Reports](#) have moved to the [Reports Manager](#).

Version 9.1

In Standard Toad

- [Actions](#) added to make performing repetitive tasks easier. You can save, share and run actions from the [Action Palette](#).

Note: Some actions are available only from the Action Palette (for example: [Email Actions](#)).

- [Networking utilities](#) now have an option to change font and background colors.
- The [Master-Detail Browser](#) now has a navigator.
- [Object Search](#) has been expanded.
- [Group Policy Management](#)
- [Command line syntax](#) has changed

Some of Toad's command line parameters have been desupported and changed to a more standard convention, such as -c to connect, -min to minimize window, -max to maximize and -f to load files. -cx <param file> is now used for CodeXpert command line processing. Other specific Toad windows that can run from the command line still support the old syntax, such as analyze all objects, copy data, health check, schema script, schema doc, and schema compare.

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Another important change to note about the command line:

All command line parameter files created by Toad now use AES encrypted passwords that are tied to the machine.

In the Professional Editions

- The debugger now supports "[Smart Watches](#)." Toad can now watch all your variables automatically without specifically setting a watch. If you switch between editor tabs, so will the watch window.
- In CodeXpert, you can now choose to maintain all [DB Inserts in a central repository](#).

In the Quest DBA Module

- Oracle 10i - [DBMS Flashbacks](#) are supported.

In the Quest eBiz Module

- You can now [update Ebiz objects](#).
 - You can view [OAM data](#).
-

Introduction to Toad

Toad is a powerful application development tool built around an advanced SQL - PL/SQL editor. Using Toad, you can build and test scripts, PL/SQL packages, procedures, triggers, and functions. You can create and edit database tables, views, indexes, constraints, and users. The Schema Browser and Project Manager provide quick access to database objects.

Toad comes in several editions, each offering different functionality. For more information on the different editions, please see the Toad Editions topic.

Toad's Editor provides an easy and efficient way to write and test scripts and queries, and its powerful data grids provide an easy way to view and edit Oracle data.

Using Toad, you can:

- View the Oracle Dictionary
- Create, browse, or alter objects
- Graphically build, execute, and tune queries
- Edit PL/SQL and profile stored procedures
- Manage your common DB tasks from one central window
- Find and fix database problems with constraints, triggers, extents, indexes, and grants
- Create code from shortcuts and templates
- Create custom code templates
- Control code access and development (with or without a third party version control product) using Toad's cooperative source control feature.
- Create Projects to more easily manage your work

Debugger

The Debugger lets you step through the code as it executes, and offers PL/SQL debugging, script debugging, and Java debugging. With this module you can run a debug session with or without arguments, set breakpoints, watch variables, and more.

Quest DBA Module

The Quest DBA Module adds database administration functionality to Toad. With this module you can manage space, compare schemas, monitor database performance, create new databases, maintain redo logs, perform health checks, and more.

SQL Optimizer

SQL Optimizer (formerly SQL Tuner/SQL Tuning/Xpert Tuning) identifies problematic SQL directly from your code and provides a powerful SQL rewrite engine that ensures the highest statement quality and performance for users of any experience level.

eBiz Module

Lets you quickly find information in your Oracle e-Business Suite about applications, concurrent programs, current and past activity, users, responsibilities, workflows, flex fields, request sets, patches, profile options, printers, menus, invalid objects, data groups, and more.

Toad Basics

Toad Tips

ToadTips contains easy to follow tips for various windows within Toad. These tips are dynamic, and Toad can check automatically to see if there are new tips (see [Download Toad Tips](#)).

To show tips for all windows

- From the **Help** menu, select **Show Tips**.

To hide all tips but the current tip

- In the tip window, select both **Hide All** and **Except this** check boxes.

To display the entire tip file

- Click the **All** tab in a tip window.
-

Related Topics

[Download Toad Tips](#)

[Show Tips](#)

Using Toad with utPLSQL

Toad works with Steven Feuerstein's open source utPLSQL program, a unit-testing framework for PL/SQL applications.

You can get more information about the background of utPLSQL at: <http://oracle.oreilly.com/utplsql>

You can visit the open source project home page, where you can download utPLSQL: <https://sourceforge.net/projects/utplsql/>

Note: Quest Software, Inc. provides support for these instructions and for the script. Any support issues for utPLSQL should be directed to one of the aforementioned web sites.

To run utPLSQL from the toolbar/shortcut

1. Save the script as **C:\utplsql\runtest** (or any other valid Windows filename).
2. Click the **menu dropdown** for Configure/Execute tools and select **Configure**.
3. Click **Add**.
4. In the Title box type in a title such as **Unit Test in utPLSQL**.
5. In the Program box enter the **path to SQL*Plus**.
6. Type the following in the parameters box:

```
$UID/$UPW@$SID @c:\utplsql\runtest $FIL
```

where the path to runtest is the one you chose above.

7. Click in the **shortcut box** and type in the **desired shortcut**.
8. Press **OK** to finish.

NOTE: If you install the runtest script in a directory that uses spaces, such as:

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C:\Program Files\Quest\...

then you must use single quotes in the parameters box. The same applies for your source code. For example, if you install the utPLSQL package to D:\Program Files\Quest Software\ut_PLSQL then the parameters box should read as follows:

```
$UID/$UPW@$SID @'D:\Program Files\Quest  
Software\utPLSQL\unit_test.sql' '$FIL'
```

Now when you are editing a package file called mypack.pkb or whatever, or its unit test package called utmypack.pks etc it will run utpls.sql.test ('mypack') for you. This relies on you using this naming convention for your files, where the name of the package is reflected in the name of the file.

This script works with Toad:

```
SET serveroutput ON  
SET verify OFF  
DECLARE  
filename VARCHAR2(100) := '&1';  
dot PLS_INTEGER;  
slash PLS_INTEGER;  
BEGIN  
--Strip off the directory  
slash := INSTR(filename, '\', -1, 1);  
IF slash <> 0 THEN  
filename := SUBSTR(filename, slash + 1);  
END IF;  
--Strip off the extension  
dot := INSTR(filename, '.', 1, 1);  
IF dot <> 0 THEN  
filename := SUBSTR(filename, 1, dot - 1);  
END IF;  
--Strip off ut prefix  
IF filename LIKE utconfig.prefix || '%!' THEN  
filename := SUBSTR(filename, LENGTH(utconfig.prefix) + 1);  
END IF;  
--Now run the test  
utpls.sql.test(filename);  
END;  
/  
pause Press ANY KEY TO CLOSE  
exit
```

Toad Error

If a command fails, the Toad Error dialog box appears.



- Use the **Clipboard** button to copy the error. You can then **Paste** it into an email for customer support. (See [Help: Support](#).)
 - If the error dialog box contains an **ORA-number**, as the example above does, click **Help**. Toad calls the Oracle Helpfile and displays the error message topic in a new window. From this window you can print the topic or move to the index or table of contents for Oracle help.
 - If you have the Knowledge Xpert installed (see Add On Products), click **Details** for more technical information about the error.
 - Click **OK** to close the Toad Error dialog box.
-

RAC Support

If you have multiple database server boxes, Oracle RAC lets you start an Oracle instance on each server, and have all those instances open the same shared database (or shared set of data files). In this way, you can scale the size of your database server by adding more computers as you add users. Multiple computers, one database. Toad supports Oracle 10g's support for RAC systems.

Additional Information for RAC Connections

When you log into a RAC connection, Toad notes this fact and makes additional information available in some of its windows to help you manage that connection.

Caption

If a RAC connection is in effect, the caption of the Toad Main window will reflect this by showing: TOAD: RAC[n], where n is the session id.

Connection bar

In the connection bar, RAC connections are listed as SCHEMA@RAC[n], where n is the instance number of the connection.

Database Monitor

Within the database monitor, all information is provided as per a single connection. However, it is summarized or aggregated for all the instances that compose the RAC cluster. For example, looking at SGA memory - if each RAC instance is 150 MB, and you have two RAC instances, this column will display 300MB.

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Oracle Parameters Screen

RAC database single grid view - The **Single Grid** checkbox above the grid and to the right of the toolbar toggles whether Toad displays a single grid or a multi-grid. Toad sorts first by default on the option and then by the instance name for easier readability.

RAC database multi-grid view - If you choose the multi-grid view, Toad displays a separate tab for each RAC instance.

Drag-and-Drop

You can Drag-and-Drop objects between many Toad windows, and between Toad and some external applications.

These possible Drag-and-Drop combinations include:

From	To	Action	Applicable Objects
Project Manager	Query Builder	Objects added to table model area	Tables/Views/Synonyms
	ER Diagram	Objects added to table model area and LHS list	Tables/Views/Synonyms
	Editor	Object name added to editor	All Objects
	Editor	File loaded in editor, or just file contents loaded in editor	Files
	Editor	Object name added to editor	All Objects besides PL/SQL Objects and Types
	Editor	Objects loaded into Editor	PL/SQL Objects and Types
	Editor	File loaded in Editor	Files
	Text Editor	Object name added to editor	All Objects
	Text Editor	File loaded in text editor	Files
	Schema Browser - Favorites Tab	Objects added to Folder in Favorites tab	All Objects supported in Schema Browser besides Synonyms and Types
Script Manager	File Reference added to Script Manager	Files	
Object Search	Query Builder	Objects added to table model area	Tables/Views/Synonym
	ER Diagram	Objects added to table model area and LHS list	Tables/Views/Synonym
	Editor	Object name added to editor	All Objects
	Editor	Object name added to editor	All Objects besides PL/SQL Objects and Types
	Editor	Objects loaded into Editor	PL/SQL Objects and Types

	Text Editor	Object name added to editor	All Objects
	Project Manager	Objects added to Project Manager Project	All Objects supported in Object Search
Object Palette	Schema Browser - Favorites Tab	Objects added to Folder in Favorites tab	All Objects supported in Schama Browser besides Synonyms and Types
	Query Builder	Objects added to table model area	Tables/Views/Synonyms
	ER Diagram	Objects added to table model area and LHS list	Tables/Views/Synonyms
	Editor	Object name added to editor	Tables/Views/Synonyms/Columns
	Editor	Object name added to editor	Tables/Views/Synonyms/Columns
	Text Editor	Object name added to editor	Tables/Views/Synonyms/Columns
	Project Manager	Objects added to Project Manager Project	Tables/Views/Synonyms
	Schema Browser - Favorites Tab	Objects added to Folder in Favorites tab	Tables/Views
Schema Browser	Query Builder	Objects added to table model area	Tables/Views/Synonyms
	ER Diagram	Objects added to table model area and LHS list	Tables/Views/Synonyms
	Editor	Object name added to editor	All Objects
	Editor	Object name added to editor	All Objects besides PL/SQL Objects and Types
	Editor	Objects loaded into Editor	PL/SQL Objects and Types
	Text Editor	Object name added to editor	All Objects
	Project Manager	Objects added to Project Manager Project	All Objects supported in Project Manager
	Schema Browser - Favorites Tab	Objects added to Folder in Favorites tab	All Objects supported in Schema Browser besides Synonyms and Types
Output Window/Find In Files	Project Manager - Project node	File reference added to Project Manager	Project Files
	Project Manager - Folder node	Reference added	Files
	Project Manager - FTP node	File upload to FTP server	Files
	Editor	Files loaded in Editor. File name appears in new tab	Files

	Editor	Files loaded in Editor. File name appears in new tab	Files
	Text Editor	Files loaded in Text Editor. File name appears in new tab	Files
	Script Manager	File Reference added to Script Manager	Files
Windows Explorer	Project Manager	File reference added to Project Manager	Files
	Editor	File loaded in Editor	Files
	Editor	File loaded in Editor	Files
	Text Editor	File loaded in Text Editor	Files
Code Snippets	Editor	Snippet added to Editor	Code Snippet from list
	Editor	Snippet added to Editor	Code Snippet from list
	Text Editor	Snippet added to Text Editor	Code Snippet from list
Archive Window	Project Manager - Folder node	File unzipped and added to folder. Prompts to add to PM	Files inside zip archive
	Project Manager - FTP node	File unzipped and uploaded. Prompts to add to PM	Files inside zip archive
Toad Task Scheduler Interface	Project Manager	Windows task node added to Project Manager	Scheduled Tasks

Task Bar & Status Bar

Task Bar

This feature is activated or deactivated using **View|Toad Options|Toolbars/Menus|Show Connect Strings**. At the bottom of the main Toad window, Toad displays the various connections currently open.

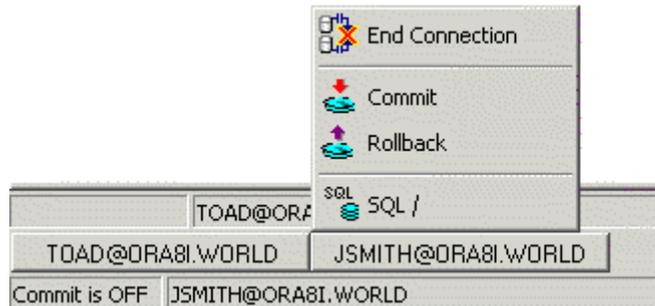


- Click one of these connections to activate the last window you used in that connection.
- Hover over them to display the following information:
 - User
 - connection type (sysDBA, sysOPER)

- sysdate on server
- database version
- your session ID

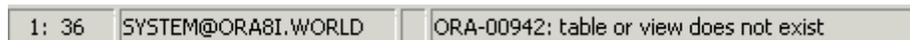
Note: The SID will only display if you have access to V\$session and are **not** logged in as sysDBA or sysOPER.

- If your SQL windows are maximized, right-click one of these connections and Toad displays a menu of options.



Status Bar

At the bottom of each individual window within Toad is a status bar. This bar provides information about the active window.



- The first frame in the status bar is the row and column your cursor is located in the results grid. If you have not opened a results grid, or your cursor is not in the grid, this frame will be blank.
- The second frame is the connection used by this window.
- The last frame is the last displayed error.

You can hover over the information in this bar to see additional information. This includes the session ID (SID), sysdate, and Oracle version you are using. The SID is displayed only if you have access to V\$Session and are not logged in as SysDBA or SysOper.

Execution time

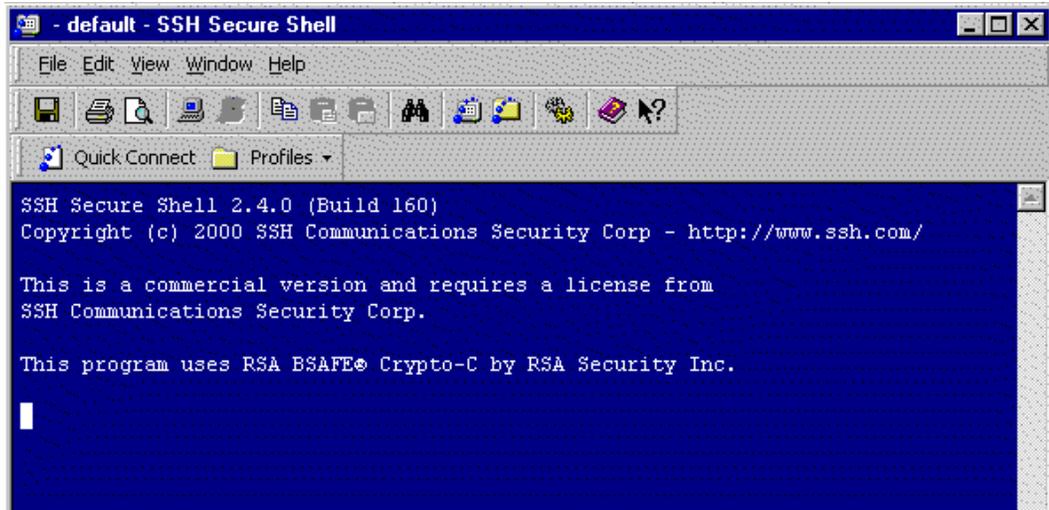
When you execute a script or a command in the Editor, the first frame changes to a time. The timing is the amount of time from the point that Toad sends the query to Oracle and the first result set returns. It does not describe how long it took to fetch the data.

Using Toad with a Firewall

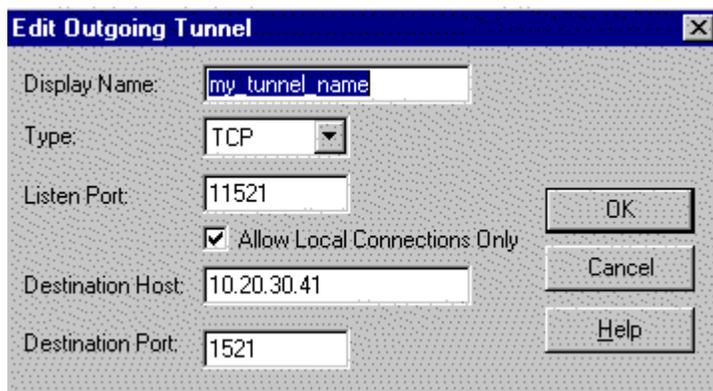
You can connect Toad to Oracle through a firewall using the SSH© Secure Shell™ software, version 2.4.0. Other software may work, but has not been tested with Toad. In order for Toad to remain connected, both the SSH tunnel and client must be running.

To connect through a firewall

1. From the main SSH Secure Shell screen, select the **profile/edit profile** menu button.



2. From the tabs on the right panel of the Profiles window, select **Outgoing Tunneling**.
3. Click **Edit**. Enter tunnel information in the Edit Outgoing Tunnel dialog box.



4. Edit your Tnsnames.ora file as follows

NOTE: Make sure to correct the port to the one you used when setting up your tunnel.

```
add (server=dedicated)
CADEV.world =
(DESCRIPTION =
(ADDRESS_LIST =
(AADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 11521))
)
(CONNECT_DATA =
(SID = cadev)
(server=dedicated)
)
)
```

5. Start an **SSH client** and connect to **Toad**.

ASCII Chart

<u>Dec</u>	<u>Hex</u>	<u>Oct</u>	<u>UTS</u>	<u>ASCII</u>	<u>CharName</u>
0	\$00	0000		NUL	NUL
1	\$01	0001		SOH	SOH
2	\$02	0002		STX	STX
3	\$03	0003		ETX	ETX
4	\$04	0004		EOT	EOT
5	\$05	0005		ENQ	ENQ
6	\$06	0006		ACK	ACK
7	\$07	0007		BEL	BEL
8	\$08	0010		BS	BS
9	\$09	0011		HT	HT
10	\$0A	0012		LF	LF
11	\$0B	0013		VT	VT
12	\$0C	0014		FF	FF
13	\$0D	0015		CR	CR
14	\$0E	0016		SO	SO
15	\$0F	0017		SI	SI

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16	\$10	0020		ACK	ACK
17	\$11	0021		DC1	DC1
18	\$12	0022		DC2	DC2
19	\$13	0023		DC3	DC3
20	\$14	0024		DC4	DC4
21	\$15	0025		NAK	NAK
22	\$16	0026		SYN	SYN
23	\$17	0027		ETB	ETB
24	\$18	0030		CAN	CAN
25	\$19	0031		EM	EM
26	\$1A	0032		SUB	SUB
27	\$1B	0033		ESC	ESC
28	\$1C	0034		FS	FS
29	\$1D	0035		GS	GS
30	\$1E	0036		RS	RS
31	\$1F	0037		US	US
32	\$20	0040	1		Space
33	\$21	0041	2	!	Exclamation Mark

34	\$22	0042	3	"	Double Quote
----	------	------	---	---	--------------

35	\$23	0043	4	#	Number Sign
----	------	------	---	---	-------------

36	\$24	0044	5	\$	Dollar Sign
----	------	------	---	----	-------------

37	\$25	0045	6	%	Percent Sign
----	------	------	---	---	--------------

38	\$26	0046	7	&	Ampersand
----	------	------	---	---	-----------

39	\$27	0047	8	'	Single Quote
----	------	------	---	---	--------------

40	\$28	0050	9	(Left Parenthesis
----	------	------	---	---	------------------

41	\$29	0051	10)	Right Parenthesis
----	------	------	----	---	-------------------

42	\$2A	0052	11	*	Asterisk
----	------	------	----	---	----------

43	\$2B	0053	12	+	Plus Sign
----	------	------	----	---	-----------

44	\$2C	0054	13	,	Comma
----	------	------	----	---	-------

45	\$2D	0055	14	-	Minus Sign
----	------	------	----	---	------------

46	\$2E	0056	15	.	Period
----	------	------	----	---	--------

47	\$2F	0057	16	/	Slash, Virgule
----	------	------	----	---	----------------

48	\$30	0060	17	0	0
----	------	------	----	---	---

49	\$31	0061	18	1	1
----	------	------	----	---	---

50	\$32	0062	19	2	2
----	------	------	----	---	---

51	\$33	0063	20	3	3
----	------	------	----	---	---

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52	\$34	0064	21	4	4
53	\$35	0065	22	5	5
54	\$36	0066	23	6	6
55	\$37	0067	24	7	7
56	\$38	0070	25	8	8
57	\$39	0071	26	9	9
58	\$3A	0072	27	:	Colon
59	\$3B	0073	28	;	Semicolon
60	\$3C	0074	29	<	Less Than Sign
61	\$3D	0075	30	=	Equals Sign
62	\$3E	0076	31	>	Greater Than Sign
63	\$3F	0077	32	?	Question Mark
64	\$40	0100	33	@	At Sign
65	\$41	0101	34	A	A
66	\$42	0102	35	B	B
67	\$43	0103	36	C	C
68	\$44	0104	37	D	D
69	\$45	0105	38	E	E
70	\$46	0106	39	F	F

71	\$47	0107	40	G	G
72	\$48	0110	41	H	H
73	\$49	0111	42	I	I
74	\$4A	0112	43	J	J
75	\$4B	0113	44	K	K
76	\$4C	0114	45	L	L
77	\$4D	0115	46	M	M
78	\$4E	0116	47	N	N
79	\$4F	0117	48	O	O
80	\$50	0120	49	P	P
81	\$51	0121	50	Q	Q
82	\$52	0122	51	R	R
83	\$53	0123	52	S	S
84	\$54	0124	53	T	T
85	\$55	0125	54	U	U
86	\$56	0126	55	V	V
87	\$57	0127	56	W	W
88	\$58	0130	57	X	X

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89	\$59	0131	58	Y	Y
90	\$5A	0132	59	Z	Z
91	\$5B	0133	60	[Left Bracket
92	\$5C	0134	61	\	Back Slash
93	\$5D	0135	62]	Right Bracket
94	\$5E	0136	63	^	Circumflex
95	\$5F	0137	64	_	Underline
96	\$60	0140	65	`	Accent
97	\$61	0141	66	a	a
98	\$62	0142	67	b	b
99	\$63	0143	68	c	c
100	\$64	0144	69	d	d
101	\$65	0145	70	e	e
102	\$66	0146	71	f	f
103	\$67	0147	72	g	g
104	\$68	0150	73	h	h
105	\$69	0151	74	i	i
106	\$6A	0152	75	j	j
107	\$6B	0153	76	k	k

108	\$6C	0154	77		
109	\$6D	0155	78	m	m
110	\$6E	0156	79	n	n
111	\$6F	0157	80	o	o
112	\$70	0160	81	p	p
113	\$71	0161	82	q	q
114	\$72	0162	83	r	r
115	\$73	0163	84	s	s
116	\$74	0164	85	t	t
117	\$75	0165	86	u	u
118	\$76	0166	87	v	v
119	\$77	0167	88	w	w
120	\$78	0170	89	x	x
121	\$79	0171	90	y	y
122	\$7A	0172	91	z	z
123	\$7B	0173	92	{	Left Brace
124	\$7C	0174	93		Vertical Bar
125	\$7D	0175	94	}	Right Brace

126	\$7E	0176	95	~	Tilde
127	\$7F	0177	96	DEL	DEL

Filtering Grids

Filters

Filters reduce the amount of data displayed and let you display only what you want to see. They work by modifying the query used to fetch the data.

Schema Browser Filters

Each schema/owner name has a set of browser filters. For example, you can define one filter for the schema DEMO and a different filter for PRODUCTION and the appropriate filters will be loaded when you view each schema in the Schema Browser. You can narrow the focus to the filter results and ignore all other objects in the schema. This is helpful if the schema contains many objects, because the fewer objects that Toad needs to load, the faster it executes.

Filter windows vary depending upon which Schema Browser list you have selected. The basic filter window contains:

- a dropdown - select how you want to filter the items (including **None** which means no filter or clear filter)
- a box - enter characters to include or exclude
- buttons/filter check boxes - filter the items further

Note: If you are not sure what the filter you have created will do, view or edit the filter before you run it. See [Edit Browser Filter Query](#).

Basic dropdown filter lists includes the following:

- **None** - No filter, or clear filter.
- **In** - enter the contents of the IN clause.
 The select statement is formatted as follows: `SELECT * FROM user_tables WHERE table_name IN (n)` where n is what you enter in the filter box.
 Therefore, to enter a table name, you must enclose it in single quotes. ('TEST'). This lets you enter multiple table names in this box, for example: 'TABLE1', 'TABLE2', 'TABLE3'. Or you can enter a subquery, such as: `SELECT SOMECOLUMN FROM SOMETABLE`.
- **Not In** - enter the contents of the NOT IN clause. The same syntax applies as with the IN clause.
- **Starts with** - enter the character or characters that the filtered results will begin with
- **Includes** - enter the character or characters the filtered results will contain
- **Ends with** - enter the character or characters that the filtered results will end with
- **Does not Start with** - enter the character or characters the filtered results will not begin with

- **Does not End with** - enter the character or characters the filtered results will not end with
- **Does not Include** - enter the character or characters the filtered results will not contain

After you set your filters and click **OK** and the browser will display the resulting objects.

To set a browser filter

- Click the **Filter**  button and a filter window appears.

Filters in the View|Toad Options|Files dialog

This dialog box lets you customize the file extensions that display in the system dialog box windows. To add another filter, begin typing in a blank row.

Default filters include:

File	Filter
SQL	*.sql
Text Files	*.txt
Query Files	*.qry
All Files	*.*

Related Topics

- [Creating Default Browser Filters](#)
- [Edit Browser Filter Query](#)
- [Loading and Applying Browser Filters](#)
- [Saving Browser Filters](#)
- [View Browser Filters for Schema](#)

Excel Style Filtering

From **Toad Options|Data Grids - Visual** you can choose to default to Excel style filtering.

Note: If Excel Style filtering is enabled for a grid then Grid|Filter Data is disabled; otherwise it is enabled.

You can use Excel style filtering to filter directly from the column headers on the results grid. Dropdown arrows attached to each heading bring up a filter dialog box. Up to two criteria can be used on any column.

Example

Run the following SQL:

```
select * from Scott.Emp
```

and get the following results grid:

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	12/17/1980	800		20
7499	ALLEN	SALESMAN	7698	2/20/1981	1600	300	30
7521	WARD	SALESMAN	7698	2/22/1981	1250	500	30

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If you want to only see the results where the Job was SALESMAN or SALES MANAGER, you could use the SQL statement:

```
select * from scott.emp where job like 's%'
```

Alternately, you could filter the results grid using the Excel style filtering as described below:

To use Excel style filtering

1. Click the dropdown in the **Job column heading**. Select **Custom** from the menu.
 2. In the Filter dialog box, fill in the boxes to specify the filter criteria.
 3. Click **OK**, and the grid is limited to just the jobs that start with S, as if you had used a like clause in the select statement.
-

Related Topics

[Toad Options](#)

Connections

Server Login Window

From this window you can:

- [Create a new connection to Oracle](#)
- [Connect from a list of previous connections](#)
- [Set up auto connect to connect to a previous connection when you open Toad](#)
- [Save passwords for connections](#)
- [Select and view favorite logons](#)
- [Organize your logon display](#)
- [Select a color to indicate a connection](#)
- [Select an Oracle home](#)
- [Select a Default Oracle home](#)
- [Edit your SQL Net settings](#)
- [Edit your TNS Names file](#)

The Server Login window lists your previous connections: Server (database alias), User (Schema), and Last Connect (date and time). You can define connection options as well, for example:

- auto connect
- save the password
- connect mode

The default home that Toad uses matches the one you have chosen in the Oracle Home Selector, unless you have previously selected the check box: **Make this the Toad default home**.

Next to the [TNSNames Editor](#) and the [SQLNet Editor](#) links you will see a **check mark** or an **"X"**. These indicate whether Toad has found (checkmark) or not found (X) the associated file.

To access the Server Login window

- From the Session menu, select **New Connection**.

Using the Connection Grid

The connection grid contains connections you have used in the past. If you have added connections to your favorites list, you can view only those connections by clicking the Favorites checkbox at the bottom of the screen.

You can sort any one of the first three columns in Ascending or Descending order by clicking the column header.

The grid column widths are automatically adjusted to display entire contents.

Toad will save the grid sort column, order, and the size and placement of the Server Login window and will restore them the next time you open the window.

Showing only connections using the selected Oracle home

If you have many connections using different Oracle homes, you may want to display only those using a particular home in the grid.

To limit connections to one Oracle home

1. On the right of the login window, select the Oracle home you want to display.
2. Click the **Show selected home only** check box at the bottom of the window.

Refreshing Oracle information

At the bottom of the window is a **Refresh** button. Clicking this will:

- rebuild your Oracle alias list
 - refresh your client information with the information stored in the registry and on disk
-

Related Topics

[Create New Connection](#)

[Selecting Connection Color](#)

[Auto Connect](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

[SQLNet Editor](#)

[LDAP Editor](#)

Create New Connection

You can create a new connection to an Oracle database in several ways from the [Server Login window](#).

TNSNAMES file

Toad can connect using the listings in your Oracle TNSNames file. Toad will populate the database box with the entries from the TNSNames file and let you select the connection you want to use.

To create a new connection using the TNS Names file

1. Type the name of the **user** in the box labeled **User/Schema**.
2. Type the **password** for this user in the box labeled **Password**. For added security, characters will not appear as you type; asterisks will appear instead.
3. Click the TNS tab if it is not active, and select the name of the **database** in the **Database** dropdown box.

Note: If you do not enter a database name in the database box, then Toad will use the ORACLE_SID for the selected home. If there is no ORACLE_SID value, and you do not specify a database, then no connection can take place.

2. The **Connect As** dropdown allows you to connect as either SYSDBA or SYSOPER if you have the appropriate permissions. The default for this box is Normal.
3. If you want to color-code this connection, select a color from the **Color** box drop down. (See [Selecting Connection Color](#) for more information.)
4. Click **OK**.

OR

Press <**ENTER**>.

If you do not specify a database from the dropdown list of databases then the ORACLE_SID for the selected home is used. ORACLE_SID is specified in the registry under each installed home on the users PC. If there is no ORACLE_SID value and the user does not specify a database in the dropdown then no connection can take place. ORACLE_SID is basically a default database for the home and allows a user to simply type a user/pwd in to connect to the default database rather than find the default database in the dropdown.

Connecting using Easy Connect Strings

You can connect from the TNS tab using an easy connect string.

To connect using an easy connect string

- Simply enter the string in the database box. (Easy connect strings are formatted: host:port\service_name)

Connecting directly to the database

Toad can connect directly to the database you want to use.

To create a new connection directly to the database

1. Enter the name of the **user** in the box labeled **User/Schema**.
2. Enter the **password** for this user in the box labeled **Password**. For added security, characters will not appear as you type; asterisks will appear instead.
3. Click the **Direct** tab.
4. Enter the **Host**, **Port** and either the **Service Name** or **SID** of the database to which you want to connect.
5. The **Connect As** dropdown allows you to connect as either SYSDBA or SYSOPER if you have the appropriate permissions. The default for this box is Normal.
6. If you want to color-code this connection, select a color from the **Color** box drop down. (See [Selecting Connection Color](#) for more information.)
7. Click **OK**.

Connecting using LDAP

Toad officially supports Oracle names directory services. This support includes both Oracle OID and Microsoft Active Directory servers.

Oracle Instant Client LDAP support

- Instant Client LDAP support is dependant on specific LDAP DLL which Oracle does not install by default. The ORALDAPCLNT10.DLL must be located in the same location as oci.dll file.
- TNSNAMES.ora, LDAP.ora, SQLNET.ora must exist in the same location specified by the TNS_ADMIN system variable.
- The LDAP dropdown list in the Logon Dialog will not be populated, but connection can be carried out by manually enter the DB name into the 'Database field' on the logon screen.

To create a new connection using LDAP

1. Enter the name of the **user** in the box labeled **User/Schema**.
 2. Enter the **password** for this user in the box labeled **Password**. For added security, characters will not appear as you type; asterisks will appear instead.
 3. Click the **LDAP** tab.
 4. Enter the **LDAP Descriptor** of the database you to which you want to connect.
 5. The **Connect As** dropdown allows you to connect as either SYSDBA or SYSOPER if you have the appropriate permissions. The default for this box is Normal.
 6. If you want to color-code this connection, select a color from the **Color** box drop down. (See [Selecting Connection Color](#) for more information.)
 7. Click **OK**.
-

Related Topics

[Server Login window](#)

[Selecting Connection Color](#)

[Auto Connect](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

[SQLNet Editor](#)

[LDAP Editor](#)

Selecting Connection Color

When working with Toad you may have multiple connections open at once. Trying to keep track of which open window is related to which connection can be difficult. Color coding the connections can help.

When a color is assigned to a particular connection, any open window related to that connection, the window bar buttons and the status bars are outlined with that color. This makes it easy to see at a glance if your SQL editor, for example, is connected to your Test database or your Production database.

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To select a connection color for a new connection

1. In the Server Login window, when creating a connection.
2. On the right hand side, in the Color drop down box, select the color you want to associate with that connection.

To change a connection color

1. In the Server Login window connection grid, click in the Color column of the connection you want to color.
 2. Select the color you want to use from the drop down list.
-

Related Topics

[Server Login window](#)

[Create New Connection](#)

[Auto Connect](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

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SET ROLE

You can configure Toad to issue a SET ROLE command immediately upon connection, before it checks any privileges. This can be done either by making a manual entry in the `toad.ini` file, or by using the [Toad Group Policy Manager](#).

To manually edit the toad.ini file

1. Using Notepad, or another text editor, open `toad.ini`.
2. Add the following line:

```
[SET ROLE]
```

1. Enter as many specific SET ROLE entries under this line as needed. The syntax for these parameters is:

```
Entry#=<DB>db_name</DB><USER>User_name</USER><ROLE>role_name</ROLE><ONFAIL>Fail_action</ONFAIL>
```

Where:

Variable	Meaning
#	An identification number that keeps the entries unique. You can have as many entries as you want.
db_name	Corresponds to the database alias in your <code>tnsnames.ora</code> file (or LDAP entry). An asterisk (*) can be used to specify "any database."
User_name	Logon user name. An asterisk (*) can be used to specify "any user."
Role_name	Any valid argument to the SET ROLE command. See your Oracle

Fail_action	documentation. One of the following: Abort, Message, or ignore. Abort - don't allow the connection Message - display an error message and then allow the connection Ignore -silently ignore the error message
-------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Auto Connect

Toad can connect to a connection of your choice whenever you start Toad.

Do this from the [Server Login](#) window.

To create an automatic connection

1. Open the Server Login window.
2. In the list of previous connections (left panel), there is a column titled "Auto Connect?" Find the connection you want to auto connect and check the box. This connection will now automatically connect when Toad starts.

Note: You can cancel after Toad has begun to auto connect, if you have multiple connections. Toad will finish the current one and abort all that have not yet occurred.

To remove an automatic connection

1. From the Server Login window, find the connection in the list of previous connections.
 2. Click in the "**Auto Connect?**" check box to remove the checkmark. The connection will now no longer automatically connect when Toad starts.
-

Related Topics

[Server Login window](#)

[Create New Connection](#)

[Selecting Connection Color](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

[SQLNet Editor](#)

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Save Passwords for Connections

Passwords are saved in an encrypted file called connectionpwds.ini. This file is tied to the machine where it was created and for security purposes cannot be transferred to another machine.

Passwords can be saved as a group or individually, using the Save Pwd column in the connection grid.

Save Pwd? Column

A column called **Save Pwd?** appears in the previously used connections grid.

Toad 9.5

Use this to save the password for the connection in that row.

Note: This column is only visible if the option "Save passwords for all Oracle connections" is unchecked. This option can be changed using the check box at the bottom of the window.

Save Passwords Check Box

The Save Passwords check box at the bottom of the Server Login window directly relates to the [Save passwords for all Oracle connections](#) option. If you check it here, that option will be checked. If you uncheck it, the option will be unchecked.

Password Options

Two password options are available from the **Toad Options|Oracle-General** page. All saved passwords are automatically encrypted.

[Save passwords for all Oracle connections](#)

[Remember passwords for reconnections](#)

Related Topics

[Server Login window](#)

[Create New Connection](#)

[Selecting Connection Color](#)

[Auto Connect](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

[SQLNet Editor](#)

[LDAP Editor](#)

Select and View Favorite Connections

If you have a long list of connections you use, but have a relative few that you use consistently, you can select them as favorites and Toad will list only these connections for you. You can still view the complete list easily.

To select favorite connections

- In the connection grid, select the **Favorite** check box of the connection you want to make a favorite.

To view favorites in the grid

- Below the connection grid, select the **Show Favorites Only** check box.

To view all connections in the grid

- Below the connection grid, clear the **Show Favorites Only** check box.
-

Related Topics[Server Login window](#)[Create New Connection](#)[Selecting Connection Color](#)[Auto Connect](#)[Save Passwords for Connections](#)[Organize your logon display](#)[Use Existing Connection](#)[SQLNet Editor](#)[LDAP Editor](#)

Organize your login display

You can organize how you view visible login information. In addition to limiting it to [Favorite connections](#), you can choose to display the visible connections in grid, dropdown, or tab format, and you can choose to group connections by a single column. In addition, you can add columns to the connection information that you can then use to group connections.

To select a view for your connections

1. In the **Server Login** window, click the **Options**  button above the list of logons.
2. Select the type of display you want to use:
 - Grid - all connections are listed in the data grid
 - Drop-down - Databases or users are provided in a drop-down list: select one to view the connection options in the data grid. Switch between Users or Database by clicking the Options button.
 - Tabs - Databases are separated into tabs: select one to view the connection options in the data grid. Switch between Users or Database by clicking the Options button.

To group connections in the data grid

1. In the **Server Login** window, choose the column header you want to use to group your connections.
2. Drag the column header into the grey area above the grid.
3. Repeat this to create a tree structure in the order you want.

To add or edit a custom column name

1. In the **Server Login** window, right-click and select **Custom**.
2. Click **Add** or **Edit**.
3. Enter or change the name for your custom field and then click **OK**.
4. Add data to the column by clicking in the appropriate cell in the data grid.

Related Topics[Server Login window](#)

Toad 9.5

[Create New Connection](#)

[Selecting Connection Color](#)

[Select and View Favorite connections](#)

Use Existing Connection

Select an existing connection from the [Server Login window](#) to make it active.

To use a previous connection

1. Select a **User/Database** combination from the dropdown combo box
OR

Double-click the previous connection from the list in the left panel.
Toad will copy the user name into the Password box and will place the cursor in the Password box.

2. If the **PASSWORD** is not the same as the **USER**, type the **PASSWORD**. (Nine times out of ten, schemas are created with the password = schema, for example, DEMO/DEMO. Toad is making a guess at the password, but you can type over it.) If a password has expired and returns a Password Expired error, Toad will prompt for a new password and attempt to change it.
3. Click **OK**.

OR

Press <**ENTER**>.

Toad saves the **USER/DATABASE** combinations between Toad sessions but does NOT save the password.

Caution: The option View > Options > General > Save passwords for Oracle connections saves passwords on your machine. DO NOT ENABLE THIS OPTION UNLESS YOU HAVE A SECURE ENVIRONMENT.

Related Topics

[Server Login window](#)

[Create New Connection](#)

[Selecting Connection Color](#)

[Auto Connect](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[SQLNet Editor](#)

[LDAP Editor](#)

SQLNET Editor

From the SQLNET editor you can easily edit your SQLNET.ORA parameters. These are standard Oracle parameters. If you need further information, please see the Oracle documentation for SQLNET.ORA Profile Parameters.

In addition, you can [view the current file](#), create a [back up copy](#), or [restore](#) from a previously saved copy of the SQLNET.ORA.

The SQLNet Editor window appears in read only mode. This prevents inadvertent editing.

To edit your SQLNET connection file

1. From the [Server Login](#) window, in the Installed Clients area, click **SQLNET Editor**. The editor opens in a new window.
2. Select the **Make settings editable** check box.
3. Make any necessary changes to your parameters and then click **OK**.

Note: If you are using a multi-threaded server and plan to use the PL/SQL Debugger, make sure you check the **USE_DEDICATED_SERVER** check box. This allows the PL/SQL Debugger to work.

To view the SQLNET.ORA file

1. From the [Server Login](#) window, in the Installed Clients area, click **SQLNET Editor**. The editor opens in a new window.
2. Click the **View File** button at the bottom of the window.

Backing up your SQLNET File

It is recommended that you create a backup file of your SQLNET.ORA file before you make any changes to it. This assures that if something goes wrong you can restore the original settings.

To create a backup copy of the SQLNET.ORA file

1. From the [Server Login](#) window, in the Installed Clients area, click **SQLNET Editor**. The editor opens in a new window.
2. Make any changes necessary as described in [To edit your SQLNET connection file](#).
3. Click the **Create Backup File** button.
4. Note where the backup file was created and click **OK**.

To restore a backup copy of the SQLNET.ORA file

1. From the [Server Login](#) window, in the Installed Clients area, click **SQLNET Editor**. The editor opens in a new window.
2. Click the **Restore Backup File** button.
3. Select the backup file you want to restore from the Open file dialog that appears.
4. Click **Open**.
5. Toad presents you with a confirmation dialog. Click **OK**.

Related Topics

[Server Login window](#)

[Create New Connection](#)

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[Selecting Connection Color](#)

[Auto Connect](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

[LDAP Editor](#)

LDAP Editor

You can use the LDAP editor to edit your LDAP parameters. Toad supports both Oracle LDAP and Windows LDAP servers.

To access the LDAP Editor

- From the [Server Login](#) window, click the **LDAP Editor** button.

Backing up your LDAP File

It is recommended that you create a backup file of your LDAP file before you make any changes to it. This assures that if something goes wrong you can restore the original settings.

To create a backup file

- Click **Create Backup File**.

To restore from backup

- Click **Restore Backup File**.

Using the LDAP Editor

The top of the editor contains the path for the file you are editing. Below this is an editable list of directory servers, and the default administration context.

To add a directory server

1. In the Directory Servers area, click **Add**.
2. Enter the **Host**, **Port** and **SSL Port** information.
3. Click **OK**.

To set default administration contexts

Note: The default administration contexts apply to all servers listed in the Directory Servers area.

- In the **Default Admin Context** area, enter the contexts you want to use.

For more information about Admin contexts and Default admin contexts, please see your Oracle documentation.

To set server type

Note: The directory server types apply to all servers listed in the Directory Servers area.

- In the **Directory Server Type** box, click the dropdown and select the server type you want to use (either Microsoft Active Directory or Oracle Internet Directory).
-

Related Topics

[Server Login window](#)

[Create New Connection](#)

[Selecting Connection Color](#)

[Auto Connect](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

[SQLNet Editor](#)

Oracle Homes

Selecting the Oracle Home

You can change your Oracle Home from the [Server Login window](#). Only one Oracle home can be in use at one time. This means that once a connection is made, all future connections will automatically be made using the same Oracle home, regardless of default home.

Oracle homes can be assigned for each connection, or for Toad overall. For information on default Oracle Homes, please see [Selecting a Default Oracle Home](#).

Selecting the Oracle Home

With no connections made previously, select an Oracle Home by using the dropdown list of Oracle Homes. To see more information about the home you have selected or change the SID, NLS_LANG, or SQLPATH, click the drilldown  button to open the [Oracle Home Editor](#).

Note: You must restart Toad to have changes made here take effect.

How Toad Finds the Oracle Client DLL

1. Toad first looks in the Toad command line for OCIDLL.
2. If this is not found, Toad looks for the path for the Oracle home as follows:
3. If the command line argument "ORACLEHOME" was passed in, then Toad will use that home.
4. If there is no Toad home defined then Toad will display the home that is set as the default home using Oracle's Home Selector application as the default in the dropdown. Toad will use the home that is active in the dropdown.
5. To populate the dropdown, Toad searches the registry as follows:
 - First, Toad reads the list of Oracle home names from the keys under HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\ALL_HOMES

Toad 9.5

- If no Oracle homes are found there, then the Oracle home is set to HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE
 - Otherwise, Toad finds the ORACLE_HOME value for each Oracle home, if it exists. Then Toad checks the system environment variable called PATH to see whether it contains the "bin" folder under ORACLE_HOME. Toad selects the Oracle home whose path appears first in PATH.
- If Toad still hasn't found an Oracle home, it uses HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE.
3. Look for the client DLL in the "Bin" folder under the path found for the Oracle home
 4. If that fails, Toad looks for the ORACLE_HOME key under HKEY_LOCAL_MACHINE\ORACLE\SOFTWARE, and look for the client dll in the "Bin" folder under that.
 5. If that also fails, Toad looks for the client dll in every \bin directory in PATH.
-

Selecting a Default Oracle Home

You can select the default Oracle home in much the same way as you would select the connection color. Default homes can be assigned for a connection, or for Toad.

When a default Oracle home is assigned to a particular connection, any time you make that connection from the connection grid, Toad will automatically use that Oracle home. When a default Oracle home is assigned to Toad, Toad will automatically use that Oracle home any time you create a connection to a new database.

Note: Only one Oracle Home can be in use at one time. All default Oracle homes revert to the home used in the currently active connection.

To select an Oracle home for a new connection

- In the **Server Login** window, when no connections have been made, select the Oracle home you want to use with the current connection from the **Connect Using** dropdown.

This Oracle home will now be associated with the selected connection and listed in the home column of the connection grid.

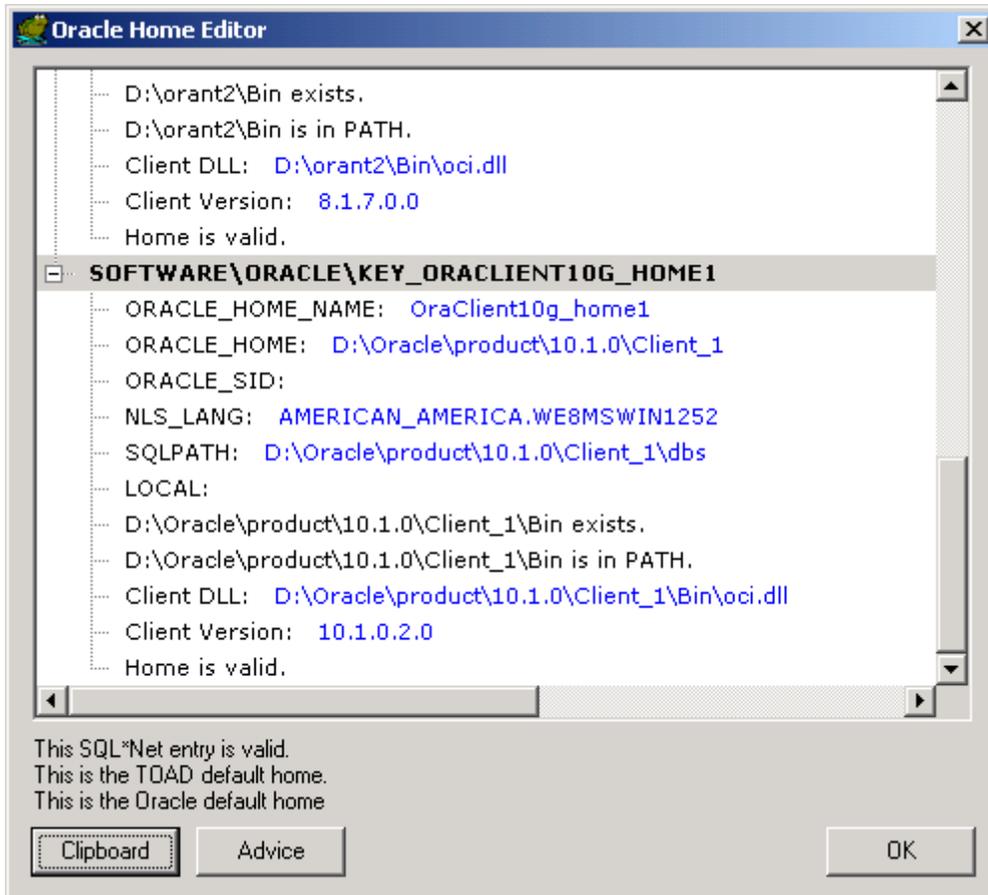
To select the Toad default Oracle home

1. In the Server Login window connection grid, with no active connections, select the Oracle home from the **Connect Using** dropdown.
2. Select the Make this the **Toad Default Home** checkbox.

When you change databases, this connection will be entered in the Oracle home dropdown.

Oracle Home Editor

The Oracle Home Editor lets you analyze your available Oracle Homes.



Select an Oracle Home by clicking on its node. You can then:

- Click **Clipboard**. This will copy the selected information to the clipboard so you can paste it into an email, or another document.
- Click **Advice**. This will tell you if you have a proper SQL*Net installation for this home, or suggest changes to your installation.
- **Right-click** and choose to edit one of the following:
 - SID for the selected Home
 - NLS_LANG for the selected Home
 - SQLPATH for the selected Home

TNSNames Editor

TNSNames Editor Overview

From the TNSNames Editor, you can easily edit your TNSNames files. You can add a new service, edit a service, delete a service, or work with two files and transfer services back and forth between the two.

From this window you can:

- [Load and View TNSNAMES files](#)

- [Add Service](#)
- [Edit Service](#)
- [Delete Service](#)
- [Testing a Connection](#)
- [Work with Two Files](#)

To access the TNSNames Editor

- Access this window from the **Utilities menu|TNSNames Editor**.
Or

from the [Server Login window](#) (click **TNSNames Editor** at the lower right).

Load and View TNSNAMES Files

To load the active TNSNames file

1. Open the [TNSNames Editor](#).
2. Click the **Open active file**  button. A standard browse window opens.

To load a saved file

You can easily load and view your TNSNames files and specific services within those files.

1. Open the [TNSNames Editor](#).
2. Click the **Load tnsnames.ora**  button. A standard browse window opens.
3. Browse to the directory where your TNSNames file is located, and select it. The file loads into the editor.

To view a file

You can view your file in two ways.

- You can view a particular service entry by clicking on the **entry** in the tree view. The entry is displayed in the bottom area of the screen, in the Text tab.
 - You can view part of a service entry by clicking on that portion of the entry in the tree view. For example:
 - ADDRESS_LIST
 - ADDRESS
 - PROTOCOLThe selected portion of the entry will be highlighted in the bottom panel.
-

Checking Syntax

At any time you can check your syntax for a particular entry in the TNSNames file from the editor. If there are errors, Toad will list them and suggest ways to fix them. If there are no errors, a dialog stating "Validation successful" displays.

To check syntax

1. In the tree view, select the entry you want to check.
2. In the bottom panel, click the **Check Syntax** tab.

Related Topics

[TNSNames Editor](#)

[Load and View TNSNAMES Files](#)

Add Service and Details

The TNSNames Editor makes it easy to add a new service entry, or to add details to an entry you have already created.

To add a service

1. Load your **tnsnames.ora** file into one side of the editor, and click the **New Service**  button.
2. Enter the **Service Name** you want to use for the service. Separate multiple aliases with a comma or a space in the name box. (For example, ORACLE10G.WORLD, PRODUCTION10G or ORACLE10G.WORLD PRODUCTION10G.)
3. If you want to use a template for this service, select the **Use Template** check box.
4. Click **OK**.

Adding Details - Template Selected

- In the Tree View, enter the **appropriate service information** into the value column as described below:
- Protocol - select the appropriate choice from the drop down.
- Host - enter the host ip in the box.
- Port - enter the port number in the box.
- Service Name

Adding Details - No Template Selected

1. In the tree view, select the node for the new service.
2. Click the **Add Detail**  button and select the detail you want to add:
3. Description
4. Description list
3. Select one of the details and click the Add Detail button to add sub-details.

4. Repeat step 3 until all portions of the service entry have been added.
-

Edit Service

You can change service information for an existing service.

To edit a service

1. Select the **detail** of the service node you want to edit.
2. Click in the value column of that detail.
3. Change the value of the detail in the box.
4. Repeat for as many values you want to change.
5. The **OK** button saves the file. The **Cancel** button will cancel ALL edits you have made to the file since it was last saved. Click **OK** when you have finished editing the service information.

Adding additional details

You can add additional details to an existing entry. Select the entry where you want to add details and then follow the instructions in [Adding Details - No Template selected](#).

Delete Service or Details

You can easily drop a service or details from your TNSNames file.

Note: When you select a node to delete, all nodes beneath it will also be deleted.

To delete a service

1. Select the **service** you want to delete on your service list.
2. Click the **Delete**  button, or press <DELETE> on your keyboard. You will be prompted to confirm the delete. Click **OK**.

To delete a detail

1. Select the **detail** you want to delete on your service list.
 2. Click the **Delete**  button, or press <DELETE> on your keyboard. You will be prompted to confirm the delete. Click **OK**.
-

Saving Changes to TNSNames Files

The **OK** button at the bottom of the screen saves the file and closes the editor.

To save your file without closing the editor

- Click the **Save**  button on the toolbar, which saves the file with the current file name

Or

Click the **Save as**  button, which lets you change the file name

To cancel without saving

- Click the **Cancel** button to cancel any edits you have made to the file since it was last saved and close the editor.

Whenever the TNSNames editor overwrites a file, it first makes a backup of that file in the same directory. So if you do accidentally cause problems to your file, you can revert to the backup.

Testing a Connection

You can test a new connection or changes you have made, using the [TNSPing](#) facility.

To test a connection

- Save the file to the location where your TNSping executable reads files.
- Select one **connection** in the connection list to test.
- Click the **TNSPing**  button on the toolbar. A confirmation dialog box will display stating:
 - Test Failed
 - Test Succeeded

Working with Two Files

You may have two TNSNames files that you want to compare and copy services between. The TNSNames Editor lets you do this easily. These files can be the same file or different ones. Loading the same file into both sides of the editor will allow you to easily duplicate service names before you edit them.

To work with two TNSNames files

- Load one of the **TNSNames files** in the left hand side of the Editor.
- Load the other into the **right hand** side.
- You can now select services from either side and **copy** them to the other using the buttons in the center.

Note: The TNSNames Editor does not prevent duplicate entries in the tnsnames.ora file. This allows you to copy a service and then edit it.

Icon	Action
>	Move selected service from left side file to right side file.
<	Move selected service from right side to left side.
>>	Move all services from left side to right side.

Toolbar Layouts

Toolbar Layouts

Several different toolbar layouts are available from **View|Options|Toolbars**. These include:

1. User Default
2. Toad Default [all items]

Note: You can find out what toolbar configuration is currently being used by looking at the **View|Toad Options|Toolbars** screen.

If for some reason you have had to delete your TOAD.INI, Toad will prompt you to choose a toolbar (this signifies a new install). However, you do not have to lose your customized toolbar.

1. If you have customized a User Default toolbar, it will be presented as an option when you restart Toad.
2. If you have been using one of the default layouts, User Default will not be presented on the list of layout options, and you will have to go to **View|Toad Options|Toolbars/Menus** to create it.

User Default

User Default will allow a user to keep their customized toolbar from 7.3, or give new users the Default toolbar (Toad Default, all items).

Toad Default [all items]

This will load the default Toad toolbar, as was done in pre-7.4 versions. All items means all items - it will show everything your license allows.

If you do not have the DBA Module, you will not see the DBA module menu items. If you enter a DBA license key, they will appear.

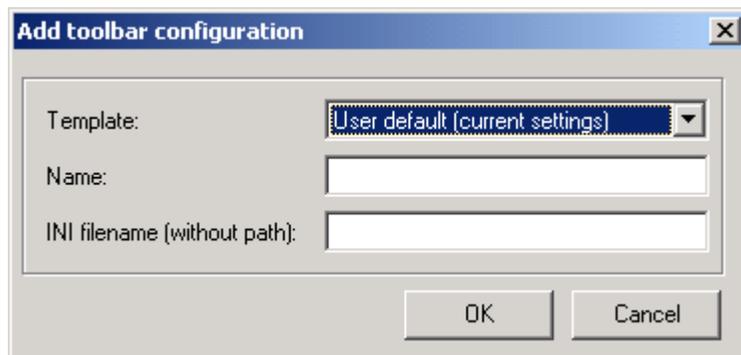
This type of file is read-only. You cannot customize this, but you can add a [new Toolbar](#) configuration that suits your purposes better.

Adding a new Toolbar Layout

If you like the idea of configured toolbars, but need a configuration different from those Toad supplies, Toad offers the ability to create your own.

To add a layout

1. Select **View|Toad Options|Toolbars/Menus|Toolbars**, and then click **Add...** to add a Toolbar Configuration. The Add toolbar configuration dialog box appears.



- **Template:** Choose a starting point. These include the existing Toolbar Configurations, minus Toad Default, but including any previously added new configurations.
 - **Name:** The name of the Configuration. This is how the configuration will appear in the option screens.
 - **INI filename (without path):** The name of the file you want to use for your toolbar configuration.
2. Click **OK** to add the configuration.

Once you have add the configuration, go back to **View|Toad Options|Toolbars/Menus|Toolbars** and set the current one to the one you have just created.

Distribute custom toolbar layouts

You can then customize to your hearts delight and distribute. To distribute, edit TOAD.INI to include the following line:

```
[ToolbarConfiguration6]
Desc=newtoolbarconfiguration
Filename=filename.ini
```

ToolbarConfiguration6 would be the 1st NEW configuration. Increment this value as necessary.

Note: It is only necessary to manually edit the TOAD.INI when you want to distribute Toad with a custom configuration.

Toolbars, Menus and Shortcut Keys

Configurable Toolbars and Menus - Overview

If you are using a toolbar [layout configuration](#) that allows it, the main Toad toolbar and menu bar is configurable, as are the Editor toolbar and keyboard shortcuts. This lets you arrange Toad to best reflect how you want to work. You can see the contents of the default toolbars in the [Default Toolbar](#), and Editor Toolbar topics.

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If you are using a custom configuration, new commands will not be added to your custom toolbars when you upgrade Toad. However, you can easily see both new commands and commands you have removed from the toolbars and menus.

To view and add new/removed commands

1. Right-click over the toolbar and select **Customize**.
2. Click the **Commands** tab.
3. Select **[New]** or **[Removed]** from the command list as appropriate.
4. Drag a command to the toolbar/menu of your choosing.
5. Click **Close** when finished.

Usage Configuration

In addition, Toad menu bars can configure themselves to how you work with Toad. As you work, Toad collects usage data on the commands you use most often. Menus personalize themselves to your work habits, moving the most used commands closer to the top of the list, and hiding commands that you use rarely. If you want to use this feature see [Customize Options](#) for more information.

You can:

- [Alter toolbars](#), including the menu bar.
- [Display and hide toolbars](#). You cannot hide the menu bar.
- [Create a new, custom toolbar](#).
- [Restore the default toolbar](#).
- [Change and add shortcuts for menu commands](#).
- Adjust how toolbars display and dock (see Options: [Toolbars](#)).

Shortcut Keys

General Shortcut Keys

The following is a list of general Toad Shortcut Keys. In addition, there are specific shortcut keys for the [Debugger](#), and [Editor](#).

You can also edit your shortcut keys, using the [Configure Menu Shortcuts](#) dialog box.

Note: If you have configured your shortcuts, shortcuts added in Toad upgrades will need to be added. You can also revert your customizations to the default to gain access to all shortcuts and new features. See [Toad Options|Toolbars|Configurations|Toad Default \(all items\)](#).

Shortcut Key	Function
F1	Windows Help File
F2	Toggle Full screen Editor
<SHIFT> <F2>	Toggle Full screen grid
F3	Find Next Occurrence
<SHIFT> <F3>	Find Previous Occurrence
F4	Describe Table, View, Procedure, Function, or Package in popup window
F5	Editor: Sets or Deletes a Breakpoint in the Editor for PL/SQL debugging Editor: Execute as script

F6	Toggle between Editor and Results panel
F7	Clear All Text, Trace Into in the Editor
F8	Recall previous SQL statement in the Editor, Step Over in the Editor for PL/SQL debugging
F9	Execute statement in the SQL editor, Compile in the Editor
<CTRL> F9	Verify statement without execution (parse) in the Editor, Set Parameters in the Editor for PL/SQL debugging
<SHIFT> F9	Execute current statement at cursor in the Editor, Execute Current Source in the Editor without PL/SQL debugging
F10	Popup Menu
F11	Run (continue execution) in the Procedure Editor for PL/SQL debugging
F12	Run to cursor in the Editor for PL/SQL debugging.
<CTRL> F12	Pass the SQL or Editor contents to the specified External Editor (Specified in Options > Editors).
<CTRL> A	Select All Text
<CTRL><ALT>B	Display the PL/SQL Debugger Breakpoints window
<CTRL> C	Copy
<CTRL> D	Display procedure parameters
<CTRL><ALT>D	Display the PL/SQL Debugger DBMS Output window
<CTRL> E	Execute Explain Plan on the Current Statement
<CTRL><ALT>E	Display the PL/SQL Debugger Evaluate/Modify window
<CTRL> F	Find Text
<CTRL> G	Goto Line
<CTRL> L	Convert Text to Lowercase
<CTRL> M	Make Code Statement
<CTRL> N	Recall Named SQL Statement
<CTRL> O	Opens a Text File
<CTRL> P	Strip Code Statement
<CTRL> R	Find and Replace
<SHIFT>	Uses the ALIASES.TXT file to substitute the alias with the associated table name
<CTRL> R	table name
<CTRL> S	Saves File
<SHIFT>	Save File As
<CTRL> S	
<CTRL><ALT>S	Display the PL/SQL Debugger Call Stack window
<CTRL> T	Columns Dropdown
<CTRL> U	Converts Text to Uppercase
<CTRL> V	Paste
<CTRL><ALT>W	Display the PL/SQL Debugger Watches window
<CTRL> X	Cut
<CTRL> Z	Undo Last Change
<SHIFT>	Redo Last Undo
<CTRL> Z	
<ALT> <UP>	Display Previous Statement
<ALT> <DOWN>	Display Next Statement (after <ALT> <UP>)
<CTRL><HOME>	In the data grids, goes to the top of the recordset
<CTRL><END>	In the data grids, goes to the end of the recordset
<CTRL><TAB>	Cycles through the collection of MDI Child windows
<CTRL><ENTER>	Execute current SQL (same as <SHIFT>F9)
<CTRL> (period)	Autocompletes tablenamees

Related Topics[Common Edit Toolbar](#)[Configure Menu Shortcuts](#)[SQL Editor Shortcuts](#)[Toolbar Main Window](#)**Editor Shortcut Keys**

Below is a list of Shortcut keys used in the Editor. See [General Shortcut Keys](#) for more information about shortcut keys in other areas.

Note: If you have configured your shortcuts, shortcuts added in Toad upgrades will need to be added. You can also revert your customizations to the default to gain access to all shortcuts and new features. See [Toad Options|Toolbars|Configurations|Toad Default \(all items\)](#).

Shortcut Key	Function
F1	Windows Help File
F2	Toggle Full screen Editor
F3	Find Next Occurrence
<SHIFT> <F3>	Find Previous Occurrence
F4	Describe Object at cursor. Describe Table, View, Procedure, Function, or Package in popup window
F5	Execute as Script
F6	Toggle between Editor and Results tabs
F7	Clear All Text
F8	Recall previous SQL statement
F9	Execute statement
<CTRL> F9	Describes statement at cursor
<SHIFT> F9	Execute snippet at cursor
F10	Popup Menu
F11	Execute code without using the Debugger
<CTRL> A	Select All Text
<CTRL> C	Copy
<CTRL> E	Execute Explain Plan on the Current Statement
<CTRL> F	Find Text
<CTRL> G	Goto Line
<CTRL> H	Highlight snippet
<CTRL> I	Init caps for highlighted code.
<CTRL> L	Converts Text to Lowercase
<CTRL> M	Make Code Statement
<CTRL> N	Recall Named SQL Statement
<CTRL> O	Opens File
<CTRL> P	Strip Code Statement
<CTRL> R	Find and Replace
<CTRL> S	Save File
<SHIFT>	Save File As
<CTRL> S	
<CTRL> T	Columns Dropdown
<CTRL> U	Converts Text to Uppercase
<CTRL> V	Paste
<CTRL> X	Cut

<CTRL> Z	Undo Last Change
<CTRL> .	Display popup list of matching tablenames
<SHIFT>	Redo Last Undo
<CTRL> Z	
<ALT> <UP>	Display Previous Statement
<ALT> <DOWN>	Display Next Statement (after <ALT> <UP>)
<ALT>	Navigate to the previous tab in the editor
<PageUP>	
<ALT>	Navigate to the next tab in the editor
<PageDOWN>	
<CTRL> <ALT>	Navigate to the previous results panel tab
<PageUP>	
<CTRL> <ALT>	Navigate to the next results panel tab
<PageDOWN>	
<CTRL><HOME>	In the data grids, goes to the top of the recordset
<CTRL><END>	In the data grids, goes to the end of the recordset
<CTRL><SPACE>	Display the code template pick list
<CTRL><TAB>	Cycles through the collection of MDI Child windows

Related Topics

[Configure Menu Shortcuts](#)

[Debugger Shortcut Keys](#)

[General Shortcut Keys](#)

Debugger Shortcut Keys

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

This is a list of keyboard shortcuts used in the Debugger. See [General Shortcut Keys](#) for more information about shortcut keys in other areas.

Note: If you have configured your shortcuts, shortcuts added in Toad upgrades will need to be added. You can also revert your customizations to the default to gain access to all shortcuts and new features. See [Toad Options|Toolbars|Configurations|Toad Default \(all items\)](#).

Shortcut Key	Function
<SHIFT>F5	Set or Delete a Breakpoint on the current line.
<CTRL>F5	Add watch at cursor.
<SHIFT>F7	Trace Into.
<SHIFT>F8	Step Over.
<SHIFT>F10	Trace Out.
<SHIFT><CTRL>F9	Set Parameters.
F10	Display Right-Click Menu.
F11	Run statement using the method appropriate for the debugger selection: <ul style="list-style-type: none"> • Script debugger - execute as script. • DBMS or JDWP debugger - execute as PL/SQL.
F12	Run to Cursor.
<CTRL><ALT>B	Display Breakpoints.

<CTRL><ALT>D	Display DBMS_Output.
<CTRL><ALT>E	Evaluate/Modify.
<CTRL><ALT>S	Display Call Stack.
<CTRL><ALT>W	Display Watches.
<CTRL><Pg Up>	Move up in the Navigator Tree.
<CTRL><Pg Down>	Move down in the Navigator Tree.
<CTRL>MouseClicked	Load source into Editor for object at cursor.

Configure Menu Shortcuts

You can also configure both types of menu shortcuts: [menu hotkeys](#) and [shortcut keys](#). See [General Shortcut Keys](#) for more information about default shortcut keys in other areas.

Note: If you have configured your shortcuts, shortcuts added in Toad upgrades will need to be added. You can also revert your customizations to the default to gain access to all shortcuts and new features. See [Toad Options|Toolbars|Configurations|Toad Default \(all items\)](#).

Menu hotkeys

Menu hotkeys are the keys that you access by pressing the <Alt> key and then the character in the menu item that is underlined to open that menu or command.

You can configure the underlined character.

To change the hotkey

1. From the toolbar area, right-click and select **Customize**. Alternately, from the **Tools** menu, select **Customize**. The Customize dialog box appears.
2. Right-click the menu item you want to change. In the name box, notice that the character underlined has an ampersand (&) before it.
3. You can change the underlined character by changing the location of the ampersand. For example, **&Tools**, underlines the **T**, while **T&ools** underlines the **O**.

Shortcut keys

Shortcut keys are the keys you type to access a command directly, without going through the menu. For example, you can use <CTRL><S> to save a file.

Toad lets you configure these keys so that you can access commands more easily.

To configure shortcut keys

1. From the toolbar area, right-click and select **Menu Shortcuts**. The Menu options page appears.
 2. Click the command you want to set a shortcut key for. Type the keystrokes you want to use. This option only allows you to use one keystroke after a control key (such as <CTRL> or <ALT>).
 3. The shortcut key is changed as you type. If there is a conflict with another shortcut key, an asterisk (*) appears in the Conflict column. You can then find the conflict and remove it.
-

Toolbars

Customize Toolbar Options

You can also customize your display from the Options tab of the Customize dialog box.

To customize the toolbar options

1. Right click over the toolbar and select **Customize**.

*If the Customize selection is not visible, check to make sure that **Toad Options/Toolbars/Configurations/Toad Default (all items)** is NOT selected.*

2. Click the **Options** tab.

Personalized Menus and Toolbars

Toad menu bars can configure themselves to how you work with Toad. As you work, Toad collects usage data on the commands you use most often. Menus personalize themselves to your work habits, moving the most used commands closer to the top of the list, and hiding commands that you use rarely.

- From the **Options** tab, select **Menu show recently used commands first**.
- To turn this option off, deselect **Menu show recently used commands first**.

Alternatively, hidden commands can be displayed when you select a menu and wait a few seconds, the remainder of the menu appears. This option can be selected or deselected. If it is deselected, you can display the remainder of the menu by clicking the arrow that is the last option on the menu:



Other

Other customizations you can make to your toolbars are:

- Large icons
- Show/Hide tooltips on toolbars
- Show/Hide shortcut keys in tooltips
- Menu animation, including unfolding menus, sliding menus, random animation, or none

Default Toolbar

The default toolbar on the main Toad window is configurable. If your toolbar appears different from that below, it may have been personalized. See [Configurable Toolbars - Overview](#) for more information on configuring the toolbar and restoring default settings.



Button	Command
	Opens a new Editor window with the current active connection.
	Opens a new Schema Browser window with the current active connection.

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	Opens a new Database Browser window.
	Opens a new Session Browser window.
	Opens a new Project Manager window.
	Opens a new Query Builder window with the current active connection.
	Opens a new Master/Detail browser window.
	Opens an Output window for the current active connection.
	Opens a new Object Search window with the current active connection.
	Allows access to integrated tools. See Add-on Products.
	Opens a new Script Manager window with the current connection.
	Lets you configure or execute an external tool. See Configure External Tools . This icon changes if tools have been recently executed. See Execute External Tools .
	Opens the Toad Options window.
	Saves all options normally saved when exiting Toad.
	Toggles PL/SQL Profiling .
	Toggles Compiling with Debug.
	Commits any changes to this schema.
	Rollbacks any changes to this schema.
	Opens a new Oracle Connection to the database. Main button opens Server Login window. Click arrow to select a previously used connection.
	Ends a current active Oracle connection. Main button opens Select Session dialog. Click arrow to select an active connection.
	Opens the action palette .
	Toggles the tip windows.

See also the [Toolbar on the Editor window](#), [Toolbar on the Editor window](#), and the [Toolbars on the Schema Browser](#) topics.

Edit Toolbar



Button	Command
	Recall previously saved SQL.
	Run explain plan .
	Tune code using the SQL Tuning Optimization module.
	Format the selected code.
	Profile the selected code.
	Make code .
	Strip code .

Related Topics

[Schema Browser Toolbar](#)

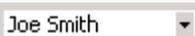
[SQL_Edit_Toolbar](#)

[Procedure_Edit_Toolbar](#)

Desktop Toolbar

The desktop toolbar is available from the Editor and the main Toad toolbar.



Button	Command
	Select desktop dropdown
	Save current desktop
	Delete current desktop

Saving the desktop

When you click the Save current desktop button, the Save Desktop dialog appears. If you find you no longer need the saved desktop, you can delete it.

To save the desktop

1. Click the **Save Current Desktop**  button
2. Enter a name for your new desktop and click **OK**.

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To delete the current desktop

1. Click the **Delete Current Desktop**  button.
 2. Click **OK** to confirm the deletion.
-

Related Topics

[Configuring your desktop](#)

Window Bar

A window bar appears at the bottom of the main window to display what windows are currently open in Toad. The tooltips on the window bar display the full window caption.

Options for the window bar appear under Toad Options|[Toolbars/Menus](#).

To turn off the window bar

- Right-click over it and clear the Window Bar check box.

Note: If you are using a read only toolbar configuration and you want the window bar to remain turned off, check **Options|[Toolbars/Menus](#)|Allow docking/hiding of read only toolbars**.

To turn on the window bar

- Right-click over the **main toolbar** and check **Window Bar**.

To change windows

- In the **window bar**, click the **window name** you want to activate.
-

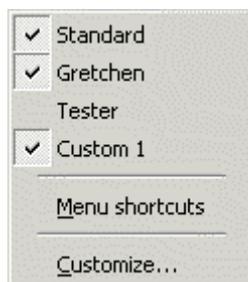
Show/hide toolbar

Once you have created several custom toolbars, you may find that you want to hide or display a specific toolbar. You can do this easily.

Note: You cannot hide the menu.

To change the toolbars you display

1. Right-click in the toolbar area. Alternately, from the **Tools** menu, select **Customize**. The customize menu appears.



2. Check the toolbars you want to display, and uncheck the toolbars you want to hide. You must do this one toolbar at a time.

*Alternatively, if you want to show or hide many toolbars, you can right-click in the toolbar area, select **Customize**, and then check and uncheck toolbars from the Customize dialog box.*

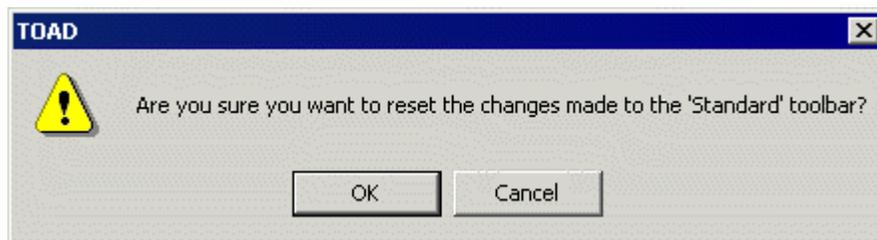
3. Toolbars can be docked at any side of the screen, or left as floating palettes. Floating palettes remain on top of all Toad windows.
-

Reset Default Toolbars

You can restore the default setting of the toolbar.

To restore default toolbars

1. Right-click the menu bar and select **Customize**. Alternately, from the **Tools** menu, select **Customize**.
2. Select the toolbar you want to restore to defaults. In most cases, this will be the **Standard** toolbar or the **Main Menu**.
3. Click **Reset**. A confirmation dialog box appears:



4. Click **OK**. The toolbar is reset to Toad's default settings.

To restore lost toolbars

It is possible to remove all the toolbars from the Editor. If this happens, you can restore the toolbars to your windows.

1. Right-click in the **Editor**.
 2. Select **Desktop Panels|Customize Toolbar**. The customize toolbar window appears and allows you to re-activate your toolbars.
-

Merging Toolbars

An additional method you can use to reset your toolbars is to activate the Merged Toolbars feature. This feature resets all toolbars to their default icons and arranges them so that they fit in two rows in the Editor window.

Merged toolbars are designed to display the most commonly-used commands while leaving you plenty of room to work in the active Toad window.

To toggle merge toolbars

- Right-click over the toolbars and select **Merged**.
-

Create Toolbar

If you want your Main toolbar to look much different from the Toad default toolbar, it may be easier to create your own custom toolbar.

To create a custom toolbar

1. On the toolbar, right-click and select **Customize**. Alternately, from the **Tools** menu, select **Customize**. The Customize dialog box appears.
2. Click **New**. The Custom dialog box appears. Name your new toolbar, and click **OK**. The new toolbar appears just to the left of the Customize dialog box.
3. On the Customize dialog box, click the **Commands** tab. Commands are separated into Categories. Each Category listed in the left panel corresponds to a menu item in the menu bar, with the exception of **Menus**, which lets you put an entire menu into your new toolbar.
4. Click the **category** that contains the command you want to add. For example, the command **Options** is under the **View** menu. Click **View**. You can now scroll down in the Commands list until you get to **Options**.
5. Now you can click and drag the command into your new toolbar. By default, if there is an icon for that command, the icon will display in the toolbar.

To display the text instead of the icon, or vice versa, right-click the icon in your toolbar and select the appropriate option. (See [Alter Toolbar](#) for more information.)

6. Continue adding commands until the menu is organized the way you want it to be.
 - You can move the commands around in different orders on the toolbar by clicking and dragging the icon or text. If you want to add a separator between groups of commands, just click one of the commands and drag it to the right a bit. The separator will be placed either above the moved command or to the left, depending on how your toolbar is organized.
 - You can also resize the toolbar by clicking and dragging a side of it.
 7. Toolbars can be docked at any side of the screen, or left as floating palettes. Floating palettes remain on top of all Toad windows.
-

Altering Toolbars

One of the things you can do with the customizable toolbars is to rearrange the default toolbar and menu bar.

For all these, right-click the **toolbar**, and then select **Customize**. The Customize dialog box appears, and you can work with commands both on the toolbars and in the Customize dialog box.

Note: In order to customize toolbars, you will have to uncheck the [Merged toolbar](#) if you are using it.

Change order of commands

Change the order of commands, whether they are text for menu items or icons, simply by clicking and dragging the item on the toolbar and moving it where you want it. An I-bar pointer marks where the command will be dropped.

You can do this within the menus and submenus as well (see [Menus|Rearrange Commands](#)).

Add Commands

Drag a command from the right panel of the Customize dialog box to the toolbar. An I-bar pointer marks where the command will be dropped.

Change icons to text or text to icons

You can change icons for a command to text, or text to an icon. Or, Toad can display both the icon and the text.

Right-click the command you want to change, and select the appropriate option.

Default

This is the default choice. In toolbars, if there is an icon, the icon will be displayed. If there is no icon attached to the command, the text will be displayed. In menu bars, both the icon and the text will be displayed.

Text only (always)

This changes the option to display only the text of the command. Icons are hidden.

Text only (in menus)

This displays only the text of the command if the toolbar is a menu bar. If the command is listed in a toolbar, the default still applies.

Image and text

This option displays both the icon and the text, whether the command is located in a toolbar or as part of a menu.

Change the text of a command

You can change the text that appears on the toolbar. You must have text set to display for this to make any difference in the appearance of your toolbar.

Note: this is not the same as the tooltip hints that pop up when you hover your mouse above an icon or command.

To change the text on the toolbar

1. Right-click the icon or text you want to change.
2. Click in the Name box and rename the command. If you want a hotkey defined, include an ampersand (&) before the letter you want to define. (These are not the same as [Toad shortcut keys](#), but rather the underlined letter for keyboard navigation.)

Remove a command from the toolbar

To remove a command from the toolbar, simply click and drag it off of the toolbar.

See what you have removed

Select [Removed] in the commands list. A list of the commands you have removed from your menus and toolbars will display.

Restoring commands

You can restore commands to toolbars in one of two ways.

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To restore commands

- From the [Removed] list, drag the command back to the toolbar or menu.
Or

From the **Toolbars** tab, select the toolbar you want to restore and click **Restore**.

Menus

Add a Menu

You can easily add an entire menu to the menu bar.

To add a Toad menu

1. Right-click the **menu bar** and select **Customize** from the menu.
2. Click the **Commands** tab.
3. Select the **Menus** category on the left side of the window.
4. Click the menu you want to add (for example, Team Coding) in the right panel and drag it to the menu bar where you want it located. The pointer changes to a vertical I-bar at the menu bar.

To add a customized menu

1. Right-click the **menu bar** and select **Customize** from the menu.
 2. Click the **Commands** tab.
 3. Select the **New Menu** category on the left side of the window.
 4. Click **New Menu** in the right panel and drag it to the menu bar where you want it located. The pointer changes to a vertical I-bar at the menu bar, for placement.
 5. Rename your menu as described in [Rename a Menu](#).
 6. [Add commands](#) as desired.
-

Delete a Command

You can easily delete commands from menus.

To delete command from a menu

1. Right-click the **menu bar** and select **Customize** from the menu.
 2. Click the **menu** that contains the command.
 3. Click and drag the **command** off of the menu to remove it.
-

Add a Command

You can easily add commands to the menu bar.

To add a command

1. Right-click the **menu bar** and select **Customize** from the menu.
2. Click the **Commands** tab.
3. Select from any of the categories listed. A list of available commands appears in the right panel.
4. Click a command in the right panel and drag it to the menu where you want it located. The pointer changes to a vertical I-bar at the menu, and to a horizontal I-bar when the menu opens. You can place it anywhere in the menu you want.

Adding menu flyouts

You can subdivide your menus by adding a menu flyout to a new or existing menu.

To add an additional menu flyout

1. Right-click the **menu bar** and select **Customize** from the menu.
 2. Click the **Commands** tab.
 3. Select the **New Menu** category.
 4. In the Commands panel, select New Menu and drag it into the menu where you want it located. The pointer changes to a vertical I-bar at the menu bar, and to a horizontal I-bar when the menu opens. You can place it anywhere in the menu you want.
 5. Add commands to the flyout in the same way you would add them to the menu itself.
-

Rearrange Commands

To rearrange commands

1. Open the **Customize** window: right-click in the **menu** or **toolbar** and select **Customize**.
 2. Click and drag the item where you want it in any of the menus. An I-bar pointer marks where the command will be dropped.
-

Rename a Menu

If you are using customizable toolbars/menus, you can rename menus to suit your needs.

To rename a menu

1. From the toolbar area, right-click and select **Customize**. Alternately, from the **Tools** menu, select **Customize**. The Customize dialog box appears.
 2. Right-click the menu or menu item you want to change. Enter a new name for the Menu or Menu item. Note that the menu hotkey can be changed or removed at the same time. (See [Configure Menu Shortcuts](#).)
-

Delete a Menu

If you have menus you do not use, you can remove them from your menu bar.

To delete a menu

1. Right-click in the **menu bar** and select **Customize** to display the customize window.
 2. Right-click the **menu** you want to remove. Select **Delete** from the menu. The menu is removed.
-

Configure Menu Shortcuts

You can also configure both types of menu shortcuts: [menu hotkeys](#) and [shortcut keys](#). See [General Shortcut Keys](#) for more information about default shortcut keys in other areas.

Note: If you have configured your shortcuts, shortcuts added in Toad upgrades will need to be added. You can also revert your customizations to the default to gain access to all shortcuts and new features. See [Toad Options|Toolbars|Configurations|Toad Default \(all items\)](#).

Menu hotkeys

Menu hotkeys are the keys that you access by pressing the <Alt> key and then the character in the menu item that is underlined to open that menu or command.

You can configure the underlined character.

To change the hotkey

1. From the toolbar area, right-click and select **Customize**. Alternately, from the **Tools** menu, select **Customize**. The Customize dialog box appears.
2. Right-click the menu item you want to change. In the name box, notice that the character underlined has an ampersand (&) before it.
3. You can change the underlined character by changing the location of the ampersand. For example, **&Tools**, underlines the **T**, while **T&ools** underlines the **O**.

Shortcut keys

Shortcut keys are the keys you type to access a command directly, without going through the menu. For example, you can use <CTRL><S> to save a file.

Toad lets you configure these keys so that you can access commands more easily.

To configure shortcut keys

1. From the toolbar area, right-click and select **Menu Shortcuts**. The Menu options page appears.
 2. Click the command you want to set a shortcut key for. Type the keystrokes you want to use. This option only allows you to use one keystroke after a control key (such as <CTRL> or <ALT>).
 3. The shortcut key is changed as you type. If there is a conflict with another shortcut key, an asterisk (*) appears in the Conflict column. You can then find the conflict and remove it.
-

Installation and Administration of Toad

Window Privileges and Toad

At a minimum, in order to install and run Toad, make a connection, and do basic operations, you must be a Power User and have read/write privileges on the Oracle homes directories that you use for your connections. If you are a Power User, you will additionally require read access to the Oracle client folder.

If you are running Windows Vista, and your account is under UAC (user account control) with Data Redirection enabled, Toad should be run with administrative privileges.

Toad for Oracle, Read-Only

Toad can be made read only using the two license files: READONLY.LIC and FULLToad.LIC.

What is Toad Read Only?

Toad Read Only is a way to allow users to view data and SQL through Toad without making changes to the database.

Why use Toad Read Only?

Toad Read Only allows administrators to give their users a powerful tool without worrying about a user committing a change to a sensitive production instance.

While Toad honors privileges granted to the Oracle user, Toad Read Only will not allow the user to do anything which changes the content of the database.

Where to get Toad Read Only?

You can make any Toad installation read-only, you can use Toad Security to make selected users or roles read-only, or you can get a special read-only installation that has extra exclusions to prevent users from making changes.

How to make any Toad installation Read-Only

Using License files

Toad can be made read-only using the two license files: READONLY.LIC and FULLToad.LIC found in the installation directory where Toad is installed.

Toad.EXE only reads Toad.LIC to determine if it is full Toad or read-only. The license file contains a setting for read only database access. The network administrator can copy READONLY.LIC over the Toad.LIC on an individual workstation to make Toad read-only at that workstation. Remember, the Toad.LIC file must be in the Toad folder.

This is the least secure method of limiting Toad.

To use read only license files

- Copy READONLY.LIC over the TOAD.LIC on an individual workstation.

Toad Security

Using Toad Security you can make Toad read-only to a selected user or role. This is useful if you have someone who needs to view database objects but does not have the authority to change them.

Note: This Toad Security option does not apply to the DBA module. To restrict Toad entirely, you will also need to restrict the DBA module from the appropriate users.

To make Toad read-only using Toad Security

- Move the Read-only Override function from the Features Non-menu list to the Restricted features list in the Toad Security window. This makes Toad read-only to the selected user.

Toad Read Only Installation

Quest Software, Inc. can provide a read only copy of Toad. The Toad Standard Edition - READ ONLY install is a read only executable designed to prevent its users from changing the database. For this reason, it does not include Quest ScriptRunner (which lets a user write a script that can update database objects), SQLMonitor (which logs SQL calls using the OCI layer), and Server Side Install (which lets users make changes to Toad schemas).

To download the Toad Standard Edition - READ ONLY install

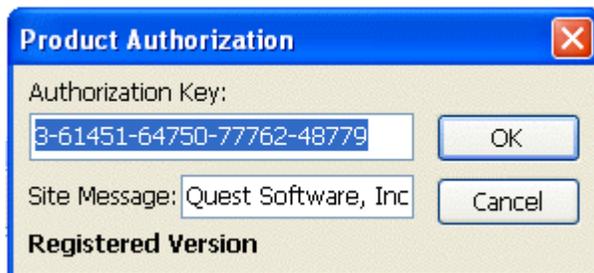
- The Toad Standard Edition - READ ONLY install is available for download from the [Quest Software Support Download Site](#).
-

Registering Toad

The Product Authorization dialog box allows you to input the Quest software registration ID. This indicates to Toad that you are an authorized user.

To register Toad

1. Select **Help|Register Toad** menu item.



2. Click in the **Enter authorization key** field and type your key. Toad will automatically add the hyphens in the appropriate location.
 3. Click **OK** to complete the process.
-

Network Installation

If you are installing Toad as a Network Installation (see the Toad Getting Started Guide for detailed information), the Toad License Key is written to the server.

On the client side, Toad will prompt you for a license key the first time it runs. The server should not be read-only when Toad is run for the first time.

Group Policy Management

The Toad Group Policy Manager is a free utility which is currently available with a licensed copy of Toad for Oracle. Quest Software reserves the right to remove, change or alter this utility at any time. The Toad

Group Policy Manager provides a facility by which multiple copies of Toad within an organization can share the same set of options. It consists of a Windows Service which runs on a common server and publishes subsets of option data to defined groups of Toad users via TCP/IP, and an Editor which is used to define option sets and user groups. Users can be restricted from changing published Toad options or permitted to alter them.

Using the Toad Group Policy Editor, policies and standards can be distributed throughout a group environment.

The Group Policy functionality consists of three parts:

- Group Policy Server
- Group Policy Editor
- Toad Policy files

Additional information is provided in the *Toad Policy Editor help file*, also available as the GrpPlcyEdtr.pdf file.

Toad

All installations of Toad will have a toad.pdl file in the installation directory. This file is encrypted, and required to be present and uncorrupt for Toad to function.

If you find Toad functionality limited, check the [Toad Advisor](#). Functionality that has been limited will be noted with a notation of Restricted or Published.

Citrix Support

Toad supports installation on Citrix servers.

Installing Toad on a Citrix server

Toad must be installed on the Citrix server by the Citrix administrator. Users then connect to this instance through their Citrix logon.

Citrix support is enabled with the appropriate installation option - **Citrix/Terminal Server** on the **Select Installation Type** dialog. Toad requires write access to the server registry during installation and read access during run-time to achieve Citrix support.

Full procedures for installing Toad on a Citrix server are located in the Getting Started Guide.

Connecting to Toad through Citrix

To connect through a client

- Log into the **Citrix Program Neighborhood** and execute **Toad**.

Note: The first time you execute Toad you will be asked to enter a license key. Your Citrix administrator will provide you with the license key.

User Configuration Files in Citrix

Toad is installed on the Citrix server, and individual user settings are maintained for each client machine.

Individual user settings and [properties files](#) are maintained in the user's settings file:

C:\Documents and Settings\user_name\Application Data\Quest Software\Toad

Note: If you have load balancing or roaming Citrix users, you will want to specify a user files directory. This must be done on each individual user's machine. (See [Options|General|User Files Directory](#).)

Script Manager and Citrix

Toad installs packaged SQL Scripts with the Script Manager. When Toad is run in a Citrix environment, the default paths to these script manager files will be wrong.

To use these, you will need to manually change these paths once.

To change the Script Manager paths for use with Citrix

1. Open **Utilities|Script Manager** and select the **DBA category** from the dropdown box.
2. Click the move button and enter your new path: **C:\Documents and Settings\User Name\Application Data\Quest Software\TOAD\ScriptMgr\DBA.**
3. Repeat for the Schema Objects category and move to **C:\Documents and Settings\User Name\Application Data\Quest Software\TOAD\ScriptMgr\Schema Objects.**

SET ROLE at connection

You can configure Toad to issue a SET ROLE command as soon as a connection is made, before any privileges are checked. Using this, you can set specific privileges on a user by user basis when they connect to a database through Toad. This feature can be set up either with manual entries in the Toad.ini file, or by using the [Toad Policy Manager](#).

To configure in Toad.ini

1. Open the Toad.ini file.
2. Add a line that reads:
[SET ROLE]
3. Add entries beneath the SET ROLE line. Entries should be in the form:
Entry#=<DB>db_name</DB><USER>User_name</USER><ROLE>role_name</ROLE><ONFAIL>Fail_action</ONFAIL>

Where:

- # = A number, for keeping the entries unique. You can have as many entries as you want.
- db_name = Corresponds to the database alias in your tnsnames.ora file (or LDAP). An asterisk can be used to specify "any database"
- User_name = Logon user name. An Asterisk can be used to specify "any user"
- Role_name = Any valid argument to the SET ROLE command. See Oracle documentation.
- Fail_action = One of the following: Abort, Message, or Ignore. Abort means "don't allow the connection." Message means "give the user an error message and then allow the connection." Ignore means "silently ignore the error message"

SQL*Net and Net8

Toad does not require any other support libraries beyond the 32 bit Net client itself.

Oracle Version	Name of Client Software	Name of DLL
----------------	-------------------------	-------------

Oracle 7	SQL*Net	Ora7x.dll for Oracle 7.x (Ex. Ora7.3.dll for Oracle 7.3.4)
Oracle 8 and 8i	Net8	Oraclient8.dll
Oracle 9i	Oracle Net	Oraclient9.dll
Oracle 10g Standard Client	Oracle Net	oraclient10.dll
Oracle 10g Instant Client (Universal Installer Version)	Oracle Net	oraociei10.dll

If you have the client above installed and can connect to Oracle using any of Oracle's tools (with the exception of SQL*Plus), Toad should work properly.

Note: The most frequent cause of problems is the resetting of the PATH environment variable. To set your default Oracle home, you can use the Oracle Home Selector (provided with Oracle) to set it accurately. (See your Oracle documentation for more information.)

Silent Installation

Toad for Oracle version 9.5 features the ability to configure a silent install in the same manner you would any MSI command line installation. Extract the installers as described in Extracting the MSI Installer below.

Extracting the MSI Installer

In order to perform a silent install for Toad for Oracle, you must first extract the MSI file from the Quest Installer. This MSI is then used with the installation variable (ADDLOCAL parameter in the examples below) to define the type of install you want to perform.

To extract the MSI file, you will need to use the executable file packer.exe, available from <https://support.quest.com>.

To extract the MSI

1. Download packer.exe from <https://support.quest.com>.
2. From the command line, change directory to the directory where you have saved packer.exe.
3. Also at the command line, use packer.exe to extract the MSI as follows:

packer.exe extract "path to setup executable" "extraction path"

For example:

```
packer.exe extract "c:\temp\Toad 9.5.exe" "C:\temp"
```

will extract the MSI from the file Toad 9.5.exe into the C:\temp directory.

When entering the paths, be sure to include any spaces within the directory or filename.

Packer.exe unpacks Toad and Toad Group Policy Manager from the Quest Installer and uploads the appropriate files into the directory you have specified. You can then open the new folders to view the MSI files.

Full Installation

The Windows internal command msiexec.exe launches the MSI and passes command line parameters set by the user. A typical command line might look like this:

```
msiexec /i "<path to msi file, including file name>"
INSTALLDIR="<installation folder, including final \>"
ADDLOCAL=Client,Server /q /l*v <path to install log, including
file name>
```

Network Installation

For a silent network install, you would first extract the MSI from the Quest Installer then install the server side with a command similar to:

```
msiexec /i "<path to msi file, including file name>"
INSTALLDIR="<installation folder, including final \>"
ADDLOCAL=Server /q /l*v <path to install log, including file
name>
```

Then install the client side by running a command line that looks like the following::

```
msiexec /i "<path to msi file, including file name>"
INSTALLDIR="<installation folder, including final \>"
ADDLOCAL=Client SERVERDIR="<path to server folder>" /q /l*v <path
to install log, including file name>
```

Where SERVERDIR is the same as INSTALLDIR from the previous command that silently installed the server side.

Citrix Installation

For a silent Citrix installation, first extract the MSI from the Quest Installer then install the server side with a command similar to

```
msiexec /i "<path to msi file, including file name>"
INSTALLDIR="<installation folder, including final \>" CITRIX=1 /q
/l*v <path to install log, including file name>
```

Silent Uninstall

Uninstalling the MSI is similar. Use an "x" in place of the "i" and do not include the INSTALLDIR property, i.e.:

```
msiexec /x "C:\Documents and
Settings\johndoe\Desktop\ToadforOracle91SetupFull.msi" /q
```

Options, Parameters and Meanings

Option	Parameter	Meaning
/i	Package ProductCode	Installs or configures a product.
/f	[p o e d c a u m s v] Package ProductCode	Repairs a product. This option ignores any property values entered on the command line. The default argument list for this option is 'omus.' p - Reinstalls only if file is missing. o - Reinstalls if file is missing or an older version is installed. e - Reinstalls if file is missing or an equal or

		older version is installed.
		d - Reinstalls if file is missing or a different version is installed.
		c - Reinstalls if file is missing or the stored checksum does not match the calculated value. Only repairs files that have msidbFileAttributesChecksum in the Attributes column of the File table.
		a - Forces all files to be reinstalled.
		u - Rewrites all required user-specific registry entries.
		m - Rewrites all required computer-specific registry entries.
		s - Overwrites all existing shortcuts.
		v - Runs from source and re-caches the local package. Do not use the v reinstall option for the first installation of an application or feature.
/a	Package	Administrative installation option. Installs a product on the network.
/x	Package/ProductCode	Uninstalls a product.
/L	[i w e a r u c m o p v x + ! *] Logfile	Writes logging information into a logfile at the specified existing path. The path to the logfile location must already exist. The installer does not create the directory structure for the logfile. Flags indicate which information to log. If no flags are specified, the default is 'iwearmo.'
		i - Status messages.
		w - Nonfatal warnings.
		e - All error messages.
		a - Start up of actions.
		r - Action-specific records.
		u - User requests.
		c - Initial UI parameters.
		m - Out-of-memory or fatal exit information.
		o - Out-of-disk-space messages.
		p - Terminal properties.
		v - Verbose output.
		x - Extra debugging information. Only available on Windows Server 2003.
		+ - Append to existing file.
		! - Flush each line to the log.
		"*" - Wildcard, log all information except for the v and x options. To include the v and x options, specify "/!*vx".
/q	n b r f	Sets user interface level.
		q , qn - No UI
		qb - Basic UI. Use qb! to hide the Cancel button.
		qr - Reduced UI with no modal dialog box displayed at the end of the installation.
		qf - Full UI and any authored FatalError, UserExit, or Exit modal dialog boxes at the end.
		qn+ - No UI except for a modal dialog box displayed at the end.
		qb+ - Basic UI with a modal dialog box

displayed at the end. The modal box is not displayed if the user cancels the installation. Use qb+! or qb!+ to hide the Cancel button. qb- - Basic UI with no modal dialog boxes. Please note that /qb+- is not a supported UI level. Use qb-! or qb!- to hide the Cancel button. Note that the ! option is available with Windows Installer 2.0 and works only with basic UI. It is not valid with full UI.

Toad Advisor

Toad is self-diagnosing. If you are having difficulties with Toad that you can't iron out, the Toad Advisor may be able to help you. It offers Warnings, Alerts, Hints and more concerning the current state of your Toad installation. If you are in a managed environment, it will specify which features in Toad are managed, and to what extent.

You can find the Toad Advisor under the Help menu.

To use Toad Advisor

1. From the **Help** menu, select **Toad Advisor**.
 2. Check the tree structure for information about how to tweak Toad to work better in your situation:
 3. **Warnings** - describe things that should be fixed immediately.
 4. **Alerts** - describe things that may have an impact upon Toad's functionality.
 5. **Hints** - provide information about your Toad installation that may affect how Toad works.
 6. **Performance suggestions** - describe settings that could be changed to improve speed of performance.
-

Configuration Files

V\$ Tables Required

Note: This list is always expanding. If you receive a "Table does not Exist" error, you can find what table is missing by [spooling SQL to screen](#) to see the code Toad is using.

Access to V\$ synonyms required on selected Toad windows are:

AutoTrace (Editor/Query Builder)

V_\$\$esstat

V\$Statname

V\$Session

Optimization & Session Info screens

The following public synonyms must be present.

v\$rowcache

v\$sysstat

v\$system_event
v\$librarycache
v\$STATNAME
v\$SESSTAT
v\$sess_io
v\$session
v\$process
v\$latch

Database Browser

The following public synonyms must be present.

V\$DATABASE
v\$datafile
v\$filestat
V\$INSTANCE
v\$latch
v\$librarycache
V\$OPTION
V\$PARAMETER
v\$rollname
v\$rollstat
v\$sess_io
v\$session
v\$sesstat
v\$sgastat
v\$sqlarea
v\$statname
v\$sysstat
v\$system_event
v\$tablespace

Database Probe

The following public synonyms must be present.

V\$ARCHIVE_PROCESSES
V\$BH
v\$buffer_pool
V\$buffer_pool_statistics
v\$database
v\$dispatcher
V\$INSTANCE
v\$librarycache
v\$library_cache_memory

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V\$LOG
V\$LOG_history
V\$PARAMETER
v\$pg_slave
v\$process
V\$ROWCACHE
v\$session
V\$SESSTAT
v\$sga
v\$sgastat
V\$STATNAME
v\$sysstat
v\$version

Database > Monitor > Database Monitor

The following public synonyms must be present.

v\$sysstat
v\$system_event
v\$session
v\$librarycache
x\$ksllt
v\$sgastat

Database > Diagnose > Database Health Check

The following public synonyms must be present.

v\$version
v\$instance
v\$sysstat
v\$librarycache
v\$rowcache
v\$sgastat
v\$parameter
v\$database
v\$log_history
v\$filestat
v\$datafile
v\$tablespace

Database > Monitor > Index Monitor

To see indexes other than your own you must have access to the following:

sys.ob\$
sys.ind\$

```
sys.user$  
sys.object_usage
```

You must also have the ALTER ANY INDEX privilege.

Database > Administer > Oracle Parameters

The following public synonym must be present:

```
v$parameter
```

Database > Diagnose > LogMiner

The following public synonyms must be present.

```
v$logmnr_contents
```

```
v$logmnr_logs
```

You must also have:

- Execute privileges on DBMS_logmnr
- Execute privileges on DBMS_logmnr_d
- the Parameter UTL_FILE_DIR set in init.ora (Oracle 8i only)

Database > Monitor > SGA Trace

The following public synonyms must be present.

```
v$sqlarea
```

```
v$sqltext_with_newlines
```

You must also have:

```
access to the V$ Oracle Dictionary views
```

Debugging

No special public synonyms required. However:

```
DBMS_DEBUG must be valid
```

On 10g databases:

```
Debug Connect Session privileges must be granted
```

eBiz Module

```
SYS.OBJ$ -- used only in Activity tab of the browser
```

```
SYS.USER$ -- used only in Activity tab of the browser
```

```
V$INSTANCE -- used only in Activity and 'User' tabs of the browser
```

```
V$LOCK -- used only in Activity tab of the browser
```

```
V$PROCESS -- used only in Activity tab of the browser
```

```
V$SESS_IO -- used only in Activity tab of the browser
```

```
V$SESSION -- used only in Activity tab of the browser
```

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In addition, you will need SELECT privileges on many Oracle Applications views. See [Privilege Requirements for Using eBiz](#) for more information.

Instance Manager > Shutdown

The following public synonym must be present.

```
v$parameter  
V$INSTANCE
```

Toad Server Statistics > Analysis

The following public synonyms must be present.

```
V$SESS_IO  
V$SESSION  
V$PROCESS  
V$STATNAME  
V$ROWCACHE  
V$SYSSTAT  
V$SYSTEM_EVENT  
V$LIBRARYCACHE  
V$SESSION_PRIVS
```

Toad Server Statistics > Waits

The following public synonym must be present.

```
V$SYSTEM_EVENT
```

Toad Server Statistics > Latches

The following public synonym must be present.

```
V$LATCH
```

Toad Server Statistics > Sessions

The following public synonyms must be present.

```
V$SESS_IO  
V$SESSION  
V$PROCESS  
V$STATNAME
```

Toad Server Statistics > Instance Summary

The following public synonym must be present.

```
V$SYSSTAT
```

Toad Session Browser

The following public synonyms must be present:

V\$SESSION
 V\$PROCESS
 V\$SESS_IO
 V\$SESSION_WAIT
 V\$SESSION_EVENT
 V\$ACCESS
 V\$SESSSTAT
 V\$STATNAME
 V\$OPEN_CURSOR
 V\$SQL
 V\$LOCK
 V\$SESSION_LONGOPS
 V\$SQLTEXT_WITH_NEWLINES

In addition, you must have access to the following:

SYS.V_\$TRANSACTION
 SYS.V_\$ROLLNAME

Space Manager Setup

The following public synonym must be present.

V\$SYSSTAT

The Toad schema must have the privileges to create and alter jobs, create and drop its own tables and procedures, and must have SELECT access on the following:

DBA_DATA_FILES
 DBA_FREE_SPACE
 DBA_JOBS
 DBA_TABLESPACES
 V_\$FILESTAT

Properties Files

Options settings for Toad are stored in several different locations. We maintain them this way so that it is easier to reset or share only a small set of options.

Location	Options file	Function
Toad for Oracle directory	3rdprtylic.txt	Contains copies of our 3rd party license agreements
	beef.dat	Export File Browser
	chc.rev	CodeXpert
	CMDLineCEGrid.xslt	CodeXpert Command Line - Grid

CMDLineCEScripts.xslt	CodeXpert Command Line - Scripts
CMDLineCETrees.xslt	CodeXpert Command Line - Trees
cvs.ini	Holds options and logins for CVS integration.
DatabaseProbe.txt	Stores the settings and alerts for the Database Probe.
FmtPlus.opt, FmtOptions.ini	Contain options for code formatting.
install.txt	Contains start and end times for Toad installation.
install.log	Detailed log file for Toad installation
qc0450.chm	SQL Optimizer (Tuner) help file
qexplainplan2full.msi	Explain plan install file
QSR.ini	Stores settings for Quest ScriptRunner (qsr.exe).
releasenotes.html	Toad Release notes
rolelog.txt	Stores previously created Team Coding roles.
RNetPin.ini	This stores the full path to the file CHC.rev This is setup by the installer and only needs modification if you copy your Toad directory to another location.
RuleUniverse.xml	Stores CodeXpert rules.
SBQueries.dat	Stores Custom Queries for the Schema Browser.
SettingsLocations.ini	Stores the path of the /User Files folder
SilentInstallNotes90	Stores the instructions for Silent Install.
TNSLoad.xslt	TNSNames Editor
TNSSave.xslt	TNSNames Editor
TNSValidate.xslt	TNSNames Editor
unidbmon.cfg	Stores settings for Quest SQL Monitor (SQLMonitor.exe).
Toad for Oracle\RuleSets directory	Contains RuleSets for CodeXpert. These should not be modified except

Toad for Oracle\User Files	aliases.txt	through the RuleSets dialog box in Toad. Stores your previously used table aliases.
	codemap.ini	Stores colors for objects in the Code Road Map .
	CodeXpert.ini	Stores locations and names of all rule sets used by CodeXpert. It also stores window sizing and position for a modal window that CodeXpert uses.
	coloring.txt	Script Engine (QSE.exe) syntax highlighting.
	coloring1.txt	Script Engine (QSE.exe) syntax highlighting.
	connections.ini	Stores connect info for the server login window.
	Connectionpwds.ini	Stores your server information, and any passwords that you choose to have Toad save. These are tied to a single machine. Passwords are not observed if you migrate Toad settings from one machine to another.
	DatabaseBrowser.tdb	Stores the treeview for the left hand side of the Database Browser.
	DatabaseProbe.ini	Stores customization and alerts for the Database Probe .
	DataModeler.ini	Stores configuration for the Query Builder
	<dbname>\DefSchema.txt	Holds the name of the default schema for that database.
	<dbname>\<username>_tablefilters.xml	Store filters for the schema browser right hand side grids for the specified connection.
	<dbname>\<username>\DefSchema.txt	Holds the name of the default schema for that user\database combination
	DBWizSettings.ini	Stores saved settings for the Database Creation wizard.
	desktops.xml	Holds Toad desktop configurations.
	EditorBars.ini	Stores custom toolbar configurations of the Editor.
	Explainplancolumndefs.xml	Stores Default column

ExplainPlanGlobalPrefs.xml	settings for Explain Plan.
ExplainPlanUserPrefs.XML	Stores explain plan text colors and fonts.
ExportWizSettings.ini	Stores explain plan column visibility information, widths, and order.
Filters.txt	Stores saved settings for the Export Utility wizard.
Filecompare.ini	Stores previous filters for the Grid Filter Data window.
Files with a .FLT extension	Holds options for the Differences Viewer .
Files with an SDF extension	Store filters for the schema browser left hand side.
Files with a .TMD extension	Store your Categories for the Script Manager.
FindDirs.txt	Store configuration info for the Master/Detail Browser.
ftp.ini	Stores find dialog directory saves.
Healthcheck.htm	Stores user FTP information.
htmlsub.txt	Database Health Check File.
ImportWizSettings.ini	Stores html editor autocorrect settings.
jobdates.txt	Stores saved settings for the Import Utility wizard
LoginGrd.ini	Not editable through Toad, but users can alter it to change the drop down menus in the Create/Alter job window.
MenuShortcuts.ini	Stores the configuration of the grid in the Server Login window.
Newfunc.sql, Newproc.sql, Newpackage.sql, NewPackageBody.sql, NewPkgFunc.sql, NewPkgProc.sql, Newtrig.sql, Newtype.sql, Newtypebody.sql, NewTypefunc.sql, NewTypeproc.sql	Custom shortcut keys for the main Toad menu.
Oracle 8i Data Dictionary.sdf	Your default templates for creating new objects in the Editor.
Params.txt	Pre-created Script Manager datafile containing Oracle 8i data dictionary scripts.
Project.tpr	Parameters for single line queries in the SQL editor.
Project_bak.tpr	Holds information for the Project Manager window.
	Holds information for the Project Manager window as a backup.

ProjectConfig.txt	Holds information for the Project Manager Window.
SavedSQL.xml	Stores your Named SQL, Personal SQL and SQL history.
SBFilterList.xml	Schema Browser filter list.
SBProjManFilterList.xml	Stores Schema Browser filter list for the Project Manager.
SchemaCompSummary	Stores summary information for the Schema Compare feature.
SchemaObjects.sdf	Script manager datafile containing pre-created Schema objects.
Services.ini	Stores the list of services for the Service Manager window.
SGATrace.ini	Saves the layout of your SGA Trace window's grid.
SQLLoaderSettings.ini	Stores saved settings for the SQL*Loader wizard .
Sysviews.txt	Preserves system view names.
templates.xml	Stores MakeCode and CodeSnippets templates.
temptxt.txt	Stores temporary text for Schema Compare.
Terr.sql	Contains export grants. If you lose your connection while attempting to save, this file is created.
TOAD.INI	Stores many of the basic Toad options, including most items from View Toad Options.
Toad_GUI.ini	Stores Toad Session Browser GUI settings.
Toad_GUI2.ini	Stores GUI settings for other Toad windows.
Toad_SessBrowFilters.ini	Stores the filters for the Session Browser.
ToadMAIL.ini	Stores settings from View Toad Options Email Settings
ToadMONITORS.ini	Stores settings from View Toad Options Monitors and View Toad Options Instance Manager.
ToadParams.ini	Stores the parameters you have previously entered for the Debugger.
ToadRun.txt	Toad command-line run file.

Toad_SessBrowFilters.ini	Stores the filters for the Session Browser.
toadstats.ini	Not editable through Toad, but users can change it to affect the DBA Server Statistics window.
toolbars.ini	Toolbar and menu configuration for the main Toad window.
TopSess.ini	Holds your list of profiles for the Top Session Finder.
views.txt	Preserves user views.
\<servicename>\ <username>Syns.txt	Holds the lists of synonyms for syntax highlighting.
\<servicename>\ <username>Views.txt	Holds the lists of synonyms and views for syntax highlighting.
\<servicename>\ projects.lst	Holds the configurations of the Favorites tab on the Schema Browser.
Toad for Oracle\unixjobs directory	Files with a .JDF extension Store information for the Unix Scheduler.

The Toad INI file

There are only a few settings that require a manual edit of the TOAD.INI file. For all other settings, use the appropriate GUI.

SQL Results panel splitter

```
[SETTINGS]
SLIDER_TOP=200
```

If you cannot see the SQL Results panel because of resizing the MDI child window too small, you can quit Toad, edit this value to a low number, like 150 or 200, and restart Toad. There is no default value.

Keep users from dropping or truncating tables

```
[SETTINGS]
ALLOW_DROP_TBL=0
```

By default, Toad permits the user to drop tables and truncate tables. If you do not want to give a Toad user this power, put in ALLOW_DROP_TBL=0 into their TOAD.INI file. The default is 1.

Put lines of comments between identifier and name of procedure

The default to this is not included automatically in the TOAD.INI file. You can add it:

```
[SETTINGS]
PELineOffsetOverride=1
```

On is 1, set it to 0 to turn it off without deleting it.

You should only set this if you want to put lines of comments between the identifier and the name of the procedure, as in:

```
create or replace procedure
-- xx
-- YY
aaa
as
begin
raise no_data_found ;
end ;
/
```

For Toad to use the correct line number in the above example, this setting must be on (PELineOffsetOverride=1).

However, if this is on (PELineOffsetOverride=1), you will then get the wrong line # for cases where you do this:

```
create or replace procedure aaa
-- xx
-- YY
as
begin
raise no_data_found ;
end ;
/
```

How to create your Toad for Oracle\Temps\ToadStats.ini file

On the [Toad Server Statistics](#) window, Analysis tab, if you do not have the Toad for Oracle\Temps\ToadStats.ini threshold file, these are the default threshold values used.

INI Entry	Min Value	Warn Value	Max Value	Description	Warning Message
dq_row	-9999	-9999	-9999	dictionary gets	n/a
dm_row	98	-9999	-9999	dictionary misses	n/a
dcr_row	-9999	-9999	-9999	dictionary cache hit rate	high dictionary cache miss
bcr_row	90	-9999	-9999	buffer cache hit ratio	may need to increase db_block_buffers
dsr_row	-9999	-9999	10	disk sort ratio	increase SORT_AREA_SIZE or tune the SQL
bbw_row	-9999	-9999	1	buffer busy wait ratio	tables with insufficient free lists or too few rollback segments or extents
fbw_row	-9999	-9999	1	free buffer wait ratio	too many disk sorts?
lchr_row	85	-9999	-9999	library cache get hit ratio	dynamic or unsharable SQL?
lcpr_row	-9999	-9999	1	redo space wait ratio	n/a

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lcpr_row	90	-9999	-9999	library cache pin hit ratio	Shared Pool area too small
rswr_row	-9999	-9999	1	redo space wait ratio	n/a
cfr_row	-9999	-9999	0.01	chained fetch ratio	PCTFREE too low for a table
per_row	-9999	-9999	20	parse/execute ratio	high parse to execute ratio
cpo_row	-9999	-9999	15	cpu parse overhead	high parse cpu overhead
tsr_row	-9999	-9999	-9999	ratio of rows from idx/total rows	low ratios indicate too many full
dbwra_row	-9999	-9999	255	DBWR avg scan depth	# DB_FILES too high?
dbwrs_row	-9999	-9999	-9999	DBWR avg buffers scanned	n/a

-9999 = No value

To set your own custom thresholds, create an ini file, called ToadStats.ini. Place this file into your Toad for Oracle\User Files folder.

For each "INI Entry" above, you can set Minimum values, Warning values, and Maximum values. Also, you can specify a custom Title and Set the warning message when the warning value is exceeded.

When the warning value is exceeded, the circle is pink. When the maximum value is exceeded, the circle is red.

As in standard Windows .ini format, place the "INI Entry" string within left and right brackets. This becomes the section. Then, you can place Min, Warn, Max, Title, and ErrorMessage items into each section.

For example:

```
[dm_row]
```

```
Min=98
```

```
[bcr_row]
```

```
Min=90
```

```
[dsr_row]
```

```
Max=10
```

```
[bbw_row]
```

```
Max=1
```

```
[fbw_row]
```

```
Max=1
```

```
[lchr_row]
```

```
Min=85
```

```
Warn=90  
ErrorMsg=Dynamic or Unsharable SQL?
```

```
[lcpr_row]  
Max=190  
Warn=80  
Title=library cache pin hit ratio
```

```
[rswr_row]  
Max=1
```

```
[cfr_row]  
Max=0.01
```

```
[per_row]  
Warn=17  
Max=20  
Title=Parse to Execute Ratio  
ErrorMsg=High parse to execute ratio
```

```
[cpo_row]  
Max=15
```

```
[dbwra_row]  
Max=255
```

Transferring Configuration files

If you are installing Toad on a new computer, you may want to move your settings, personal SQL, SQL History and Named SQL Statements to the new machine. This will save you the trouble of recreating all of these settings.

To transfer all personalized settings

- Install **Toad** on the new machine.
 - Copy the **Toad for Oracle|User Files** folder from your old machine to the new machine, making sure the file structure remains the same.
-

Configurable Toolbars and Menus - Overview

If you are using a toolbar [layout configuration](#) that allows it, the main Toad toolbar and menu bar is configurable, as are the Editor toolbar and keyboard shortcuts. This lets you arrange Toad to best reflect how you want to work. You can see the contents of the default toolbars in the [Default Toolbar](#), and Editor Toolbar topics.

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If you are using a custom configuration, new commands will not be added to your custom toolbars when you upgrade Toad. However, you can easily see both new commands and commands you have removed from the toolbars and menus.

To view and add new/removed commands

1. Right-click over the toolbar and select **Customize**.
2. Click the **Commands** tab.
3. Select **[New]** or **[Removed]** from the command list as appropriate.
4. Drag a command to the toolbar/menu of your choosing.
5. Click **Close** when finished.

Usage Configuration

In addition, Toad menu bars can configure themselves to how you work with Toad. As you work, Toad collects usage data on the commands you use most often. Menus personalize themselves to your work habits, moving the most used commands closer to the top of the list, and hiding commands that you use rarely. If you want to use this feature see [Customize Options](#) for more information.

You can:

- [Alter toolbars](#), including the menu bar.
- [Display and hide toolbars](#). You cannot hide the menu bar.
- [Create a new, custom toolbar](#).
- [Restore the default toolbar](#).
- [Change and add shortcuts for menu commands](#).
- Adjust how toolbars display and dock (see Options: [Toolbars](#)).

Server Side Objects Installation

Installing Server Side objects

Several Toad features require objects installed on the server side of the Oracle instance. These objects can be installed into the Toad schema, an individual schema, or a third, publicly accessible schema. They may not be installed into more than one of these choices, or problems can occur.

Features with server side objects	Schemas where the features can be installed		
	Toad	Individual	Publicly Accessible
CodeXpert	X		X
Explain Plan [†]	X	X	X
Profiler	X	X	X
Team Coding	X		X
Space Manager*	X		
Security	X		

[†]The Explain Plan Server Side Objects can be installed and edited from within Toad itself. They are not included in the Server Side Objects wizard.

* The Space Manager wizard helps you set up the privileges for Toad, but the [View Tablespaces](#) window will install and administer the objects.

Note: These server side objects apply only to their corresponding features, and Toad's other features will run successfully without the server side objects.

Caution: Explain Plan tables and Toad Profiler objects should be installed into EITHER the Toad schema or an individual user schema, not both.

The Server Side Objects Install wizard makes installing and administering these objects easier. It runs when you install Toad, and you can access it from within Toad to create or administer additional objects after installation.

Note: The order of steps in the Server Side Objects Install wizard depends upon your choices in each step. Because of this, the descriptions are not numbered as steps in the help file. It is recommended that that you use the F1 key to open the appropriate help topic for the step of the wizard where you are located.

When the install wizard opens, it looks for an existing TOAD.INI file. If found, the wizard will use the connection options from the Server Login window (Toad Home, Force SQLNet, etc).

Accessing the Server Side Install Wizard

In order to install server side objects, you will need to have access to either the account for the Toad user, the account for the schema where you are installing them, or an account with the DBA role.

To install server side objects

1. From the Database|Administer menu, select **Server Side Objects Wizard**. The wizard appears.
2. Select what you want to do:
 - [Install, upgrade or remove objects for all users to share](#)

Use this to create and administer a special schema called TOAD. This schema gives you a central location from which to maintain the tables needed to run the above-mentioned portions of Toad. You could create some of these objects (Explain Plan and Profiler) in every schema in which you intend to use them (in other words, every schema would have these same tables, see below) but if you have a large number of users, using the Toad schema is more efficient. In addition, Toad Security, ObjectName, and Team Coding must reside in the Toad schema.

- [Install, upgrade or remove objects for an individual schema to use](#)

If you do not want to create the Toad user, you can create and administer certain objects in the schemas where you intend to use them. This may be more efficient if you have a small number of users for these special features and you do not want all of your users to have access.

- [Create setup scripts without a database connection](#)

You can create the scripts to set up the Toad schema, and so on without access to the database connection you need. Then you can log in later and run the scripts.

3. Click **Next**.
-

[Install, upgrade or remove objects for all users to share](#)

Administering the Toad or other Publicly Accessible Schema

When you choose to create or administer the Toad schema from the Server Side Objects Installation wizard, you must have access to either the Toad user, or a user account with a DBA role.

- Select what you want to do:

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- Install, upgrade or remove shared objects in the Toad schema.
 - Drop the entire Toad schema and all public synonyms for its objects
 - Install, upgrade or remove shared objects in a schema other than Toad.
2. Enter your **logon** information in this screen and then click [Next](#).

Note: Whether you are using a TNS file or an LDAP server, servers will be listed in the database dropdown.

Dropping the Toad user

Dropping the Toad user and all public synonyms is an easy process. Be sure you want to do this before continuing, however.

To drop the Toad user

1. From the Main wizard page (see [Installing Server Side Objects](#)), select **Drop Toad User** and then click **Next**. The Connection information screen appears.
2. Enter the connection information: the user must have DBA privileges on your database to do this. Enter the database where you want the Toad schema dropped.
3. Click **Next**.
4. A confirmation dialog box displays, asking if you really want to drop the Toad user and public synonyms. Double check the information you've provided and then click **Yes**.

The Toad user and associated public synonyms are dropped. If you previously used this client to set up Team Coding on your database, you will also get prompted to drop any roles that you created for Team Coding.

Specify Team Coding Roles

If you have chosen to install Team Coding, you will also need to specify the various roles used in the Team Coding environment.

For each option, you can choose to create a new role, assign the Team Coding functionality to an existing role, grant the role privileges to PUBLIC, or skip creating the role.

Team Coding Administrator

This role is automatically granted all privileges needed to configure Team Coding. All Team Coding functionality except "Freeze Code" is available to users with this role.

Team Coding Project Manager

This role is granted the privileges required to create and delete Code Control Groups (CCGs). Configuration and "Freeze Code" are not available to this role.

Team Coding Team Leader Role

This role is granted the privileges required to create and modify CCGs, and the ability to "Freeze Code." Deletion of CCGs and Configuration are not available.

Selecting Tablespaces for TOAD Schema Items

Use this page of the Server Side Objects Install wizard to select tablespaces for the various Toad schema items.

Items which require tablespaces are:

- Profiler tables
- Toad Security tables
- Team Coding tables and indexes

Use the dropdown menus to choose from existing tablespaces in which to create the Toad schema objects. If you do not select a tablespace, then the objects will be created in the Toad user's default tablespace.

Selecting Objects

You can now choose what you want to administer. When you have made your choices, click **Next**.

If you have selected the Toad schema, Toad checks it and lists the features that include server side objects, along with their status. If you have selected another publicly accessible schema, Toad checks that one and lists those available features. Possible status includes:

- Found and OK
- Not found
- Error

Error will describe the problem in more detail. For example, if you are using an older version of Oracle, the message under Toad Profiler might read as follows:

Profiler not applicable to Oracle versions less than 8.1.

Alternately, you may have a problem such as:

Synonyms missing, Toad_PROFILER package is modified or out of date.

Toad Objects

Toad Security

An administrator can restrict users' access to features of Toad.

Note: This feature must be installed in the Toad schema.

For Toad Security objects, you can:

- **Add** - This option lets you add the Toad RESTRICTIONS table needed for keeping track of Toad Security privileges.
- **Remove** - You can choose to remove Toad Security. Removing a Toad object will make that portion of Toad unusable unless they are present in a user's schema.
- **Administer** - This lets you create and remove administrators for the Toad security tables. For more information about Toad security, see the [Toad Security topic](#).
- Click **Add Security Admin** to display a dialog box to add administrator privileges to a specific user. Select a user and click **Grant** to add the privileges.
- Select an administrator user from the grid and then click **Revoke Security Admin** to revoke administrator privileges to a specific user.

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Toad Profiler

Use Toad's interface to DBMS_PROFILER.

CAUTION: Toad Profiler objects should be installed into EITHER the Toad schema or an individual user schema, not both.

- Add - This option lets you add the objects not currently in the Toad schema that are necessary for Toad's interface to DBMS_PROFILER.
- Remove - You can choose to remove objects. Removing a Toad object will make that portion of Toad unusable unless they are present in a user's schema.
- Drop and Recreate All - Use this option to drop and then recreate all objects required for the Profiler. This option is available when Toad finds problems in the Profiler objects that it cannot fix.
- Recompile and Update - Use this option to recompile and update the Profiler objects. This option is available when Toad finds problems in the Profiler objects that it can fix. You can also update Toad_PROFILER at any time, even if it is found and OK.

Team Coding

Users can check in and check out PL/SQL objects and optionally associate those objects with a third party source control provider.

Note: This feature must be installed in either the Toad schema or another publicly accessible schema, such as SQLNAV. (For more information on using the SQL Navigator Team Coding environment, see [Using Team Coding in SQL Navigator Environments.](#))

- Add - This option lets you add the Team Coding objects to the Toad schema.
- Remove - You can choose to remove Team Coding from your database.

CodeXpert

Users can save reports to the database and retrieve them at a later date.

- Add - This option lets you add the CodeXpert objects to the Toad schema.
- Remove - You can choose to remove CodeXpert from your database.

Space Manager

This is part of the DBA module. It must be set up from within Toad, while connected to the Toad schema. See [Setting up Space Manager](#). Tracks space usage and I/O over time. From the Server Side Objects wizard, you can:

- Drop the Space Manager job and objects - This removes the ability to use Toad Space Manager. To reinstall, you must log in as the Toad schema and install as described in [Setting up Space Manager](#).
- Grant Toad the necessary privileges to use Space Manager - This grants the privileges that Toad will need in order to run the Space Manager setup, available in the View Tablespace window. Space Manager tables must be set up as described above after doing this if you want to use the Toad Space Manager.

Assigning a Toad Security Administrator

When creating or administering the TOAD Schema, you can either add Security Administrator rights to a user, or revoke those rights.

You must be connected as the Toad user to grant or revoke these privileges. If you are not connected as the Toad user, click **Connect as Toad** on the Select Toad Security Administrators window of the wizard and provide appropriate connection information.

Note: Users who have not been granted direct rights to Security Administration may still be able to administer Toad Security, if they have been granted the appropriate rights through a role or through system privileges. This can be avoided by maintaining strict control over rights and privileges granted to users.

To add a Security Administrator

1. Click **Add Security Admin**. The Add Toad Security Administrator dialog box displays.
2. Click the **dropdown arrow** to display a list of **Users** for this database. Select the user to whom you want to grant Security Administrator rights. An explanation of the rights being granted is provided at the top of the dialog box.
3. Click **Grant** to grant the rights. The user name and associated rights appears in the grid.
4. You can add multiple administrators if necessary. Simply repeat from Step 1.

To revoke a Security Administrator

You may need to revoke administrator rights from a user who has changed positions within the company or left.

1. In the user grid, select the **Users** from whom you need to revoke rights. You can multi-select by holding down **<Shift>** or **<CTRL>** while clicking.
2. Click **Revoke Security Admin**. A confirmation dialog box appears that the revocations succeeded.

Updating the TOAD Schema

From this screen, you can create a Toad script and save it to run later, or you can execute it immediately.

To create or run the script

- Click **Run Script**.

Or

Click **Save Script to Disk**.

You can save a script and then run it immediately. This gives you a saved record of the script you just ran.

Run Script

The script is run, and the Toad schema is created or updated with your changes.

When the script has been run, a log of what was done appears in the window. From here you can either **Save the Script** or **Save the Output**, or both.

Click **Next**.

Save Script to Disk

You are prompted to save the created script. By default, Toad names the script `ToadSetupScript.sql` and places it in your main Toad directory. You can change this if desired.

Click **Next** to continue.

Setup Wizard Finished

The last screen is the announcement that the script has been run or saved, and that the setup is complete.

If there were errors, they will be noted, and you will be referred back to the log to verify.

In addition, Toad runs several other checks on your database and will describe:

- Status of `SYS.DBMS_DEBUG` (required for use of the optional Debugger module)
 - Status of `DBMS_DEBUG_JDWP` (required for use of the Java Debugger)
 - Status of `SYS.DBMS_PROFILER` (required to use Toad Profiler)
-

[Install/remove objects in private user schema](#)

Install, Upgrade or Remove Objects in Private Schema

Explain Plan support and Toad Profiler support can be provided on an individual basis.

If you do not want to create the Toad user, you can create and administer some of the objects in the schemas where you intend to use them. This may be more efficient if you have a small number of users for these special features and you do not want all of your users to have access.

If you choose this option, remember that each user who needs to use the features will have to have setup done individually.

To start the process

1. Enter the **Log on information** for the user account where you want to create the objects.
2. Click **Next**.

Go on to [Select Objects to Administer](#).

Select Objects to Administer

Toad checks the selected user schema and lists the features that include server side objects, along with their status.

- Found and OK
- Not found
- Error

This notice will describe the problem in more detail. For example, if you are using an older version of Oracle, the message under Toad Profiler might read as follows:

Profiler not applicable to Oracle versions less than 8.1.

Alternately, you may have a problem such as:

Synonyms missing, Toad_PROFILER package is modified or out of date.

Choose the objects you want to administer in the private schema and what you want to do.

You can now choose what you want to administer. When you have made your choices, click **Next**.

Profiler Tables

Use Toad's interface to DBMS_PROFILER.

Caution: Toad Profiler objects should be installed into EITHER the Toad schema or an individual user schema, not both.

- **Add** - This option lets you add the objects not currently in the selected schema that are necessary for Toad's interface to DBMS_PROFILER.
 - **Remove** - You can choose to remove objects. Removing a Toad object will make that portion of Toad unusable unless they are present in the Toad schema.
 - **Drop and Recreate All** - Use this option to drop and then recreate all objects required for the Profiler. This option is available when Toad finds problems in the Profiler objects that it cannot fix.
 - **Recompile and Update** - Use this option to recompile and update the Profiler objects. This option is available when Toad finds problems in the Profiler objects that it can fix. You can also update Toad_PROFILER at any time, even if it is found and OK.
-

Updating the Schema

From this screen, you can create an update script for the user and save it to run later, or you can execute it immediately.

To create or run the script

- Click **Perform Update**.

Or

Click **Save Script to Disk**.

You can save the script and then run it immediately.

Perform Update

The script is run, and the schema is updated with your changes.

When the script has been run, a log of what was done appears in the window. From here you can either **Save the Script** or **Save the Output**, or both.

- Click **Next**.

Save Script to Disk

You are prompted to save the created script. By default, Toad names the script `ToadSetupScript_USERNAME.sql` and places it in your main Toad directory. You can change this if desired.

- Click **Next** to continue.
-

Setup Wizard Finished

The last screen is the announcement that the script has been run or saved, and that the setup is complete.

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If there were errors, they will be noted, and you will be referred back to the log to verify.

In addition, Toad runs several other checks on your database and will describe:

- Status of `SYS.DBMS_DEBUG` (required for use of the optional Debugger module)
 - Status of `DBMS_DEBUG_JDWP` (required for use of the Java Debugger)
 - Status of `SYS.DBMS_PROFILER` (required to use Toad Profiler)
-

Create Scripts without a Connection

Create Scripts without a Connection

You can create the scripts to set up the Toad schema, enable Explain Plans in a private schema, and so on without access to the database connection you need. Then you can log in later and run the scripts.

To create scripts without a connection

1. Select **Create setup scripts without a database connection** from the first [wizard screen](#), click **Next**.
2. Select which scripts you want to create. (You can also click **All** or **None**)
3. Check the **path** and **file names** for the scripts you want to create. You can do this individually, or, if you want, you can click **Set Directory** at the top of the window to set the path for all of the selected scripts.
4. Click **Finish** to create the scripts you have selected.

If a script already exists, a dialog box will appear asking if it is all right to overwrite the existing script.

You can now load the script into a Toad editor and create the necessary objects.

Tutorials

PL/SQL Debugger

Debugging a Procedure or Function

Debugging a Procedure or Function

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Debugging a procedure or function is the most straightforward debugging procedure. Yet there are several ways to go about it. This tutorial will walk you through some of the most common commands and methods. It is not designed to teach you to code in PL/SQL, but it will show you the basic features of the Toad Debugger.

Enter the code in the Editor

1. Open a new Editor tab for PL/SQL:
Right-click in the Editor and select **New Tab|PL/SQL**.
2. In the **Desktops** toolbar, your desktop should be set to **PL/SQL**. This will enable the tabs at the bottom of the Editor that are debugger-specific.
3. Enter the following code into the Editor:

```
CREATE OR REPLACE PROCEDURE loopproc (inval NUMBER)
IS
    tmpvar    NUMBER;
    tmpvar2   NUMBER;
    total     NUMBER;
BEGIN
    tmpvar := 0;
    tmpvar2 := 0;
    total := 0;
    FOR lcv IN 1 .. inval
    LOOP
        total := 2 * total + 1 - tmpvar2;
        tmpvar2 := tmpvar;
        tmpvar := total;
    END LOOP;
    DBMS_OUTPUT.put_line ('TOTAL IS: ' || total);
END loopproc;
/
```

4. From the **File** menu, select **Save As** to save this procedure. The tab at the top now displays "Loopproc.prc".
5. Click the **Compile with Debug**  button to turn on the debug information.

Note: If the compile buttons are disabled check one of the following:

- From the menu bar, select **Help|About** and make sure you have a license that includes the debugger.
 - Double check that you are connected to a database that allows debugging
 - Make sure that the editor window is associated with the appropriate database connection: click the **Change Active Connection**  button and select the correct database.
6. Click the **Compile** button . The code compiles and is now ready to run. The code must be compiled before you can set parameters.

Continue 

Working with Watches

Add Watches

There are several ways to add a Watch. In the following steps you will add three watches, each one by a different method. Later, you can choose the method that works best for you.

1. You can only watch variables. Click in the second line of code, in the word **TMPVAR** and click the **Add Watch icon**  on the Debug toolbar (**not** the watches tab toolbar). The Watches window is active at the bottom of the screen, and a watch is added.
2. Add a watch to **TMPVAR2**. This time, press **<CTRL><F5>** to add the watch at the cursor.
Note: To watch all variables automatically, select the [Smart Watches](#) box on the Watch window. This may not be a good option if your procedure has a large number of variables.
3. And finally, add a watch to the **TOTAL** variable. Click in the Total variable, and then from the **Debug** menu, select **Add Watch at Cursor**.

 **Go Back** **Continue** 

Related Topics

[Smart Watches](#)

[Watches](#)

Set Parameters

Some PL/SQL has variable parameters that need to be set before you can run the code. If values for these variables are not set, running the code will result in an Oracle error. In the Loopproc procedure, the INVAL variable needs to be set.

1. Click the **Set Parameters**  button.
Note: If you have parameters that need to be set, when you choose to RUN the code, the Set Parameters window will display automatically. There are many more parameters included that are not covered in this tutorial. To read more about them, please see [Setting Parameters](#).

2. Set parameters appears because there is a user-defined parameter set in the code. In this case, `INVAL` defines the number of times to run the code. Click in the **Value Field** for the `INVAL` variable. `NULL` is highlighted.
3. Set the value at ten. Enter **10** in the value field.
4. Click **OK**. The value is set and the Set Parameters window closes.

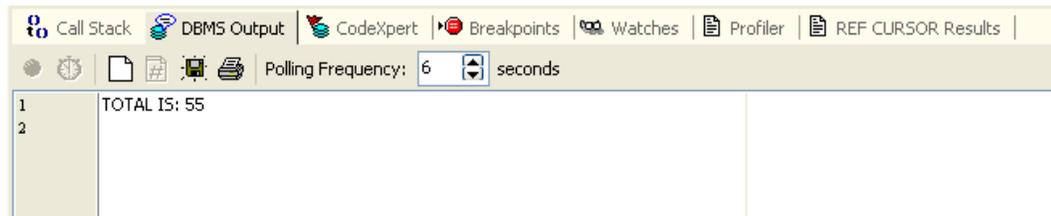


Related topics

[Setting Parameters](#)

Run Code and Display Output

1. Click the **Execute PLSQL with debugger**  button. A confirmation dialog box appears asking if you want to compile the referenced objects with Debug information. Click **Yes**. The code compiles and then runs, but too quickly to see the watches.
2. To confirm that the code has run, click the **DBMS Output** tab in the Desktop tabs area. The window should display the following:



Change Watch Properties

1. Change the watch properties for `Tmpvar2` to scientific format. Click the **Watches** tab. In the Watches window, double-click **Tmpvar2**. The Watch Properties window appears.
2. In the **Format** area, click **Scientific**. Click **OK** to save your changes and close the window.



Disable a Watch

You can disable a watch you do not want to follow. Disable the watch on **Tmpvar**.

1. In the Watches window, double-click **tmpvar**. The Watch Properties dialog box appears.
2. Click the **Enabled check box**. The checkmark disappears.
3. Click **OK**. The Watch Properties dialog box closes. **Tmpvar** is now disabled in the Watch window.

Note: To enable a watch you have disabled, simply click the **watch** in the Watches window to select it and then right-click in the **Watch** window, and select **Enable** from the menu.



Step Through the Code

Step through the Code

1. To actually see the watches you have set, you will need to step through the code line by line. Press **<SHIFT><F7>** several times to step through the code. Notice how the values for the watches change each time you press **<SHIFT><F7>**.

Checking Variable values

The values for the variables you have marked with watches display in the Watches window. However, you may decide you want to check the value for a variable that is not currently being watched. You can do this easily.

2. **Hover** the mouse pointer over the **INVAL** variable. In a moment, a small popup containing the value of the variable appears.



Working with Breakpoints

Add Breakpoints

The next sections of this tutorial focus on breakpoints. They assume you have completed the Introductory and Watches sections.

Breakpoints cause the execution of your procedure to stop at the specified location. In the breakpoints tab, you will see two different breakpoints column. One is "line" and the other is "Editor line." Line refers to the line within the procedure block you are working with (excluding comments and blank lines from the count), and Editor line refers to the line number within the editor. This is because you can have more than one procedure open in the same tab at the same time. For this tutorial, however, we only have one procedure open.

1. In the desktop tabs area, click the **Breakpoints** tab. This allows you to see the breakpoints you set.
2. If line numbers are not displayed to the left of your procedure, turn on Display line numbers in gutter as follows:
3. From the **Edit** menu, select **Editor Options**. The Editor Options – PLSQL window appears.
4. In the left panel, click **General Options**. In the right panel, double-click **Display Options**. The list of display options appears.
5. If the check box beside **Display line numbers in Gutter** is empty, click it to turn the option on.
6. If the check box beside **Show Gutter** is empty, click it to turn the option on as well. Click **OK**. Line numbers should now display in the gray gutter beside your procedure.
3. Add a breakpoint to line **11**. Click in the **gutter** beside line **11**. The line of code is highlighted, and a **breakpoint**  icon appears in the gutter. The breakpoint has been applied. The Editor Line and Line columns in the breakpoint window may or may not display the same number, depending on how your code is formatted.
4. Add a **breakpoint** to line **12**. This time, click in the line of code, and then press **F5**.
5. Click **Run** . The code stops at line **11**. Click run again, and the code stops at line **12**.



Disable Breakpoints

As with watches, you can temporarily disable breakpoints.

1. Disable the Breakpoint on line **12**. In the Breakpoints window, double-click line **12**. The Breakpoint Properties dialog box appears.
2. Click the **Enabled check box**. The checkmark disappears.
3. Click **OK**. The Breakpoint Properties dialog box closes. Line **12** is now grayed out in the Breakpoints window.

Note: To enable a breakpoint you have disabled, simply click the **breakpoint** in the Breakpoints window to select it and then right-click in the Breakpoints window, and select **Enable** from the menu.
4. You can delete the breakpoint entirely instead of just disabling it. In the **Procedure Editor**, click the **Breakpoint**  icon in the margin by line **11**. The breakpoint is removed.



Use Passcount

You can set a breakpoint to only break after a certain number of iterations through the loop. This can be useful when you are working with extremely long loops of code, because you can set it to stop after, for example, seven passes.

Toad 9.5

1. In the Breakpoints window, double-click the **breakpoint**  icon at line **11**.
2. Double-click in the **Passcount** field. Type **7**.
3. Click the **Run**  icon. The Procedure runs through 6 iterations of the loop and stops just before it reaches line 11 for the 7th time.
4. Click the **Call Stack** tab. It should say LOOPPROC(11). This marks the line where you stopped execution.
5. Click the **Watches** tab. Your watches are still set, and since execution has not completed, they will have values.
6. Click the **Run** icon again. A dialog box appears stating "Execution terminated." This indicates that the Procedure has completed its run.



Use Conditional Breakpoint

You can set a condition on a breakpoint, so that the execution will not stop until it meets this condition.

1. In the Breakpoints window, double-click the **breakpoint at line 11**.
2. Double-click the **Passcount** field, and replace the 7 with **0**.
3. In the Condition field, add **LCV >= 7**. Execution will now break at line 11 when LCV is greater or equal to 7.
4. Click the **Run** icon. Execution stops at line 11. Hover the pointer over the variable LCV. The value should be 7.
5. Click the **Run** icon again. LCV is now 8, which is greater than 7, so execution has stopped again.
6. Disable the breakpoint without deleting it. In the Breakpoints window, select the **breakpoint**, right-click and select **Disable breakpoint**. The stop sign icon is unavailable.
7. Click the **Run** icon to complete execution. When the dialog box appears stating that execution has terminated, click **OK**.



Use Passcount and Conditions together

You can combine passcounts and conditions on breakpoints. When doing this, remember that the passcount counts the number of times the condition is met, not the number of times the code passes the line number.

1. Click **Set Parameters**. Change the value for INVALID to **17** and then click **OK**.
2. In the Breakpoints window, double-click the **breakpoint at line 11**.
3. Check the **enabled box** to enable the breakpoint.
4. Leave the condition on the breakpoint, but add a **passcount of 9**. Click **OK**. The Breakpoints properties window closes.

*The breakpoint now has a passcount of nine and a condition of **LCV >= 7**.*

5. Run the code again. Execution stops at pass 9 of 9. When you hover the cursor over LCV, notice that it has a value of 15. This is the 9th time that **LCV >= 7**.



[Return to Debugging a Procedure or Function](#)

Debugging a Package

Debugging a Package

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Debugging a package works in a similar manner to debugging a procedure or function. You are debugging a group of procedures or functions, however, and how they work together, so it is a little different. This tutorial assumes that you are comfortable with watches and breakpoints, and the features described in the [Debugging a Procedure or Function Tutorial](#).

1. Open a new **PL/SQL Editor** tab.
2. Enter the code below into the Editor. This is the package we will use.

```
CREATE OR REPLACE PACKAGE trigonometry
IS
    FUNCTION sine (
        opposite IN NUMBER,
        hypotenuse IN NUMBER,
        MESSAGE OUT VARCHAR2
    )
        RETURN NUMBER;
    FUNCTION cosine (
        adjacent IN NUMBER,
        hypotenuse IN NUMBER,
        MESSAGE OUT VARCHAR2
    )
        RETURN NUMBER;
    FUNCTION tangent (
        opposite IN NUMBER,
        adjacent IN NUMBER,
        MESSAGE OUT VARCHAR2
    )
        RETURN NUMBER;
    numcalls NUMBER := 0;
END trigonometry;
/
CREATE OR REPLACE PACKAGE BODY trigonometry
AS
```

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```
FUNCTION sine (  
    opposite IN NUMBER,  
    hypotenuse IN NUMBER,  
    MESSAGE OUT VARCHAR2  
)  
    RETURN NUMBER  
IS  
    tmpsine NUMBER;  
BEGIN  
    numcalls := numcalls + 1;  
    IF (opposite <= 0)  
        OR (hypotenuse <= 0)  
        OR (opposite IS NULL)  
        OR (hypotenuse IS NULL)  
    THEN  
        MESSAGE := 'Opposite and Hypotenuse must be numbers > 0';  
        RETURN NULL;  
    ELSE  
        /*Calculate the sine*/  
        tmpsine := opposite / hypotenuse;  
        IF tmpsine BETWEEN -1 AND 1  
        THEN  
            MESSAGE := 'Success';  
            RETURN tmpsine;  
        ELSE  
            MESSAGE := 'Unreasonable Sine: ' || tmpsine;  
            RETURN NULL;  
        END IF;  
    END IF;  
END sine;  
FUNCTION cosine (  
    adjacent IN NUMBER,  
    hypotenuse IN NUMBER,  
    MESSAGE OUT VARCHAR2  
)  
    RETURN NUMBER  
IS  
    tmpcosine NUMBER;  
BEGIN  
    numcalls := numcalls + 1;  
    IF (adjacent <= 0)
```

```

OR (hypotenuse <= 0)
OR (adjacent IS NULL)
OR (hypotenuse IS NULL)
THEN
  MESSAGE := 'Adjacent and Hypotenuse must be numbers > 0';
  RETURN NULL;
ELSE
  /*Calculate the Cosine*/
  tmpcosine := adjacent / hypotenuse;
  IF tmpcosine BETWEEN -1 AND 1
  THEN
    MESSAGE := 'Success';
    RETURN tmpcosine;
  ELSE
    MESSAGE := 'Unreasonable Cosine: ' || tmpcosine;
    RETURN NULL;
  END IF;
END IF;
END cosine;

FUNCTION tangent (
  opposite IN    NUMBER,
  adjacent IN    NUMBER,
  MESSAGE OUT  VARCHAR2
)
RETURN NUMBER
IS
BEGIN
  numcalls := numcalls + 1;
  IF (adjacent <= 0)
    OR (opposite <= 0)
    OR (adjacent IS NULL)
    OR (opposite IS NULL)
  THEN
    MESSAGE := 'Opposite and Adjacent must be numbers > 0';
    RETURN NULL;
  ELSE
    /*Return the value of the tangent*/
    MESSAGE := 'Success';
    RETURN opposite / adjacent;
  END IF;
END tangent;

```

```
END trigonometry;
```

```
/
```

3. Click the Format code  button on the toolbar. The code is formatted to the default format, and a comment to this effect is added to the beginning.
4. **Compile** the package by clicking the Compile button . The name *Trigonometry* appears on the tab above the package, and the structure of the package appears in the left panel.
5. Save the file. Close the file and open it again. Toad will ask you if you want to split the file. Select **Yes**. Now the package body and the package spec are in separate tabs in the editor.

Continue



Set Appropriate Options

Before you debug this example package, you need to set the Debugger Options.

Note: This may not be necessary when debugging your own packages, or you can set the options at different stages in your debugging procedure.

1. From the **View** menu, select **Toad Options**.
2. In the left panel, select **Editor|Debug**. The debugging options panel appears in the right panel.
3. Make sure **Step through package initialization** is checked. This specifies that when you step through the code it will also step through the initialization. If it is not checked, Toad will run the initialization and only step through the procedure you have chosen to debug.
4. Click **OK**. The options window closes.



Go Back

Continue



Set Watches and Breakpoints

Set any breakpoints or watches.

1. In the body tab, set a breakpoint at Line **25** (`tmpsine := opposite / hypotenuse;`).
2. Set a watch on the variable **Numcalls** in line **14**. This is a package variable. In order to watch it, you will have to change the properties.
3. In the Watches window, double-click the **watch on Numcalls**. The Watch Properties dialog box appears.
4. Click in the **Package Variable** check box. Notice that the OK button is now grayed out. You must choose a package to activate this option.
5. The Owner name is automatically filled in with the current schema owner. Change it using the dropdown menu if necessary. For now, it should be correct. From the dropdown Package menu, select **Trigonometry** and then click **OK**. This creates a watch on a package variable.
6. Add a watch on the variable **tmpSine** on line **25**.



Select Procedure or Function to Run

When debugging a package, you can only debug one procedure or function at a time. The package will run through its initialization process (or step through it if that option is checked in the Options window – see [Set Appropriate Options](#) in this tutorial for more information).

1. Click within the **SINE function**.
2. Click the **Set Parameters**  icon on the toolbar. The Set Parameters window appears.
3. In the left pane, click **Sine**. This selects this procedure. Notice how the arguments in the right pane change.
4. Click in the **value field** for opposite. Enter **15**.
5. Click in the **value field** for hypotenuse. Enter **20**.
6. Click **OK**. The Set Parameters window closes.



Step through Package

1. Press **<SHIFT><F7>**. Toad steps into the Package initialization, opening it in another tab. The watch for the Numcalls shows as NULL.
2. Press **<SHIFT><F7>** again. Toad moves into the SINE procedure. The watch for Numcalls is now 0.
3. Press **<SHIFT><F7>** again. The Numcalls watch moves up to 1, and Toad steps to line 14.
4. Click the **Run icon** . Toad stops at the breakpoint at line 22.
5. Click **Run** again. Toad completes running the SINE procedure, and notifies you that execution has terminated. All watches are returned to "process not accessible".

In order to debug the other procedures in the package, set watches and variables as desired and select the appropriate procedure from the left pane in the Parameters window. Then repeat the stepping through the code and making changes until you are satisfied.



[Return to Debugging a Package](#)

Debugging an INSERT Trigger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Debugging a trigger works in a similar manner to debugging procedures, functions and packages. As with debugging packages, most of the changes occur when you are setting trigger parameters. This tutorial assumes that you are comfortable with watches and breakpoints, and the features described in the [Debugging a Procedure or Function Tutorial](#).

1. Triggers always need a table to act upon. For this exercise, [create a table](#) called **TESTTAB**. Include the following columns:
 2. ID - VARCHAR2(3)
 3. FIRST_NAME - VARCHAR2(10)
 4. LAST_NAME - VARCHAR2(30)
2. Open a new **PL/SQL Editor** tab.
3. Enter the code below into the Editor. This is the trigger we will use. It simply assigns and declares a variable when you perform an INSERT on the TESTTAB table.

```
CREATE OR REPLACE TRIGGER testtrig
  BEFORE INSERT ON TESTTAB
  DECLARE
  tmpVar NUMBER;
  BEGIN
    tmpVar := 0;
  EXCEPTION
    WHEN OTHERS THEN
      NULL;
  END testtrig;
/
```

3. Make sure the **Compile with Debug**  button is selected. Click the **Compile**  button to compile the trigger.

Continue 

Set INSERT Trigger Parameters

Now that you have a trigger in the editor, you can set parameters for the variables and begin the debugging procedure.

Note: Usually, when debugging, you are not going to want to change the data in your database. However, you must act on that data in order to step through a trigger: the trigger must be activated to debug it. In order to prevent data from changing, you may want to change the commit options in **View|Toad Options|Debugger|Transaction Control** to Rollback or Prompt to keep from altering data. For this tutorial, go ahead and commit the data, as it will be used in the DELETE and UPDATE tutorials later.

1. Press **<SHIFT><CTRL><F9>** or the parameters  button on the toolbar.
2. If a dialog asking you to compile with debug information appears, click **OK**.
3. In the **Set Parameters** window, **Column Values** grid, modify the anonymous block so that the trigger will fire. In this case, we are adding values that will be inserted into the table. Notice how as you add these values, the anonymous block in the Code area of the dialog changes.

Column Name	Value
ID	13b
FIRST_NAME	JOE
LAST_NAME	SMITH

Entering a value in the WHERE clause for an INSERT trigger will produce no results, so don't make any changes to that column.

 [Go Back](#) [Continue](#) 

Set INSERT Trigger Watches

Set any watches or breakpoints you want to use for debugging. In this case, we are going to set a watch on the variable TMPVAR.

1. Click in line 4 (tmpVar NUMBER).
2. Click the **Watch**  button on the toolbar. The watch is displayed in the Watch window.

 [Go Back](#) [Continue](#) 

Step through the INSERT trigger

At this point you can proceed with debugging.

- Press **<SHIFT><F7>** to step through the code. Note how the TMPVAL watch changes values when you reach line 7.

 [Go Back a step](#)

 [Return to Debugging an INSERT Trigger](#)

Debugging an UPDATE Trigger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

For this tutorial, we assume you have already gone through the INSERT tutorial. The UPDATE trigger we will be using acts upon the same TESTTAB table, and looks for the data you inserted in the INSERT Tutorial.

The steps for debugging an UPDATE trigger are the same as for an INSERT trigger, but triggering requires different parameters to be included.

1. Triggers always need a table to act upon. For this exercise, we will be using the table we created in the [INSERT trigger tutorial](#), and the data we inserted into it.
2. Open a new **PL/SQL Editor** tab.
3. Enter the code below into the Editor. This is the trigger we will use. It simply assigns and declares a variable when you perform an DELETE on the TESTTAB table.

```
CREATE OR REPLACE TRIGGER testtrig
BEFORE UPDATE ON TESTTAB
DECLARE
tmpVar NUMBER;
BEGIN
    tmpVar := 7;
EXCEPTION
    WHEN OTHERS THEN
        NULL;
END testtrig;
/
```

3. Make sure the **Compile with Debug**  button is selected. Click the **Compile**  button to compile the trigger.

Continue 

Set UPDATE Trigger Parameters

Now that you have a trigger in the editor, you can set parameters for the variables and begin the debugging procedure.

Note: Usually, when debugging, you are not going to want to change the data in your database. However, you must act on that data in order to step through a trigger: the trigger must be activated to debug it. In order to prevent data from changing, you may want to change the commit options in **View|Toad Options|Debugger|Transaction Control** to Rollback or Prompt to keep from altering data. For this tutorial, go ahead and commit the data, as it will be used in the DELETE and UPDATE tutorials later.

1. Press <SHIFT><CTRL><F9> or the parameters  button on the toolbar.
2. If a dialog asking you to compile with debug information appears, click **OK**.
3. In the **Set Parameters** window, **Column Values** grid, modify the anonymous block so that the trigger will fire. In this case, we are adding values that will be *changed* in the table. As such, we need to specify both an identifier (a WHERE clause) to find the record we want to change, and the value in the column we want to change. We will change "JOE SMITH" to "FRED SMITH".

Name	Value	WHERE Value
ID	NULL	13b
FIRST_NAME	FRED	NULL
LAST_NAME	NULL	NULL

 [Go Back](#) [Continue](#) 

Set UPDATE Trigger Watches

Set any watches or breakpoints you want to use for debugging. In this case, we are going to set a watch on the variable TMPVAR.

1. Click in line 4 (tmpVar NUMBER).
2. Click the **Watch**  button on the toolbar. The watch is displayed in the Watch window.

 [Go Back](#) [Continue](#) 

Step through the UPDATE Trigger

At this point you can proceed with debugging.

- Press <SHIFT><F7> to step through the code. Note how the TMPVAL watch changes values when you reach line 7.

 [Go Back a step](#)

 [Return to Debugging an UPDATE Trigger](#)

Debugging a DELETE Trigger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

For this tutorial, we assume you have already gone through the INSERT tutorial. The DELETE trigger we will be using acts upon the same TESTTAB table. The steps for debugging a DELETE trigger are the same as for an INSERT trigger, but triggering requires different parameters to be included.

1. Triggers always need a table to act upon. For this exercise, we will be using the table we created in the [INSERT trigger tutorial](#), and the data we inserted into it.
2. Open a new **PL/SQL Editor** tab.
3. Enter the code below into the Editor. This is the trigger we will use. It simply assigns and declares a variable when you perform an DELETE on the TESTTAB table.

```
CREATE OR REPLACE TRIGGER testtrig
BEFORE INSERT ON TESTTAB
DECLARE
tmpVar NUMBER;
BEGIN
    tmpVar := 0;
    EXCEPTION
    WHEN OTHERS THEN
        NULL;
END testtrig;
/
```

3. Make sure the **Compile with Debug**  button is selected. Click the **Compile**  button to compile the trigger.

Continue 

Set DELETE Trigger Parameters

Now that you have a trigger in the editor, you can set parameters for the variables and begin the debugging procedure.

Note: Usually, when debugging, you are not going to want to change the data in your database. However, you must act on that data in order to step through a trigger: the trigger must be activated to debug it. In order to prevent data from changing, you may want to change the commit options in **View|Toad Options|Debugger|Transaction Control** to Rollback or Prompt to keep from altering data.

1. Press **<SHIFT><CTRL><F9>** or the parameters  button on the toolbar.
2. If a dialog asking you to compile with debug information appears, click **OK**.
3. In the **Set Parameters** window, **Column Values** grid, modify the anonymous block so that the trigger will fire. In this case, we are going to delete rows of the table that have an employee last

name of SMITH. The value sections of the grid are irrelevant to the trigger, so we need to modify the WHERE values:

Column Name	WHERE Value
ID	NULL
FIRST_NAME	NULL
LAST_NAME	SMITH

 [Go Back](#) [Continue](#) 

Set DELETE Trigger Watches

Set any watches or breakpoints you want to use for debugging. In this case, we are going to set a watch on the variable TMPVAR.

1. Click in line 4 (tmpVar NUMBER).
2. Click the **Watch**  button on the toolbar. The watch is displayed in the Watch window.

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Step through the DELETE Trigger

At this point you can proceed with debugging.

- Press **<SHIFT><F7>** to step through the code. Note how the TMPVAL watch changes values when you reach line 7.

 [Go Back a step](#)

 [Return to Debugging a DELETE Trigger](#)

Team Coding

Installing Team Coding Database Objects

Before you can use Team Coding as a basis for source control, it must be set up and configured on your Toad instance. This tutorial will walk you through the most basic Team Coding configuration, using only Toad and no external version control software.

In order to use Team Coding, a repository must be set up on the database (usually in the TOAD schema), and Team Coding must be configured on your machine.

1. If you haven't already, open **Toad**.
2. From the **Database** menu, select **Administer | Server Side Objects** wizard.
3. On the first page of the wizard, select **Install, upgrade or remove objects for all users to share** and then click **Next**.
4. Enter login information for either the TOAD schema or a DBA user (you must have DBA privileges on your account to do this) information and click **Next**. Toad logs in to the selected schema.
5. The Server Side Objects wizard checks to see if Team Coding has been installed and that all components are valid. If they are, the Team Coding area will display "Found and OK." If they are not there, it will display "Team Coding not Found". Click **Add** and then **Next** to install them.
6. Click **Next** to skip the Space Manager features.
7. Create the Team Coding roles. It is recommended that you create new roles for Team Coding, but you can also assign the team coding privileges to an existing role. When you have selected the options for these roles, click **Next**.
8. Select the tablespaces where you want to create the Team Coding Objects. Click **Next**.
9. Click **Run Script** to create the Team Coding Objects. When the wizard displays "Update of TOAD complete," review the output and click **Next**.
10. The Server Side Objects wizard checks for other necessary objects and reports on the status. Click **Close** to finish.

[Continue without VCS](#) 

[Continue with VCS](#) 

Setting up and Enabling TC without Version Control Software

Setting up Team Coding without Version Control Software

Team Coding Roles

Grant Users the Team Coding roles as desired. These roles are:

Administrator (TC_ADMIN_ROLE)

Can configure the instance to define how Team Coding operates, which VCS (if any) is used, and so on. This role is automatically assigned to the Toad user.

Project Manager (TC_MGR_ROLE)

Can create and delete code control groups (CCGs) and relate them to a VCS project.

Team Leader (TC_LDR_ROLE)

Can modify CCGs, define the objects or scripts are included in the group, and freeze objects. Can also delete rows from the Team Coding Viewer.

Users without a role granted

Users not granted one of the three Team Coding Roles hold the default role of developer. They can view the status of objects within the Team Coding Viewer, and check items in and out of source control.

1. Grant Roles as follows:
 1. From the **Schema Browser|Users** tab
 2. Select a **user** in the left panel
 3. Click the **Alter User** button.
 4. Click the **Roles** tab. Add or remove roles as desired.

Or

- You can also grant roles from the Editor. Enter the appropriate SQL and execute it. For example:


```
grant TC_ADMIN_ROLE to ARTHUR
grant TC_LDR_ROLE to SUSAN
```



Enabling Team Coding in the Database - No VCS

1. On the Team Coding Toolbar, click the **View Team Coding Status for this session**  button. The Team Coding Status dialog box displays, with the connection information in the title bar.

If Team Coding is enabled, the Permissions area will display a green check mark beside Team Coding Available and the permissions the current user has.
2. Click **Settings** to see and edit Team Coding status for this connection.
3. Check **Enable Team Coding**.



Setting up and Enabling Team Coding with Version Control Software

Setting up Team Coding using Version Control Software

The first step is to grant users the Team Coding roles as desired. These roles are:

- Administrator (TC_ADMIN_ROLE)

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- Can configure the instance to define how Team Coding operates, which VCS (if any) is used, and so on. This role is automatically assigned to the Toad user.
- Project Manager (TC_MGR_ROLE)
- Can create and delete code control groups (CCGs) and relate them to a VCS project.
- Team Leader (TC_LDR_ROLE)
- Can modify CCGs, define the objects or scripts are included in the group, and freeze objects. Can also delete rows from the Team Coding Viewer.
- Users without a role granted
- Users not granted one of the three Team Coding Roles hold the default role of developer. They can view the status of objects within the Team Coding Viewer, and check items in and out of source control.

Steps

1. Grant Roles as follows:
 1. From the **Schema Browser|Users** tab
 2. Select a **user** in the left panel
 3. Click the **Alter User** button.
 4. Click the **Roles** tab. Add or remove roles as desired.
- Or
- You can also grant roles from the Editor. Enter the appropriate SQL and execute it. For example:
grant TC_ADMIN_ROLE to ARTHUR
grant TC_LDR_ROLE to SUSAN
2. From **View|Toad Options|Team Coding**, set the appropriate Team Coding options (See [Options|Source Control/Team Coding](#) for descriptions). At the very least you will need to set:
 3. **Default Working directory** - Enter the full path of the working directory for your Version Control Software. You can browse and select it if necessary by clicking the drilldown  button.
 4. If you are using CVS, click **VCS Provider Options** and use [CVS Configurations Options](#) to specify the options you want to use for that provider. Other supported providers do not require these options.

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Enabling Team Coding in the Database - VCS

1. On the Team Coding Toolbar, click the **View Team Coding Status for this session**  button. The Team Coding Status dialog box displays, with the connection information in the title bar.
If Team Coding is enabled, the Permissions area will display a green check mark beside Team Coding Available and the permissions the current user has.
2. Click **Settings** to see and edit Team Coding status for this connection. The **Configuration** tab is active.
3. Check **Enable Team Coding**.

4. You must use code control groups if you are using 3rd party VCS. Check **Use Code Control Groups** and **Use 3rd party version control**.
5. Select your **Version Control Provider** from the list provided.
6. Click the **File extension tab** to change default file types associated with using Team Coding, and the **General** tab to set defaults such as automatic generation of new version numbers.
7. Click **OK** to save your settings and enable Team Coding.



Setting up Code Control Groups

When Team Coding is enabled and your VCS has been set up, you will need to set up your Code Control Groups.

Code Control Groups are like buckets that you can use to separate your code projects. You can put some code into one or more buckets that will be under source control, and you can put some code into a bucket that won't be controlled. In addition, you can sort the code within those buckets into smaller containers using filters. These filters can be applied depending on the developer using the code, as well as globally.

Create a code control group as follows:

1. From the **Toad menu** bar, choose **Team Coding | Code Control Groups**, or on the **Team Coding** toolbar, click the **Code Control Groups**  button.
2. In the **Code Control Groups** toolbar, click the **Add Group**  button.
3. If a login window appears, provide the needed information.
4. In the **New Group** dialog box, enter a descriptive name for the Group.
5. If you are using a third party Version Control System (VCS), select a VCS project by following the prompts in the dialog boxes that appear. This will vary depending on the product in use. The Code Control Group window appears.
6. If you are not using a VCS, the Code Control Group window appears immediately.
5. In the **Code Control Group** window, create New Object and script mask definitions for the current CCG.



Setting up New Object and Script Masks

1. From the Code Control Group window, select the group where you want to add masks and then click the **Open Group**  button.
2. Click the **New Database Mask**  button. The Mask Properties dialog box displays.
3. Select from the following options.
 - **Object Type** - Choose from View, Procedure, Function, Package, Package Body or All.

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- **Schema** - Pick a user from the list, or type a schema name. You can use the % wildcard character.
- **Object Name** - You can type an object name, including the % wildcard. Alternatively, you can launch the Open DB Object dialog box to choose an object matching the Object Type and Schema settings.
- **Excluded** - Select Excluded to exclude any objects matching this object mask from the CCG.



Mapping Users to CCGs

You must be logged in as the user you want to map.

1. Open the **Code Control Groups** window (**Toad menu bar**|**Team Coding**|**Code Control Groups**)
2. Select the appropriate **CCG**.
3. Click the **Map Current User**  button on the toolbar.
4. If the CCG contains object masks for multiple schemas, follow the prompts to select the schema you want.
5. If required, perform an **Import** to update the objects in your schema.



CodeXpert

Using the CodeXpert

Use the CodeXpert to compare your code to specific rules and standards. CodeXpert analyzes the PL/SQL against a set of rules for best practices. These rules are stored in a ruleset. You can define your own rulesets if desired. (See [CodeXpert Tutorials|Creating a Ruleset](#) for more information.)

In this tutorial, we will take a simple procedure and try out some of the features of the CodeXpert. There are many options and settings you can use to customize how CodeXpert analyzes your code. For more information on these, see the [CodeXpert section](#) of the help.

1. If is not already open, open **Toad** and then open an Editor window.
2. Past the following code into the Editor:

```
CREATE OR REPLACE PROCEDURE loopproc (inval NUMBER)
IS
    tmpvar    NUMBER;
    tmpvar2   NUMBER;
    total     NUMBER;
BEGIN
```

```

tmpvar := 0;
tmpvar2 := 0;
total := 0;
FOR lcv IN 1 .. inval
LOOP
    total := 2 * total + 1 - tmpvar2;
    tmpvar2 := tmpvar;
    tmpvar := total;
END LOOP;

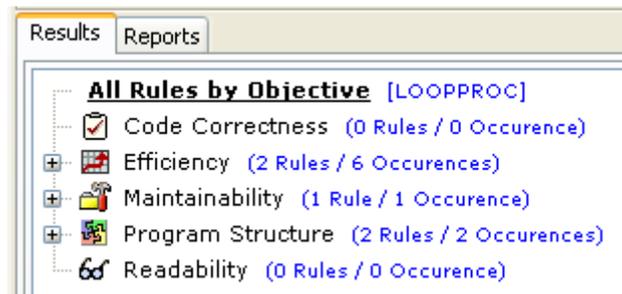
DBMS_OUTPUT.put_line ('TOTAL IS: ' || total);

END loopproc;

/

```

- In the area below the editor, click the CodeXpert tab. If this is not visible, right-click and choose Desktop Panels|CodeXpert to make it visible.
- In the CodeXpert tab, make sure the Scan  toggle is unselected and then either click the Perform Review  button or press . Toad analyzed the contents of the editor in its entirety. If part of the code is selected, Toad will review only the selected code.
- Look at the results. They should appear as follows:



- Expand the **Efficiency Node**. Notice that there are three occurrences of the DATA TYPE - 2829 rule. If you expand this node as well, you will see each instance where the rule was violated. The numbers before them correspond to the row and column number of the violation.
- Click on one of the occurrences. The editor scrolls to that instance, highlighting the line of code in question.
- Double-click the occurrence and the rule description displays.
- Click the **Reports** tab. At the bottom of the panel are tabs for **Rules Summary**, **Crud Matrix**, or **Code Metrics** for this analysis. Click the Rules Summary tab.
- Notice that the **Print** icon in the CodeXpert toolbar is now active. You can print these reports with the click of a button, or click the Save button and save them to an html file.

Creating a Ruleset

If the provided rulesets do not meet your needs, you can create your own rulesets.

We will create a ruleset from scratch. You can also select an existing ruleset to use as a template.

- Open the CodeXpert window. Click **Database|Diagnose|CodeXpert**.

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2. Click the **Configure Ruleset**  button. The configuration window opens with a ruleset selected.
 3. Click the **Rule Sets** node to activate it.
 4. Click the **New Rule Set**  button.
 5. Enter **Sample Tutorial Ruleset** in the **Rule Set Title** box. This is the title that will display in the rule set navigator.
 6. Toad creates a filename for you based on your title and stores it in the Rulesets folder. You can change this if desired.
 7. The author is automatically filled in from your computer information. If this is not correct, change it now.
 8. Enter any comments about your ruleset. For this test, enter the following:
This is a sample ruleset to learn functionality.
 9. Click **Next**.
 10. We will leave the sort order at the default: Severity, then Objective. If you want to view violations of your ruleset in a different way, this dropdown list is where to do it.
 11. Select the rules you want to enforce. In this case, open the WARNING node and select the following rules:
 12. VARIABLE - 6411
 13. VARIABLE - 6413
 14. GOTO - 4002
 12. Click **Finished**. The ruleset is now listed at the bottom of the navigation panel, with the User-created  icon identifying it.
-

Comparing

Data Duplicates

Use this dialog box to view record duplicates based on user input.

To view record duplicates

1. Select **Database|Compare|Data Duplicates**
2. Select the **Owner, Object Type** and **Object** from the dropdown lists. A list of columns is displayed below. Now, you can either:
 - Find duplicates on all columns
 - Check the **Find duplicates on all columns** option button.
 - Do not select any columns in the list.Or
 - Find duplicates on just selected columns
 - Check the **Find dupes of selected columns** option button.
 - Select one or more columns in the column list.
 - Click one of the **Duplicate Data** tabs to see the resulting rows of duplicate data. An additional column is on the end of the column list entitled **Occurrences**, which indicates the number of times the duplicate data exists in the table.

To edit duplicate data

1. From the **Table Data Duplicates** window, select **Owner** and **Table** from the dropdown lists.
 2. Click the **Duplicate Data (Editable)** tab.
 3. Click in the cell you want to edit and make your changes.
 4. Click the **Post Edit** button to finalize changes.
-

Compare Single Objects

You can compare single objects from the Schema Browser.

Object types that support this feature include:

- Tables
- Views
- Procedures
- Triggers, etc

To compare objects

1. Select an object and right-click.
2. Choose **Compare with another object** from the menu. The reference source information will be filled in for you.

3. Enter the comparison source information, either a Text file to compare the object with, or an object in a live schema.
 4. If you are using Toad with the optional Quest DBA module, at the top of the dialog box, choose to view your results in one of two ways.
 5. File Compare - This option uses the Differences Viewer to compare the two selected objects. For more information about the differences viewer, see [Compare Files](#).
 6. Sync Script - This option is only available if the objects chosen have the same name, and are in different schemas. It compares the objects and creates a sync script for you.
-

Comparing Data

Comparing Data

You can use Toad's Compare Data wizard to compare data between tables within different schemas, or different databases. This can be useful for comparing the data in a production and test environment, for example.

This is accomplished in six steps:

- [Select data sources](#)
- [Select performance options](#)
- [Select columns to compare](#)
- [Specify "order by" commands](#)
- [Review row counts](#)
- [Review differences](#)
- Rows in object 1 that are not in object 2
- Rows in object 2 that are not in object 1
- All differences

Throughout, you can click the following buttons to move through the wizard:

- Start - return to the start of the wizard. This does not clear any settings you have made.
 - Back - move back one step.
 - Next - move on to the next step.
-

Selecting Data Sources

From the first window of the [Compare Data wizard](#) you can select your data sources. Data sources can be local, or from a remote source, connected by a Database Link.

To select data sources

1. If your first data source is remote, select an existing DB Link from the drop-down menu in the **Use DB Link** box.

If your first data source is local, leave this box blank.

2. Select the **object type** you will be comparing. Tables, Views and Snapshots are supported.

3. Select the **schema** that owns the object from the **Object Owner** drop-down menu.
 4. Select the **Object Name** from the **Object Name** list.
 5. If a unique Index exists for the selected object, it is noted.
 6. If desired, enter a "Where" clause to limit the data.
 7. Click **Next** to proceed to selecting Performance Options.
-

Related Topics

[Comparing Data](#)

[Select performance options](#)

[Select columns to compare](#)

[Specify "order by" commands](#)

[Review row counts](#)

[Review differences](#)

Selecting Performance Options

From this window of the [Compare Data wizard](#) you can set your performance options. These options include:

Sort area size

Sorting the area size only affects queries going through a Database Link.

The default is not selected.

When selected:

- The default area size is 10 MB
- You can select to set another sort area size when the first window closes. The default for this is also 10MB.

Optimizer Hints

[Use Full Table Scan hint](#)

The default is checked.

[Use Parallel hint](#)

The default is unchecked. When selected, you can set the amount of parallelism you want. The default for this is 4.

Related Topics

[Comparing Data](#)

[Select data sources](#)

[Select columns to compare](#)

[Specify "order by" commands](#)

[Review row counts](#)

[Review differences](#)

Selecting Columns to Compare

This window of the [Compare Data wizard](#) provides a list of columns that you can compare between the two data sources.

Columns are differentiated by color:

- Black - Columns appear in both sources and can be compared.
- Red - Columns cannot be compared.
- Purple - Columns appear only in Source 1.
- Teal - Columns appear only in Source 2.

To select columns

- Click in the check boxes beside the columns you want to compare.
-

Related Topics

[Comparing Data](#)

[Select data sources](#)

[Select performance options](#)

[Specify "order by" commands](#)

[Review row counts](#)

[Review differences](#)

Specifying Order By

Optionally, from this window of the [Compare Data wizard](#) you can specify columns where you want to apply an ORDER BY clause.

To specify an ORDER BY clause

1. Double-click in the column you want to order by.
 2. Change from Ascending or Descending by double-clicking in the **Asc/Desc** column.
 3. You can click **Reset** to clear the columns and start over.
-

Related Topics

[Comparing Data](#)

[Select data sources](#)

[Select performance options](#)

[Select columns to compare](#)

[Review row counts](#)

[Review differences](#)

Reviewing Row Counts

From this window of the [Compare Data wizard](#) you can review row counts of the various objects.

For each object used as a data source, you can do a row count.

To review row counts

1. Click **Show SQL** to view the SQL used to do the row count. From the Show SQL dialog box, you can copy the SQL to the clipboard or save it to a file.
 2. Click **Execute** to execute the row count.
-

Related Topics

[Comparing Data](#)

[Select data sources](#)

[Select performance options](#)

[Select columns to compare](#)

[Specify "order by" commands](#)

[Review differences](#)

Reviewing Differences

From the last three windows of the [Compare Data wizard](#) you are now ready to view the differences between your data sources.

- The first window reviews rows in Source 1 that are not in Source 2.
- The second window reviews rows in Source 2 that are not in Source 1.
- The last window reviews all differences.

You must run the SQL code for each window as described below.

Editable Datasets

You can edit the dataset from within the grid. In some editions of Toad, you can delete rows from one table, and insert them into the other directly in the grid.

To make dataset editable

- On the Review Differences page, select the **Editable Dataset** checkbox.

To review rows

1. Perform any desired optional steps:
 - Click the **View/Edit SQL** button to view or edit the SQL used to compare differences. You can make changes in the Edit SQL dialog box.
2. Click **Check** to verify that the query parses correctly.

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3. Click **OK** to apply changes to your query.
4. Click **Execute** to find differences in the columns you want to compare.

To delete selected rows

1. Select the rows you want to delete.
2. Right-click and select **Delete Selected Rows**.

To delete all rows

- Right-click and select **Delete All Rows**.
-

Related Topics

[Comparing Data](#)

[Select data sources](#)

[Select performance options](#)

[Select columns to compare](#)

[Specify "order by" commands](#)

[Review row counts](#)

Comparing Databases

Compare Databases

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you compare two databases and tells you what has changed from the original reference source to the comparison source.

To compare databases

1. From the **Database** menu, select **Compare|Compare Databases**.
2. Make your selections on the **Databases** and **Objects & Options** tabs, and then click **Compare** to display the results tabs.

Alternatively, from the **Options** tab, you can click the **Save all settings to file** button and then run the comparison from the command line later. (See [Run Compare Databases from a Command Prompt](#).)
3. [Results](#) are displayed on pages accessible from Results tabs.

Databases tab

Select the **Reference Source** and the **Comparison Source**. Radio buttons let you choose either **Database** or **Definition File**.

Database

Choose database to make a direct comparison of live databases.

If you choose Database, choose both the **Connection** and the **Schema**.

Definition File

Choose definition file to make a comparison with a saved definition file. This option is useful if you have an unchanging database or want your various databases to conform to a specific template .

Note: For more information on creating definition files, see [Generate Database Script](#).

Objects and Options tab

You can right-click the page to check or uncheck all selections.

Objects

Select the objects you want to compare. If you select Specify Object Set, The Object Set tab appears.

Options

Check boxes let you select options, and you can enter a filename for the Synchronization file in the box at the bottom. Most of the options are self-explanatory, or Oracle related.

"Safe Drop" on users, tablespaces, and profiles

The default for this option is checked.

If "Safe Drop" on users, tablespaces and profiles is checked, then:

- A DROP USER statement in the migration script will **not** include the CASCADE keyword.
- If CASCADE is not included, then the script will only be able to drop the user if the user owns no objects.
- A DROP PROFILE statement in the migration script will **not** include the CASCADE keyword.
- If CASCADE is not included, then the script will only be able to drop the profile if no users have that profile.
- A DROP TABLESPACE statement in the migration script will **not** include the INCLUDING CONTENTS keywords, **or**, if 9i or above, the AND DATAFILES keyword.
- If INCLUDING CONTENTS is **not** included, then the script will only be able to drop a tablespace if the tablespace contains no objects.

If "Safe Drop" on users, tablespaces and profiles is unchecked, then:

- A DROP USER statement in the migration script **will include** the CASCADE keyword.
- A DROP PROFILE statement in the migration script **will include** the CASCADE keyword.
 - If CASCADE is included, then any users with the dropped profile will be reassigned to the DEFAULT profile.
- A DROP TABLESPACE statement in the migration script **will include** the INCLUDING CONTENTS keywords, **plus**, if 9i or above, the AND DATAFILES keyword.

Object Set

When you have selected the two databases, and objects from the Objects and Options tab, you can then load the object set.

To load the object set

1. Click the **Load Object Set**  button.
2. Select the check boxes for the objects you want to include in the compare.

Results of Compare Databases

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Results in General

Results of a compare database display the changes required to make the second database look like the reference database. Therefore, if you reverse the order of the databases, there may be differences in the number of objects reported as "missing."

You can switch the order of the databases by clicking the Switch  button in the middle of the Compare Database window.

Results (Interactive)

The list details the differences between the databases in an interactive format. Differences are separated into three groups. Each type of item has an icon assigned to it, making it easy to see at a glance what object it is.

Icon	Definition
	Objects Which Differ
	Objects in Reference Source not in Comparison Source
	Objects in Comparison Source not in Reference Source

Right-Click Menu

The right-click menu allows easy access to several formatting options, as well as a print preview screen and the migration SQL dialog box.

- **Tree Style** - You can choose the type of tree style you want to view: Outlook or Standard.
- **Group by Object** - In addition, items within these groups can be grouped according to type. Right-click in the **Results(Interactive)** tab and select **Group by Object**. Items are now grouped according to type and can be viewed easily. Each type of item has an icon assigned to it.

When you have grouped items by object type, the toolbar displays buttons you can use to expand and collapse the tree view.

Icon	Meaning
	Expand to First Level



Expand all



Collapse all

-
- Save to Text file - You can save your comparison to a text file. From the **Results (Interactive)** tab, right-click and select **Save to Text** file.

Show Migration SQL

You can show the migration SQL for a selected object or objects.

1. Select the object by clicking on it. You can multi-select by holding down either <Ctrl> or <Shift>.
2. Click **Show SQL** at the top of the tab. The Sql Statement dialog box displays the SQL to migrate only the selected items. You can copy this to the clipboard or save directly to a file.

Caution: Remember that this SQL is designed to change the comparison database. Be sure you won't lose any important data before you execute it.

Results (RTF)

This tab shows the comparison in list form. The toolbar lets you

- Save as an RTF file, with all formatting intact
- Save as a text file, losing all formatting, or
- Print the file from your printer.

Results (Summary)

This shows comparison totals for different elements such as the total deletions for grants. The toolbar lets you

- Save as an RTF file, with all formatting intact
- Save as a text file, losing all formatting, or
- Print the file from your printer.

Sync Script

This provides a script to transform the comparison source database into the reference source database.

For example, if the reference database only has one object, and the comparison database contains objects, then the migration script created will drop all the objects but that one, leaving an almost-empty database.

In addition, the toolbar provides the following options:

- Save script as RTF file, with all formatting intact
 - Save script as text file, losing all formatting
 - Print script
 - Move script to Editor window but do not run it
 - Move script to Editor window and run immediately
-

Run Compare Databases from Command Prompt

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You may find you would like to compare databases at regular intervals to monitor for unexpected changes made by others. With a little preparation, you can do the compare from a command prompt when you are away from your desk. Results can be saved to files or sent by email.

Errors are logged to a file called ToadErrors.log in Toad's start directory. The file is written when Toad closes. If an error file is written, Toad will close with a non-zero exit code.

To build the file to run Database Comparison

1. Start **Toad**.
2. From the **Database** menu, select **Compare|Compare Databases**.
3. Make all settings to perform the comparison (see [Compare Databases](#)), but do not click Compare.
4. Instead, on the **Options** tab, click the **Save All Settings to File** button. Click **Save** to save settings information.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like, and file paths and names may be changed). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- **SaveInteractiveResultsAsText('c:\InteractiveResultsFile.txt')** - Saves contents of 'Interactive Results' Tab in a text format. Saving them in an RTF format is not available.
- **SaveRTFResultsAsRTF('c:\RTFResultsFile.rtf')** - Saves contents of 'Results(RTF)' Tab in RTF Format.
- **SaveRTFResultsAsText('c:\TextResultsFile.txt')** - Saves contents of 'Results(RTF)' Tab in Text Format.
- **SaveSummaryAsRTF('c:\RTFSummaryFile.rtf')** - Saves contents of 'Results(Summary)' Tab in RTF Format.
- **SaveSummaryAsText('c:\RTFSummaryFile.txt')** - Saves contents of 'Results(Summary)' Tab in Text Format.
- **SaveSyncScript('c:\SyncScript.sql')** - Saves the SyncScript (sql to transform the comparison source database into the reference source database) in the specified file. You can change the file path and name.
- **EmailInteractiveResultsAsText** - Saves contents of 'Interactive Results' Tab in a text format and emails the file to the address specified in View|Toad Options|[Email Settings](#). RTF format is not available.

- **EmailRTFResultsAsRTF** - Saves contents of 'Results(RTF)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailRTFResultsAsText** - Saves contents of 'Results(RTF)' Tab in Text Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSummaryAsRTF** - Saves contents of 'Results(Summary)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSummaryAsText** - Saves contents of 'Results(Summary)' Tab in Text Format and emails the text file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSyncScript** - Saves contents of the SyncScript and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **CloseToad** - Closes Toad after the script finishes
- **CloseComparison** - Closes the database comparison window after the comparison has finished.
- **#** - This line is a comment and will be ignored.

Note: Any email settings are taken from View|Toad Options|[Email Settings](#)|Compare Databases

Run from the Command Prompt

One comparison only

Once your file is ready, you can run the comparison from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@mydb COMPDB c:\MYfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the **-c** command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple comparisons

If you want Toad to do more than one comparison you can call Toad with this command line:

```
Toad.exe -c system/manager@myOraDB CmdFile c:\commandfile.txt
```

In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\Comparison1.txt
```

```
COMP=c:\Comparison2.txt
```

```
COMP=c:\Comparison3.txt
```

```
CloseToad
```

Here, Comparison1.txt, Comparison2.txt, and Comparison3.txt are three separate database comparison settings files, and when Toad is called it will run the three database comparisons defined by these files. Toad will close itself when the comparison is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all database comparisons are executed.

Comparing Schemas

Compare Schemas

This window lets you compare two schemas and tells you what has changed from the original reference source to the comparison source.

You can set various options, including choosing schemas, setting options, and selecting object sets.

- [Schemas tab](#)
- [Options tab](#)
- [Object Set tab](#)
- [Results](#)

To compare schemas

1. From the **Database** menu, select **Compare|Compare Schemas**.
2. Make your selections on the Schema and Options tabs, and then click **Compare** to display the results tabs.

Alternately, from the **Options** tab, you can click the **Save all settings to file** button and then run the comparison from the command line later. (See [Run Compare Schemas from a Command Prompt](#).)

Related Topics

[Compare Schemas - Schema Tab](#)

[Compare Schemas - Options Tab](#)

[Compare Schemas - Object Set Tab](#)

[Compare Schemas - Results](#)

Compare Schemas - Schemas Tab

Select the **Reference Source** and the **Comparison Source**.

Radio buttons let you choose either **Schema** or **Definition File**.

Schema

If you choose Schema, select both the **Connection** and the **Schema**.

Definition File

Choose definition file to make a comparison with a saved definition file. This option is useful if you have an unchanging schema or you want your various schemas to conform to a template.

Note: Comparing Definition files is only available in the commercial version of Toad with the optional Quest DBA Module. For more information about creating definition files, see [Generate Schema Script](#).

Switching Comparison and Reference Schemas

Switching comparison and reference schemas is performed within memory, so if you have previously run a compare, Toad can switch the schemas for you without querying the database again. Clicking Switch before you have run the comparison will run the comparison.

Changing options requires an additional query, and you will need to click compare again after making any such changes.

To switch comparison and reference schemas

- Click the **Switch** button.

Related Topics

[Compare Schemas](#)

[Compare Schemas - Options Tab](#)

[Compare Schemas - Object Set Tab](#)

[Compare Schemas - Results](#)

Compare Schemas - Options Tab

Check boxes let you select options and what object types will be compared. You can right-click the options tab to check or uncheck all object types.

The options tab contains an additional three tabs:

Tab	Options
Object Types to Compare	Select the object types you want to compare. By limiting what you are comparing, you can speed up a schema compare.
Misc Options	Select how you want to create your script and what you want to include.
Object Type Specific Options	Use these options to limit how you compare specific objects.

Related Topics

[Compare Schemas](#)

[Compare Schemas - Schema Tab](#)

[Compare Schemas - Object Set Tab](#)

[Compare Schemas - Results](#)

Compare Schemas - Object Set Tab

You can use the Object Set tab to select a specific object set to compare. This lets you limit your comparison even more than the options. You can also specify an object set and save it for later use.

To specify an object set

1. From the Schema Compare window, select the schemas you want to compare.

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2. Click the **Object Set** tab.
 3. Click the **Add object**  button. If you already have objects loaded, a confirmation dialog will ask you if you want to clear the grid before loading the new objects. Choose Yes to start over, or No to append the new objects into the grid.
 4. In the Load Object Type box, select an object type to add from the drop down list.
 5. Filter the object list by checking the **Like** box. If you leave it unchecked, all objects of the selected type will be loaded.
 6. If you know you want to compare all the objects you load, you can choose to auto-check the grid rows as Toad loads the objects.
 7. Select view/edit query before executing to see the query that Toad uses to select the objects you are loading. You can use the view dialog to tweak the query if necessary.
 8. Click **Load Rows**.
 9. If you have not automatically selected the rows you have loaded, select them now by clicking in the checkbox in the left column of the grid.
 10. You can now save the object set by clicking the **Save As**  button, or compare the schemas by clicking **Compare**.
-

Related Topics

[Compare Schemas](#)

[Compare Schemas - Schema Tab](#)

[Compare Schemas - Options Tab](#)

[Compare Schemas - Results](#)

Compare Schemas - Results

Results of a compare schema display the changes required to make the second schema look like the reference schema. Therefore, if you reverse the order of the schemas, there may be differences in the number of objects reported as "missing."

For example:

Schema A contains 2 tables; one of them has a PK constraint.

Schema B contains 1 table that matches the unconstrained table in A.

- If A is the reference schema, then the migration script would attempt to change B to make it look like A. In that case, two objects are needed - a table and a constraint.
- But if B is the reference schema, then the migration script would attempt to change A to make it look like B. In that case, one object needs to be dropped - the table. The constraint will be dropped automatically with the table.

You can switch the order of the schemas by clicking the Switch  button in the middle of the Compare Schema window.

Results (Interactive)

The list details the differences between the schemas in an interactive format. Differences are separated into three groups:

Icon	Meaning
	Objects that Differ
	Objects in Reference Source not in Comparison Source
	Objects in Comparison Source not in Reference Source

Each type of item has an icon assigned to it, making it easy to see at a glance what object it is.

Right-Click Menu

The right-click menu allows easy access to several formatting options, as well as a print preview screen and the migration SQL dialog box.

- Tree Style - You can choose the type of tree style you want to view: Outlook or Standard.
- Group by Object - In addition, items within these groups can be grouped according to type. Right-click in the **Results(Interactive)** tab and select **Group by Object**. Items are now grouped according to type and can be viewed easily. Each type of item has an icon assigned to it.

When you have grouped items by object type, the toolbar displays buttons you can use to expand and collapse the tree view.

Icon	Meaning
	Expand to First Level
	Expand all
	Collapse all
Save to Text file	You can save your comparison to a text file. From the Results (Interactive) tab, right-click and select Save to Text file.

To show migration SQL

You can show the migration SQL for a selected object or objects.

1. Select the object by clicking on it. You can multi-select by holding down either <Ctrl> or <Shift>.
2. Click **Show SQL** at the top of the tab. The Sql Statement dialog box displays the SQL to migrate only the selected items. You can copy this to the clipboard or save directly to a file.

Caution: Remember that this SQL is designed to change the comparison schema. Be sure you won't lose any important data before you execute it.

Results (RTF)

This tab shows the comparison in list form. The toolbar lets you

- Save as an RTF file, with all formatting intact
- Save as a text file, losing all formatting, or
- Print the file from your printer.

Results (Summary)

This shows comparison totals for different elements such as the total deletions for grants. The toolbar lets you

- Save as an RTF file, with all formatting intact
- Save as a text file, losing all formatting, or
- Print the file from your printer.

Sync Script

Note: You must have the Quest DBA module to copy or save from this feature.

This provides a script to transform the comparison source schema into the reference source schema.

For example, if the reference schema only has one object, and the comparison schema contains objects, then the migration script created will drop all the objects but that one, leaving an almost empty schema.

In addition, the toolbar provides the following options:

- Save script as RTF file, with all formatting intact
 - Save script as text file, losing all formatting
 - Print script
 - Move script to Editor window but do not run it
 - Move script to Editor window and run immediately
-

Related Topics

[Compare Schemas](#)

[Compare Schemas - Schema Tab](#)

[Compare Schemas - Options Tab](#)

[Compare Schemas - Object Set Tab](#)

Run Compare Schemas from a Command Prompt

You may find you would like to compare schemas at regular intervals to monitor for unexpected changes made by others. With a little preparation, you can do the compare from a command prompt when you are away from your desk. Results can be saved to files or sent by email.

Errors are logged to a file called ToadErrors.log in Toad's start directory. The file is written when Toad closes. If an error file is written, Toad will close with a non-zero exit code.

To build the file to run Schema Comparison

1. Start **Toad**.
2. From the **Database** menu, select **Compare|Compare Schemas**.
3. Make all settings to perform the comparison (see [Compare Schemas](#)), but do not click Compare.
4. Instead, on the **Options** tab, click the **Save All Settings to File** button. Click **Save** to save settings information.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like, and file paths and names may be changed). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- **SaveInteractiveResultsAsText('c:\InteractiveResultsFile.txt')** - Saves contents of 'Interactive Results' Tab in a text format. Saving them in an RTF format is not available.
- **SaveRTFResultsAsRTF('c:\RTFResultsFile.rtf')** - Saves contents of 'Results(RTF)' Tab in RTF Format.
- **SaveRTFResultsAsText('c:\TextResultsFile.txt')** - Saves contents of 'Results(RTF)' Tab in Text Format.
- **SaveSummaryAsRTF('c:\RTFSummaryFile.rtf')** - Saves contents of 'Results(Summary)' Tab in RTF Format.
- **SaveSummaryAsText('c:\RTFSummaryFile.txt')** - Saves contents of 'Results(Summary)' Tab in Text Format.
- **SaveSyncScript('c:\SyncScript.sql')** - Saves the SyncScript (sql to transform the comparison source schema into the reference source schema) in the specified file. You can change the file path and name.
- **EmailInteractiveResultsAsText** - Saves contents of 'Interactive Results' Tab in a text format and emails the file to the address specified in View|Toad Options|[Email Settings](#). RTF format is not available.
- **EmailRTFResultsAsRTF** - Saves contents of 'Results(RTF)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailRTFResultsAsText** - Saves contents of 'Results(RTF)' Tab in Text Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSummaryAsRTF** - Saves contents of 'Results(Summary)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSummaryAsText** - Saves contents of 'Results(Summary)' Tab in Text Format and emails the text file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSyncScript** - Saves contents of the SyncScript and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **CloseToad** - Closes Toad after the script finishes
- **CloseComparison** - Closes the schema comparison window after the comparison has finished.
- **#** - This line is a comment and will be ignored.

Note: Any email settings are taken from View|Toad Options|[Email Settings](#)

Run from the Command Prompt

One comparison only

Once your file is ready, you can run the comparison from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@myOraDB COMP c:\myfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple comparisons

If you want Toad to do more than one comparison you can call Toad with this command line:

```
Toad.exe -c system/manager@myOraDB CmdFile=c:\commandfile.txt
```

In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\Comparison1.txt
```

```
COMP=c:\Comparison2.txt
```

```
COMP=c:\Comparison3.txt
```

```
CloseToad
```

Here, Comparison1.txt, Comparison2.txt, and Comparison3.txt are three separate schema comparison settings files, and when Toad is called it will run the three schema comparisons defined by these files. Toad will close itself when the comparison is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all schema comparisons are executed.

Controlling Sessions

Server Login Window

From this window you can:

- [Create a new connection to Oracle](#)
- [Connect from a list of previous connections](#)
- [Set up auto connect to connect to a previous connection when you open Toad](#)
- [Save passwords for connections](#)
- [Select and view favorite logons](#)
- [Organize your logon display](#)
- [Select a color to indicate a connection](#)
- [Select an Oracle home](#)
- [Select a Default Oracle home](#)
- [Edit your SQL Net settings](#)
- [Edit your TNS Names file](#)

The Server Login window lists your previous connections: Server (database alias), User (Schema), and Last Connect (date and time). You can define connection options as well, for example:

- auto connect
- save the password
- connect mode

The default home that Toad uses matches the one you have chosen in the Oracle Home Selector, unless you have previously selected the check box: **Make this the Toad default home**.

Next to the [TNSNames Editor](#) and the [SQLNet Editor](#) links you will see a **check mark** or an "**X**." These indicate whether Toad has found (checkmark) or not found (X) the associated file.

To access the Server Login window

- From the Session menu, select **New Connection**.

Using the Connection Grid

The connection grid contains connections you have used in the past. If you have added connections to your favorites list, you can view only those connections by clicking the Favorites checkbox at the bottom of the screen.

You can sort any one of the first three columns in Ascending or Descending order by clicking the column header.

The grid column widths are automatically adjusted to display entire contents.

Toad will save the grid sort column, order, and the size and placement of the Server Login window and will restore them the next time you open the window.

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Showing only connections using the selected Oracle home

If you have many connections using different Oracle homes, you may want to display only those using a particular home in the grid.

To limit connections to one Oracle home

1. On the right of the login window, select the Oracle home you want to display.
2. Click the **Show selected home only** check box at the bottom of the window.

Refreshing Oracle information

At the bottom of the window is a **Refresh** button. Clicking this will:

- rebuild your Oracle alias list
 - refresh your client information with the information stored in the registry and on disk
-

Related Topics

[Create New Connection](#)

[Selecting Connection Color](#)

[Auto Connect](#)

[Save Passwords for Connections](#)

[Select and View Favorite connections](#)

[Organize your logon display](#)

[Use Existing Connection](#)

[SQLNet Editor](#)

[LDAP Editor](#)

Select Session

Use this dialog box to:

- Select a current session to end.
Note: All windows connected to this session will close.
- Select a session to switch to. If you access this window from a **Change Active Session** button, a **NEW** button appears so that you can create a new session to switch to. This takes you to the [Server Login window](#) to establish a new session.

To access Select Session

- From the **Session** menu, select **End Connection**.

Or

Click one of the numerous **Change Active Session** buttons on windows throughout Toad.

End Connections

You can choose to end connections without closing Toad. You can also use this dialog to [change sessions](#).

To end one connection

- Select **Session|End Connection** to end a selected connection.

To end several, but not all, connections

1. Select the connections you want to end.
2. Select **Session|End Connection** to end the selected connections.

To end all connections

- Select **Session|End All Connections** if you want to end all connections.
-

Test Connections

This command reconnects if Oracle has dropped the session.

To test connections

- Select **Session|Test Connections (Reconnect)**
-

Toggle Compiling with Debug

Use this command to compile your code with debug information. Compiling with debug provides the information Toad needs to navigate the code using the Debugger.

To compile with debug

- From the **Session** menu, select **Toggle compiling with debug**.
-

Related Topics

[Debugger Overview](#)

Toggle PL/SQL Profiling

Use this command to turn on PL/SQL Profiling.

- Select **Session|Toggle PL/SQL Profiling**.
-

Related Topics

[Profiler Analysis Overview](#)

[Setting up the Profiler](#)

[Using the Profiler](#)

[Profiler Analysis](#)

Schema Browser Filters

Browser filters are useful for schemas that contain a large number of objects. The fewer objects that Toad has to load, the faster it executes. It is useful to narrow down the focus, (such as only those object names beginning with "Toad_", and so on) temporarily ignoring all other objects in the schema.

You can use this window to:

- [Save browser filters](#)
- [Load and apply](#) browser filters
- [Edit the query](#) for the filter before running it
- [Create default filters](#)
- [Filter by Project Manager file](#)

To use browser filters

1. Select **Session|Schema Browser Filters**. This will display all filters for all object types in the active schema.

Or

Click the **Browser Filter**  button in an Objects Panel of the Schema Browser. This will display the browser filter for the selected Object Type and Schema.

2. Create your filter by making the appropriate selections.
 3. You can [save the filter to a file](#), or, you can use filters without saving them to a file. Apply them by simply clicking **OK** when you have made your selections.
-

Configure User Lists

Many databases have hundreds of users, most of which own no database objects and exist only for secure access to the database. You can remove these unwanted users from the dropdown user lists on many screens in Toad by using the Oracle Users List window to select users.

The Oracle Users List displays a list of all users for the current database connection. You can select users or groups of users from this window by clicking in the check boxes. Click **OK**, and Toad will restrict all dropdown user lists to the users you have selected.

The user list is stored in an ASCII file, SCHEMA_DATABASE.LST, where SCHEMA is the schema in use, and DATABASE is the current database alias.

There is another option to only show users that own objects in the database. See [Toad Options|Schema Browser](#) for more information.

To access configure user lists

- Select **Session|Oracle Users Lists**.
-

Session Information

This general-purpose utility window displays information about the current Oracle user as well as information on the Oracle connection itself.

This window displays:

- Session Rights for the current user
- Roles assigned to the current user
- Access assigned by roles to the current user
- Version information for the core Oracle processes
- The registry settings for Oracle

To view session info

- Select the **Session|Session Info** menu item.
-

Change Password

To change your password

1. Access the Change Password dialog box from **Session|Change Password**. The Change Password dialog box appears.

2. Your old password is entered, but displays only asterisks for security purposes. Enter your **new password** in the **New Password** field.
3. Enter it again in the **Verify Password** field.
4. Click **OK**.

Your password has been changed.

Database: Commit & Rollback

To commit your changes

- Select **Session|Commit**.

To rollback your changes

- Select **Session|Rollback**.
-

Connect and Disconnect

Use the connect and disconnect menu items to easily choose to connect or disconnect from a previously-used schema. The schema must be listed in your connection list (See [Server Login Window](#) for more information).

To connect to a schema

- From the **Session** menu, select **Connect|*schema you want to connect***.

To disconnect from a schema

- From the **Session** menu, select **Disconnect|*schema you want to disconnect***.
-

Related Topics

[Server Login Window](#)

[Create New Connection](#)

DBMS_Flashback

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Using DBMS_FLASHBACK, you can flash back to a version of the database at a specified wall-clock time or a specified system change number (SCN). When enabled, the user session uses the Flashback version of the database, and applications execute against the Flashback version of the database.

To use this package, you must have EXECUTE privileges for DBMS_FLASHBACK.

You can use the DBMS_FLASHBACK functionality to restore data to your sessions. You may want to use DBMS_FLASHBACK for the following reasons:

- Self-service repair. If you accidentally delete rows from a table, you can recover the deleted rows.
- Packaged applications such as e-mail and voicemail. You can use Flashback to restore deleted e-mail by re-inserting the deleted message into the current message box.
- Decision support system (DSS) and online analytical processing (OLAP) applications. You can perform data analysis or data modeling to track seasonal demand, for example.

DBMS_FLASHBACK is turned off automatically when the session ends, whether by disconnection or by starting another connection.

Using Wall-Clock time

When enabling Flashback using a wall-clock time, the database chooses an SCN that was generated within five minutes of the time specified.

Using an SCN

You can enable an SCN for finer control of the flashback. An SCN identifies the exact version of the database, and therefore allows you to specify the exact moment you want to flashback.

Using Flashback

PL/SQL cursors opened in Flashback mode return rows as of the flashback time or SCN, letting you recover data. These cursors will remain open when you disable the Flashback session so that you can transfer the data to the current session.

Different concurrent sessions (connections) in the database can perform Flashback to different wall-clock times or SCNs.

DML and DDL operations and distributed operations are not allowed while a session is running in Flashback mode.

You can use PL/SQL cursors opened before disabling Flashback to perform DML.

Note: In a Flashback-enabled session, `SYSDATE` will not be affected; it will continue to provide the current time.

Additional information about `DBMS_FLASHBACK`, please see your Oracle documentation.

To use Toad's Flashback functionality

1. From the **Session** menu, select **DBMS Flashback**.
2. If necessary, change the session for the window by selecting the active session in the **Change Active session**  dropdown.
3. Click the **Enable**  button.
4. Select either **Enable at Timestamp**

Or

Enable at **System Change Number**

5. Enter the **timestamp** or **SCN** in the appropriate box.
 6. Click **OK**.
-

Creating Objects

Create Menu

The **Database|Create** menu from the main menu bar provides screens to create many database objects, including the following:

- [Constraint](#)
- [DB Link](#)
- [Index](#)
- [Job](#)
- [Object](#)
- [Sequence](#)
- [Synonym](#)
- [Tables](#)
- [User](#)
- [View](#)

Each screen is an individual modal dialog box.

The optional Quest DBA Module also includes the following Create menu items:

- [Directory](#)
- [Library](#)
- [Policy](#)
- [Profile](#)
- [Role](#)
- [Rollback Segment](#)
- [Snapshot/M-View](#)
- [Snapshot Log](#)
- [Tablespace](#)

All the screens from the Create Menu can also be accessed through the Schema Browser's corresponding tabs. For example, the Table window can be accessed from **Create|Table** or from the **Schema Browser** window|**Tables** page|**Create Table** button.

Create Cluster

From this dialog box you can create a new cluster. This can be either an indexed cluster or a hash cluster.

To create a cluster

1. Access the Create Cluster window by either
2. From the **Database|Create** menu, select **Cluster**.

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3. From the **Schema Browser|Cluster** page, click the **Create Cluster**  button.
2. Select the **schema** where you want the cluster to reside from the **Schema** dropdown.
3. Enter a **name** for the cluster.
4. Select either **Indexed Cluster** or **Hash Cluster**. If you select hash cluster, another tab, Hash Info appears.
5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
6. Enter information about the cluster as described in Tabs below.

Tabs

Columns

Enter the column information you want to use. You can use <Tab> or the mouse to move between boxes. You will need to enter the following information about each column:

- **Column name** - Type the name in the column name column.
- **Data type** - You can select from a drop down menu, type the first few letters of the data type you want to use, or type the entire data type.
- **Size** - If necessary, enter the size of the column.
- **Precision** - If necessary, enter the precision you want the column to use.
- **Scale** - If necessary, enter the scale you want the column to use.

Storage Options

Enter the information required for the storage options.

Hash Info

In the Hash Info area, you can choose single table, and you can enter number of hash keys, and the hash expression.

Note: When entering the hash expression, do not enter the " Hash is" keywords.

Related Topics

[Clusters](#)

[Alter Cluster](#)

Create Constraint

Use this dialog box to create additional table constraints.

To access the create constraint window

- From the **Create** menu, select **Constraint**.

Or

From the **Schema Browser|Tables|Add Constraint** toolbar button.

You can create:

- [Primary Key constraints](#)
- [Foreign Key constraints](#)
- [Check constraints](#)
- [Unique constraints](#)

To create Primary Key Constraints

1. Open the **Create Constraint** dialog and type the constraint name in the **Constraint Name** box.
2. If desired, select the **Create Constraint Disabled** check box.
3. Select the "from" schema and "from" table from the Schema and Table lists. That will query and populate the columns into the **Table Columns** list.
4. Click the **Primary Key** option button.

Note: If a Primary Key constraint already exists for the selected table, then the Primary Key button will be disabled.
5. From the **This Table** columns list, select the column or columns you want to designate as the primary key. (To select more than one item press the <CTRL> key while clicking on the items.)
6. If desired, select the storage parameters.
7. Click the **right arrow** button to move your selected items to the **Constrained Columns** panel.

*If you want to move records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a schema, existing table, or enter a new table name, and click the **Create a New Exceptions Table** button.*

8. Click the **Options** tab and set any options you want attached to the constraint. For example, disabled on creation, cascade on delete, and so on.
9. You can review the SQL prior to execution by clicking the **SQL** tab.
10. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
11. Click the **Execute** button to create the Primary Key constraint.

Or

Click **Schedule** to schedule the create task for a later time.

To create Foreign Key Constraints

1. Enter the **Constraint Name**.
2. If desired, select the check box to **Create Constraint Disabled**.
3. Pick the "**from**" schema and the "**from**" table from the dropdown lists. That will populate the **Available Table Columns** list.
4. Click the **Foreign Key** option button, and optionally check the **Cascade Deletes** check box.
5. On the **This Table** tab, select the columns that you want to be the **Constrained Columns**.
6. Click the **right arrow** button to move your selections to the Constrained Columns window.
7. Click the **Referenced Table** tab.
8. Click the **Referenced Table schema, table, and columns**. To select more than one item press the <CTRL> key while clicking on the items.

*If you want to dump records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a schema, existing table, or enter a new table name and click the **Create a New Exceptions Table** button.*

9. You can review the SQL prior to execution using the **SQL** tab.
10. To add the object to the Project Manager, select the **Add to PM** check box.

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11. Click the **Execute** button to run the SQL and add the Foreign Key constraint.

Or

Click **Schedule** to schedule the create task for a later time.

To create Check Constraints

1. Type the constraint name in the **Constraint Name** box.
2. If desired, select the check box to **Create Constraint Disabled**.
3. Select "**from**" **schema** and "**from**" **table** from the dropdown lists. That will populate the **Table Columns** list.
4. Click the **Check** option button.
5. Enter the check constraint text, in the **Check Constraint Condition** box, for example, "SALARY < 100000 and COMMISSION > 5000".

*If you want to move records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a schema, existing table, or enter a new table name and click the **Create a New Exceptions Table** button.*

6. You can review the SQL prior to execution using the **SQL** tab.
7. To add the object to the Project Manager, select the **Add to PM** check box.
8. Click the **Execute** button to run the SQL and add the **Check Constraint**

Or

Click **Schedule** to schedule the create task for a later time.

To create Unique Constraints

1. Enter the **Constraint Name**.
2. If desired, select the **Create Constraint Disabled** check box.
3. Pick the "**from**" **schema** and the "**from**" **table** from the dropdown list. That will populate the **Table Columns** list.
4. Click the **Unique** radio button.
5. From the **Table Columns** list, select the **columns** that you want to be the Constrained Columns.
6. Click the **right arrow** button to move your selections to the Constrained Columns window.
7. If you want to dump records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a **schema** and **existing table**, or **enter a new table name**.
8. You can **review the SQL** prior to execution by clicking the **SQL tab**.
9. To add the object to the Project Manager, select the **Add to PM** check box.
10. Click the **Execute** button to create the Primary Key constraint.

Or

Click **Schedule** to schedule the create task for a later time.

Related Topics

[Constraints](#)

[Alter Constraint](#)

Create Database Link

To create a database link

- From the **Create** select **Database Link**

Or

From the **Schema Browser|DB Links** page select **Create new database link** button.

DB Links are used in queries at the end of each table or view name.

This displays the Create Database Link window where you can fill in the information to create a database link. The dropdown menu lets you select from the list of databases to connect to. To add the object to the Project Manager, select the **Add to PM** check box. After the information boxes are filled in, click the **Execute** button to create the database link.

Related Topics

[DB Links](#)

[Create Database Link](#)

Create Dimension

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can create a new dimension in several ways.

To create a dimension

1. From the **Database|Create menu**, select **Create Dimension**.

Or

From the **Schema Browser**, select the **Dimension** page and then click the **Create Dimension** button on the toolbar.

In either case, the Create Dimension dialog box appears.

2. Select the schema where you want to create your dimension. The currently connected schema is already entered.
3. Enter a name for your new dimension in the **Dimension Name** box.
4. Create at least one level by clicking the + and naming the level. After you have created a level, you can add a table and columns to it. The **dependant col** column is where attributes are shown.

In this area you can:

- + add levels
- - delete levels
- Edit level names

5. You can now add hierarchies to your dimension. Do this the same way you created your levels.

In this area you can:

- + add hierarchies
- - delete hierarchies

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- Edit hierarchy names
6. Drag Parent/Child levels down from the **levels** edit box into the **Parent/Child Levels** tree. This establishes the **<level> Child of...** section of the DDL for the selected hierarchy.
 7. Set up **Join** keys for each hierarchy.
 8. Click **Show SQL** to display the SQL created by this dialog box. From the Show SQL dialog box you can **Copy to Clipboard** or **Save to File**.
 9. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 10. Click **OK** to create your new dimension.
-

Related Topics

[Dimensions](#)

Create Directory

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window is used to create a new directory object. A directory object is an alias to a directory on the server's file system where external binary large objects (BFILEs) are stored.

To create a directory

1. From the **Create** select **Directory**

Or

From the **Schema Browser|Directories** page, click the **Create Directory** button.

2. Enter the options as described below.
3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
4. Click **OK** to create the directory.

Directory Name

Enter the alias name for the directory.

Path

Enter the Path specification. A drilldown button opens a **Browse for folder** (directory browser) window where you can select a directory and click **OK**. The selected path is automatically entered in the Path box.

The **Show SQL** button opens a SQL statement window where your Create Directory SQL statement is displayed. The **Clipboard** button on the window copies the statement to the clipboard. The **Save to File** button opens the Save As dialog box where you can choose a path and enter a file name.

Related Topics

[Schema Browser: Directories](#)

Create Index

Note: Toad does not support the following functionality at this time:

- composite partitions
- some features of hash partitioning (ability to name individual partitions: currently they are system generated)
- subpartitions

To access Create Index

- From the **Database|Create** menu, select **Index**
- Or

From the **Schema Browser|Indexes**, click the **Create New Index** button.

Indexes can speed up execution by providing a faster path to table data.

Use this dialog box to select a schema owner, table name, then on the **Index** tab, select whether you want to create a Primary Key index, Unique index, Non-Unique Index, function-based indexes, or a Bitmap index, select the index columns, and optional storage parameters.

- Schema - The top Schema dropdown lets you select the schema in which the index will reside.
- Name - The Name box lets you designate the name of the new index.
- Show SQL - This displays the SQL statement for the Index Create DDL.
- Add to PM - This checkbox adds the Index to the Project Manager.
- OK - This gives the command to create the index.
- Cancel - This displays a confirmation dialog box, and if you answer **OK** to the confirmation, Toad will discard the changes and close the Index window.

Physical Attributes tab

The **Percent Used** field is irrelevant for Create Index, so it is disabled.

Partitions tab

The **Available Columns** are the same columns that you selected as the columns for the index (except for columns with certain datatypes: BLOB, CLOB, NCLOB, BFILE, ROWID, UROWID, MLSLABEL). You select columns from the Available Columns list to determine which columns the partition will be based upon. Every partition created for the index is based on the same column list.

Add a Partition

Once you select columns for the partitions to be based upon, you can then add a partition.

To add a range partition

- Click the **Add** button. The Add Partition dialog box appears, and you can provide a partition name. You must enter the upper range for each column within the partition, or select **Maxvalue** from the dropdown list on that dialog box.

Note: String value upper bounds must be enclosed in single quotes within the grid (for example, for a Last Name column with a datatype of varchar2, an upper bound could be 'Smith'). The single quotes must be entered into the grid.

To add a hash partition

- Select the tablespaces to use for the hash partition. Quantity is irrelevant for hash partitions based on Indexes, so quantity is disabled.

You can alter indexes through the **Schema Browser|Indexes** page|**Modify** button.

Related Topics

[Indexes](#)

[Alter Index](#)

[Rebuild Index](#)

[Rename Index](#)

Create Job

The Create Job functionality lets you create and schedule jobs. By doing this you can automate standard and repetitive tasks. These can be as complex as a detailed SQL script, or as simple as executing a single operating system command. When the job is created and scheduled, you can further manipulate it from the [Schema Browser|Jobs](#) page.

To create a job

1. Access the Create Job window from **Create|Job...**
or

From the **Schema Browser|Jobs** page, click the **New Job** button.

2. Enter the appropriate information in the fields provided:

- Enter the **date** you want the job to run in the **Execute this job on:** field.
- Enter the **time** you want the job to run in the **At this time:** field.
- Enter the **Interval** if you want the job to run on a repeat schedule.

You can select an example for these from the dropdown menu, and the syntax will be entered in the appropriate field. You can adjust the syntax as you want in the text field.

These examples are configured in the file jobdates.txt and can be changed using a text editor.

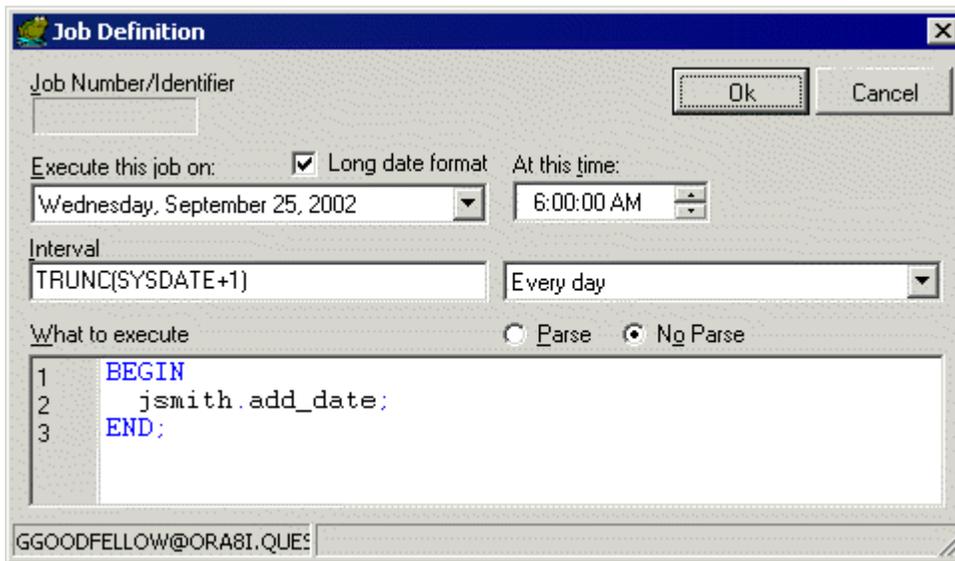
3. Enter **Select Parse** or **No Parse**.
4. Enter the **SQL** to execute.
5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
6. Click **OK** to create the job. The Job Number/Identifier is created for you.

Examples

A job can be just about any code you want to run on a regular, automatic basis. For example, if you have a table with a date column, you could create a procedure using this code and calling it `ADD_DATE`:

```
CREATE OR REPLACE PROCEDURE ADD_DATE;  
BEGIN  
INSERT INTO JSMITH.TEST1 (currentdate) VALUES (SYSDATE);  
END ADD_DATE;  
/
```

Then, to insert the date into the table every morning you would set the dialog boxes as follows:



Click **OK**, and the job is assigned a Job Number and created. It should now appear on the Jobs tab of your Schema Browser.

Related Topics

[Schema Browser Jobs](#)

Create Library

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you create a new library object. A library object is an alias to an operating system shared library (like a .DLL) that can be used in SQL or PL/SQL to allow calls to external functions.

To create a new library object

1. From the **Database|Create|Library** menu item
Or
From the **Schema Browser|Libraries** page, click the **Create new Library** button.
2. Choose a **Schema** from the dropdown. This will be the schema that owns the library.
3. Use the text boxes to enter the library **Name** (alias name for the library) and the **File Name**.
4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
5. The **Show SQL** button displays the **SQL Statement** window where the Create Library statement is displayed and can be copied using the **Clipboard** button or saved using the **Save to File** button.

Related Topics

[Libraries](#)

Create Object Type

Types are supported only in Oracle 8, 8i and above, in versions with the Objects option enabled.

To create a new object type

- From **Schema Browser|Types** page, click the **New Object Type** button on the toolbar.

Or

From the **Database|Create Menu**, select **Object**.

Left Panel Object Hierarchy

On the left side of the window there is a hierarchical list of the attributes and methods contained in the selected object.

Each item in the hierarchy has an icon associated with it for easy reference. These include:

Icon	Meaning
	Object
	Attribute
	Method
	Object Changed but not yet recompiled

Renaming Objects

Objects and their attributes and methods are assigned default names. You can rename a type, or its associated attributes and methods. Right-click the item you want to rename and enter the new name.

Toolbar

The toolbar allows you to add a new attribute or method, and to build/refresh the code for the object type.



Icon	Meaning
	New Attribute - Click to create a new attribute associated with this object.
	New Method - Click to create a new method associated with this object. The dropdown lets you create the method with default parameters for: New Procedure, New Function, New Map Procedure, and New Order Function.
	Build/Refresh Code - Click to build or refresh the body and specification code for this object type. This code is displayed in the Body and Specification tabs.

Right Panel Object Details

When an object is selected, the right detail panel displays a three-tab interface listing: Properties, Specification, and Body.

- When the root type is selected, there are only two tabs: Specification and Body.
- When an attribute is selected, the Properties tab displays detailed information about the attribute, including data type, schema, object, length, precision, and scale.

- When a method is selected, the Properties tab displays a list of parameters to the method, the method type, and restrictions of the method.

Properties Tab

Attributes

When an attribute is selected in the hierarchy, the Properties tab allows you to select or adjust the settings for the attribute. You can select from the basic data types for the attribute. For example, INTEGER, VARCHAR2, DATE, and so on, or select REF or Nested Object to refer to other objects, in which case Schema and Object dropdown lists become enabled.

Methods

When a method is selected in the hierarchy, the Properties tab displays a list of parameters to the method, including parameter name, data type, mode (IN, OUT, and so on), and Object.

Also on the Properties tab is a dropdown list to select the method type (Procedure, Function, Map Function, or Order Function), a label indicating if the method is overloaded (True or False), a dropdown for method return data type (if Function), dropdown lists for Schema and Object if the return type is a REF to an object or a Nested Object, and check boxes for method restrictions WNDS, RNDS, WNPS, and RNPS.

These method restrictions tell the PL/SQL compiler what sort of access the method needs to the database. The compiler can then deny the method read/write access to database tables, packaged variables, or both. Methods with defined pragma can be called from SQL expressions.

- WNDS means "writes no database state"
- WNPS means "writes no package state"
- RNDS means "reads no database state"
- RNPS means "reads no package state"

You can Add, Edit, or Delete method parameters by clicking the appropriate buttons. In the case of Add or Edit, you will be prompted for parameter name, mode (IN, OUT, or IN OUT), data type, and in the case of REF or Nested Object, Schema and Object.

Map Functions cannot have any method parameters associated with them. If you change from Procedure, Function, and so on to Map Function, you will be prompted whether or not to automatically delete all method parameters.

Order Functions must have one IN parameter of the same type as the object. If you select Order Function, you will be prompted whether or not to automatically remove all method parameters and add one parameter of the appropriate type.

Specification Tab

This shows the specification for the object's attributes and methods. As with any memo editor in Toad, you can select the text and copy it elsewhere using <CTRL>C.

Body Tab

This shows the code for the object's methods.

Related Topics

[Schema Browser: Types](#)

[Create Collection Type](#)

[Edit Object Type](#)

Create Object Type

Types are supported only in Oracle 8, 8i and above, in versions with the Objects option enabled.

To create a new object type

- From **Schema Browser|Types** page, click the **New Object Type** button on the toolbar.

Or

From the **Database|Create Menu**, select **Object**.

Left Panel Object Hierarchy

On the left side of the window there is a hierarchical list of the attributes and methods contained in the selected object.

Each item in the hierarchy has an icon associated with it for easy reference. These include:

Icon	Meaning
	Object
	Attribute
	Method
	Object Changed but not yet recompiled

Renaming Objects

Objects and their attributes and methods are assigned default names. You can rename a type, or its associated attributes and methods. Right-click the item you want to rename and enter the new name.

Toolbar

The toolbar allows you to add a new attribute or method, and to build/refresh the code for the object type.



Icon	Meaning
	New Attribute - Click to create a new attribute associated with this object.
	New Method - Click to create a new method associated with this object. The dropdown lets you create the method with default parameters for: New Procedure, New Function, New Map Procedure, and New Order Function.
	Build/Refresh Code - Click to build or refresh the body and specification code for this object type. This code is displayed in the Body and Specification tabs.

Right Panel Object Details

When an object is selected, the right detail panel displays a three-tab interface listing: Properties, Specification, and Body.

- When the root type is selected, there are only two tabs: Specification and Body.
- When an attribute is selected, the Properties tab displays detailed information about the attribute, including data type, schema, object, length, precision, and scale.

- When a method is selected, the Properties tab displays a list of parameters to the method, the method type, and restrictions of the method.

Properties Tab

Attributes

When an attribute is selected in the hierarchy, the Properties tab allows you to select or adjust the settings for the attribute. You can select from the basic data types for the attribute. For example, INTEGER, VARCHAR2, DATE, and so on, or select REF or Nested Object to refer to other objects, in which case Schema and Object dropdown lists become enabled.

Methods

When a method is selected in the hierarchy, the Properties tab displays a list of parameters to the method, including parameter name, data type, mode (IN, OUT, and so on), and Object.

Also on the Properties tab is a dropdown list to select the method type (Procedure, Function, Map Function, or Order Function), a label indicating if the method is overloaded (True or False), a dropdown for method return data type (if Function), dropdown lists for Schema and Object if the return type is a REF to an object or a Nested Object, and check boxes for method restrictions WNDS, RNDS, WNPS, and RNPS.

These method restrictions tell the PL/SQL compiler what sort of access the method needs to the database. The compiler can then deny the method read/write access to database tables, packaged variables, or both. Methods with defined pragma can be called from SQL expressions.

- WNDS means "writes no database state"
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- RNPS means "reads no package state"

You can Add, Edit, or Delete method parameters by clicking the appropriate buttons. In the case of Add or Edit, you will be prompted for parameter name, mode (IN, OUT, or IN OUT), data type, and in the case of REF or Nested Object, Schema and Object.

Map Functions cannot have any method parameters associated with them. If you change from Procedure, Function, and so on to Map Function, you will be prompted whether or not to automatically delete all method parameters.

Order Functions must have one IN parameter of the same type as the object. If you select Order Function, you will be prompted whether or not to automatically remove all method parameters and add one parameter of the appropriate type.

Specification Tab

This shows the specification for the object's attributes and methods. As with any memo editor in Toad, you can select the text and copy it elsewhere using <CTRL>C.

Body Tab

This shows the code for the object's methods.

Related Topics

[Schema Browser: Types](#)

[Create Collection Type](#)

[Edit Object Type](#)

Create Policy Definition

Note: Since this is a new Toad feature (optional), it is only available in the commercial version of Toad with the optional Quest DBA Module.

Use this window to create a new policy through the DBMS_RLS package. If you do not have DBMS_RLS you cannot use this function in Toad. Refer to the Oracle documentation for more information.

To create a new policy definition

1. From the **Schema Browser|Policies** page click the **Create new policy** button
Or

From the **Create** menu, select **Policy**.
 2. Enter the **name** of the **new policy** in the name field.
 3. Select the **schema** where you want to locate the table or view.
 4. Select either the **Tables** or **Views** option and then select the **table** or **view** you want to include from the Table/View field.
 5. Select the **Schema containing the predicate package, Predicate Package, and Predicate Function**.
 6. Select the statement types: **Select, Insert, Update, Delete** (if connected to a 10g database, **Index** is also available).
 7. Another check box lets you **Enable the Policy at Creation**.
 8. If you are using Oracle 10g or above:
Click the **Security Relevant Columns** tab to select columns to include in the `sec_relevant_cols` clause, or to set the `sec_relevant_cols_opt` clause.
 9. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 10. Click **Execute** to create the policy group definition.
-

Related Topics

[Policies](#)

[Policy Groups](#)

[Create Policy Group](#)

Create Profile

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

A profile is a set of limits on database resources. If you then assign the profile to a user, that user cannot exceed those limits.

To create a profile

1. From the **Database|Create** menu, select **Profile**.
Or

From the **Schema Browser|Profiles** page, click the **Create New Profile** button.
2. Select **Default** or **Unlimited** for parameter items from the Resource Parameters and **Password Parameters** tabs.

3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 4. Click **Show SQL** to see **SQL Strings**, **SQL Text**, **Clause Text** and **Values**.
-

Related Topics

[Profiles](#)

Create Policy Group

Note: Since this is a new Toad feature (optional), it is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you create a new policy group through the DBMS_RLS package. If you do not have DBMS_RLS you cannot use this function in Toad. Refer to the Oracle documentation for more information.

To create a policy group

1. Access the policy group definition window in one of the following ways:
 2. From the **Database|Create** menu, select **Policy Group**.
 3. From the **Schema Browser|Policy Group** page, click the **New Policy Group**  button.
 2. Enter the name of the new policy group in the **name** box.
 3. Select the **schema** where you want to locate the table or view.
 4. Select either the **Tables** or **Views** option and then select the table or view you want to include from the Table/View box.
 5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 6. Click **Execute** to create the policy group definition.
-

Related Topics

[Policies](#)

[Create Policy Definition](#)

[Policy Groups](#)

Create Queue

The Create Queue window uses the DBMS_AQADM.CREATE_QUEUE procedure, with the exception of creating a Non-persistent queue as described below.

First, at the top of the window, select the schema from the dropdown, and name the queue.

General Tab

From the General tab you can set the basic parameters associated with this queue.

Queue table

Select the queue table to associate with this queue.

Comment

If you want, enter a comment describing the queue.

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Queue Type

- Normal - Creates a normal queue.
- Exception - Creates an exception queue. Exception queues do not let you set any information below the Queue Type group box.
- Non-persistent - Selecting non-persistent creates an in-memory queue using the CREATE_NP_QUEUE procedure.
- Allow subscribers check box - Check the Allow subscribers check box if you want to allow subscribers to your non-persistent queue. When you check this box, the Subscribers tab (see below) becomes visible.

Retries

Lets you set the number of retries and the delay between each retry.

Enqueue

You can enable or disable enqueueing for this queue.

Dequeue

You can enable or disable dequeueing for this queue.

Message retention

Select how long you want to retain messages after they have been dequeued.

Subscribers tab

The Subscribers tab is hidden unless you opt to create a non-persistent queue which allows subscribers.

From this tab you can add, edit and delete subscribers to the queue.

The Subscribers tab uses the Oracle DBMS_AQADM.ADD_SUBSCRIBER procedure.

Related Topics

[Queues](#)

[Alter Queue](#)

[Queue Tables](#)

Create Queue Table

Advanced Queuing tables are a table type for use with Oracle's Advanced Queuing features. The Create Queue table command uses Oracle's DBMS_AQADM.CREATE_QUEUE_TABLE procedure. You can create a queue table in one of two ways.

To create a queue table

- From **Database|Create|Table**, select **Advanced Queuing** from the radio button selection of table types.

Or

From the **Schema Browser**|**Queue Tables** page|**Create New Table** button on the toolbar, which opens the Create table dialog box with the Advanced Queuing radio button pre-selected.

When you create a Queue table, four standard objects are created:

- A default exception queue associated with the table. This is called **aq\$_<queue_table_name>_e**.
- A read-only view, which is used by AQ applications for querying data. This is called **aq\$_<queue_table_name>**.
- An index, or an index organized table (in the case of multiple consumer queues) for the queue monitor operations, called **aq\$_<queue_table_name>_t**.
- An index or index organized table (in the case of multiple consumer queues for dequeue operations), called **aq\$_<queue_table_name>_i**.

If you have created an Oracle8i compatible queue table, the following three index organized tables are also created:

- A table to store information about the subscribers, called **aq\$_<queue_table_name>_s**.
- A table to store information about rules on subscriptions, called **aq\$_<queue_table_name>_r**.
- A table to store dequeue history data, called **aq\$_<queue_table_name>_h**.

Organization tab

Use this tab to organize and set the space requirements for the table.

Comments tab

Enter any comments to attach to the table here.

Queue tab

Use the Queue tab to actually set up an advanced queuing table. This dialog box allows you to easily enter the information required to set the Oracle parameters.

Payload type

Enter the type of payload this table will handle. This option maps to the DBMS_AQADM.CREATE_QUEUE_TABLE payload parameter.

Options

Allow subscribers maps to the DBMS_AQADM.CREATE_QUEUE_TABLE multiple_consumers parameter.

Allow message grouping maps to the DBMS_AQADM.CREATE_QUEUE_TABLE message_grouping parameter.

Compatibility

Select the compatibility you want for this table.

For example, if you are using Oracle 9i, and you want this table to be compatible with Oracle 8 Advanced Queuing, select 8.0.

Note: If you are using Oracle 8.0, Compatibility is not a parameter you can set. This box will be hidden.

Sort list

Sort keys for dequeue ordering, if any, must be defined when you create the table. You can specify the queues to be sorted in one of the four ways described in the table below. If you do not specify a sort, then all the queues in the queue table are sorted by the enqueue time, in ascending order.

Sort Key	Meaning
ENQ_TIME	By time of enquiry
PRIORITY	By priority of queue
PRIORITY, ENQ_TIME	By priority of queue and then by time of enquiry
ENQ_TIME, PRIORITY	By time of enquiry and then by priority.

Note: Even if you have specified a default order a dequeuer can choose a message to dequeue that is not in this order. The msgid, correlation, and sequence_deviation take precedence over the default dequeuing order if they are specified.

Related Topics

[Queue Tables](#)

[Alter Queue Table](#)

[Queues](#)

Create Refresh Group

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily create a refresh group.

To create a refresh group

1. From the **Database|Create** menu, select **Refresh Group**

Or

1. From the **Schema Browser|Refresh Group** page click the **Create New**  button.
2. Name your group by entering a name in the **Refresh Group Name** box.
3. Click the **Properties** tab and select the [options](#) you want to use to create your refresh group.
4. Click the **Objects** tab and then click **Add MV**.
5. From the Add Materialized Views dialog box, you can:
 6. Filter the views list
 7. Select one or more materialized views to add
 8. Edit the add query (Click Edit Query)
6. Click **OK** when you have made your selection of materialized views.
7. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
8. Click **View SQL** to see the query that will create the Refresh Group

Or

Click **OK** to create the Refresh Group.

Create Resource Consumer Group

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily create a resource consumer group.

To create a resource consumer group

1. From the **Database|Create** menu, select **Resource Consumer Group**

Or

From the **Schema Browser|Resource Consumer Group** page click the **Create New**  button.

2. Name your Group by entering a name in the Resource Group Name box.
 3. Oracle only allows for the ROUND-ROBIN CPU method at this time. Enter any comments you want to include in the Comments box.
 4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 5. Click either
 6. **Show SQL** to display the SQL before running it.
 7. **OK** to create the resource consumer group.
-

Related Topics

[Resource Consumer Groups](#)

[Alter Resource Consumer Group](#)

Create Resource Plan

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily create a resource plan.

To create a resource plan

1. From the **Database|Create** menu, select **Resource Plan**.

Or

From the **Schema Browser|Resource Plan** page click the **Create New**  button.

2. Name your new Resource Plan.
3. Create new plan directives by dragging available resource consumer groups and subplans from the **Available Groups and Subplans** area to the **Resource Plan Directives** area.
4. Enter any comments for the entire resource plan in the comments panel. This is a large text box. Click in it and start typing.
5. Click the **Levels** tab. Set CPU percentages by clicking in the appropriate cell and adjusting the percentage using the keyboard or mouse.
6. Click the **Parallelism** tab. Click in the **Maximum Degree of Parallelism** column to change the setting for the selected group. The default is **unlimited**.

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7. Click the **Directive Comments** tab and enter comments for any plan directives.
 8. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
-

Related Topics

[Resource Plans](#)

[Alter Resource Plan](#)

[Schedule Resource Plans](#)

Create Role

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To access the create role window

- From the **Database|Create** menu, select **Role**
Or

From the **Schema Browser|Roles** page, click the **Create new Role** button.

This window lets you create a role and assign it privileges and grants. To do this, there are four tabs: [Role Info](#), [Roles](#), [System Privileges](#), and [Grants](#). When you click **OK**, information on all of the tabs is collated and included in the role you are creating.

- When you have selected all the privileges and entered all info for the new role, click **Show SQL** to display the code that will create the role. From the SQL Statement dialog box, you can save the SQL to the **Clipboard**, **Save to a File**, or **Close** the window.
- Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
- Click **OK** to create the new role.

Role Info tab

Use this tab to insert the basic information about the role you are creating. This must be provided before you click OK from any of the various tabs.

Name box

- Enter the **name** you want to give the Role.

Identification radio buttons

- Not Identified
- Use Database Authentication

Note: If you select this radio button then you need to type in the password in the password box.

- Use Operating System Authentication
- Use Enterprise Authentication

Roles tab

Use this tab to grant various roles to the user role you are creating.

You can select Grant and Administrative privileges to each role name individually for the new role by clicking in the appropriate check boxes, or you can use the buttons along the top to select them at once as follows:

Admin All

This automatically checks all of the administrative boxes for the listed roles.

Admin None

This clears all the administrative check boxes for the listed roles.

Grant All

This checks all of the grant boxes for the listed roles

Revoke All

This clears all the grant boxes for the listed roles.

System Privileges tab

Use this tab to select various system privileges for the new role in the same manner as the Roles tab above.

Grants tab

Use this tab to select various grants for the new role in the same manner as the Roles tab above.

Related Topics

[Schema Browser Roles](#)

[Alter Roles](#)

Create Rollback Segment

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you create a new rollback segment. A rollback segment is an object that Oracle uses to store data necessary to reverse (undo) changes made by non-completed transactions.

To create a rollback segment

1. Open the window from the **Database|Create|Rollback Segment** menu item

Or

From the **Schema Browser|Rollback Segments** page, click the **Create New Rollback Segment** button.

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2. Enter the **Name** in the box and choose the **Tablespace** where you want the rollback segment created from the dropdown.
 3. Check the **Public** check box if you want the Rollback Segment to be public (available to any instance). The default is unchecked.
 4. Use the following dropdowns to select Extents and Size.
 5. **Initial Extent** specifies the size of the object's first extent.
 6. **Next Extent** specifies the size of the next extent allocated to the object.
 7. **Min Extents** specifies the total number of extents to allocate when the object is created.
 8. **Max Extents** specifies the maximum number of extents that can be allocated.
 9. **Optimal Size** specifies an optimal size for the rollback segment.
 5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 6. Use the **Show SQL** button to display the create statement for the new rollback segment.
 7. Use the **Clipboard** button to copy the statement to the clipboard.
 8. Use the **Save to File** button to save the statement.
-

Related Topics

[Schema Browser: Rollback Segments](#)

Create Scheduler Job Class

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Creating a scheduler job class is easy.

To create a scheduler job class

1. From the **Schema Browser | Sched.Job Class page | Objects Panel**, click the **New Job Class**  button.
2. Enter a name for your job in the **Job Class Name** box.
3. Choose the resource consumer group with which you want to associate the job class.
4. If desired, enter the Service the job class belongs to in the **Service** box.
5. Select the number of days you want to keep any logs in the **Log History** box. (The default is 30.)
6. Select the logging level from the **Logging Level** drop down. Select from:
 7. Runs - Logs detailed information for each run in this job class.
 8. Off - No logging
 9. Full - Logs each run and all operations performed on all jobs in the class. (Logs ever job created, enabled, disabled, altered, and so on.)
7. Enter any comments you want to associate with this job class. By default, this parameter remains NULL.
8. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
9. Click **OK**.

Note: You can also display the SQL (click **Show SQL**) to create the Job Class, or you can choose to Schedule this task for later (click **Schedule**).

Related Topics

[Scheduler: Job Classes](#)

[Alter Scheduler Job Class](#)

Create Scheduler Program

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can easily create a program for the scheduler. These programs can then be maintained in program libraries and used by multiple users with the correct privileges.

To create a scheduler program

1. From the **Schema Browser|Sched. Programs** page, click the **New Program**  button.
 2. Select the schema that will own the new program from the dropdown **Schema** box.
 3. Enter a name for the program in the **Name** box.
 4. Select appropriate **Basic Info**.
 5. Select appropriate **Arguments**.
 6. Add **Comments** if necessary.
 7. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 8. Click one of the following:
 9. **Show SQL** to view the code.
 10. **Schedule** to schedule it to run later.
 11. **OK** to create the schedule.
-

Related Topics

[Scheduler: Programs](#)

[Program Basic Info](#)

[Program Arguments](#)

[Program Comments](#)

Create Scheduler Schedule

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can easily create a schedule.

To create a schedule

1. From the **Schema Browser|Sched.Schedule** page, in the **Objects Panel**, click the **Create New Schedule**  button.
2. Select the **schema** where you want the schedule to reside.
3. Enter a schedule name in the **name** box.

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4. Enter start date, end date, repeat interval, and event queue information in the appropriate boxes. See your Oracle documentation for proper formatting of these selections.
 5. Enter any comments in the **Comment** box. (Oracle has a limit of 240 characters on comments.)
 6. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 7. Click one of the following:
 8. **Show SQL** to view the code.
 9. **Schedule** to schedule it to run later.
 10. **OK** to create the schedule.
-

Related Topics

[Scheduler: Schedules](#)

[Create Scheduler Schedule](#)

[Alter Scheduler Schedule](#)

Create Scheduler Window

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

To create a scheduler window

1. From the **Schema Browser|Sched.Window** page, in the **Objects Panel**, click the **Create New Scheduler Window**  button.
 2. Enter a name for the window in the **Name** box.
 3. Select parameters for your job from the two information tabs:
 4. [Basic Info](#)
 5. [Schedule Info](#)
 4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 5. Click one of the following:
 6. **Show SQL** to view the code.
 7. **Schedule** to schedule it to run later.
 8. **OK** to create the schedule.
-

Related Topics

[Scheduler: Windows](#)

[Alter Scheduler Window](#)

[Window Basic Information](#)

[Window Schedule Information](#)

Create Sequence

Sequences are counters that Oracle maintains to generate unique integers. They can be used to automatically generate primary key values. Because they are independent of tables, the same sequence can be used to generate values for one or multiple tables and for multiple users.

Oracle syntax for this command is complicated, but Toad can generate a Create sequence command at the click of a button.

To create a new sequence

1. From the **Database|Create** menu, select **Sequence**.

Or

From the **Schema Browser|Sequences** page, click the **Create New Sequence** button.

2. Enter the sequence information.
 3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 4. Click the **Execute** button to create the Sequence.
-

Related Topics

[Sequences](#)

[Alter Sequence](#)

[Export Sequence](#)

Create Materialized View

The Materialized View window is where you can create, update, or modify a materialized view.

A materialized view is basically a partial (subset) or complete copy of a table. You can set your Toad Materialized Views to be read-only or updatable (which allows users to insert, modify, or delete rows). Materialized Views can be stored in the same database as the master table or in a different database.

To create a Materialized View

1. From the **Database|Create** menu, select **Materialized View**

Or

From the **Schema Browser|Materialized View** page, click the **Create New Materialized View** button.

2. Click the dropdown button to choose your **Schema** for the new materialized view.
3. Enter the name for the new materialized view in the **Name** text box.
4. Click the **Show SQL** button shows the corresponding Create SQL statement. You can copy the statement to the clipboard using the **Clipboard** button or save it using the **Save to File** button.
5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
6. Use the four tabs on the window to enter information about the materialized view in these areas: The window has 4 tabs:
7. [Materialized View Info](#)
8. [Physical Attributes](#)
9. [Materialized View SubQuery](#)
10. [Partitions](#)

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Materialized View Info tab

Cluster check box

If checked, Toad will create the materialized view as part of the cluster specified.

Cluster box

This is where you enter the name of the cluster.

Cluster list box

This displays the cluster columns. You can modify this list with the **Add**, **Edit**, and **Delete** buttons.

Tablespace dropdown

Select the tablespace in which you want your materialized view to be created.

Logging check box

If checked, Toad will log the creation of the materialized view, partition, or LOB storage characteristics in the redo log file.

Cache check box

If checked, data blocks will be placed in the buffer cache when a table scan is performed.

Parallel check box

If checked, the materialized view will be parallelized.

Parallel number box

If the Parallel check box is checked, this input box is enabled. You enter the degree of parallelism (the number of threads used) or you can use the up/down arrows to scroll through the numbers.

Using Index check box

If checked, Toad lets you specify parameters for the materialized view indexes. If this option is checked, the drilldown button is enabled. The drilldown button opens the Physical Attributes window.

Allow Updates check box

If checked, you can update the materialized view (read-write). If unchecked, the materialized view is read-only.

Enable Query Rewrite check box

If checked, the materialized view is enabled for query rewrite.

Build check box

If checked, you can specify when to populate the materialized view. If checked, the radio buttons are enabled. You can choose to build Immediate or build Deferred. Immediate will populate the materialized view immediately. Deferred populates the materialized view during the next refresh.

On Prebuilt Table check box

If checked, the table will be registered to the pre-initialized materialized view. The table and materialized view must have the same name. If checked, the radio buttons are enabled. If you select Without Reduced Precision, the precision of the table or materialized view columns must match exactly with the precision of the subquery results. If you select With Reduced Precision, the precision of the table or materialized view columns do not have to exactly match the subquery results.

Refresh check box

If checked, you can customize how Oracle will automatically refresh the materialized view. If checked, the refresh options are enabled.

Never Refresh check box

If checked, the materialized view will not automatically refresh.

Refresh Options

- Fast -only updates data in the Materialized View Log associated with master/detail table
- Complete - re-executes the materialized view
- Force - If fast refresh is possible then it performs a fast refresh, otherwise it performs a complete refresh

On Demand check box

This is mutually exclusive to the On Commit check box. If checked, materialized views will be refreshed on demand.

On Commit check box

This is mutually exclusive to the On Demand check box. If checked, materialized views will refresh automatically during the next commit.

Date

- Start With - This is mutually exclusive to the Next check box. If checked, you can use the dropdown to pull up a calendar where you select a date for the first automatic refresh time.
- Next - This is mutually exclusive to the Start With check box. If checked, you can use the dropdown to pull up a calendar where you select a date to calculate intervals between auto refreshes.

With

- Primary Key radio button - If selected, a primary key materialized view will be created.
- Rowid radio button - If selected, a rowid materialized view will be created.
- Rollback Segment check box - This lets you specify the rollback segment to use. If checked, it enables the Master and Local radio buttons.
- Master radio button - If the Rollback Master option is selected, the remote rollback segment will be used at the remote master for the materialized view.

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- Local radio button - If the Rollback Local option is selected, the remote rollback segment will be used for the materialized view that is in the local refresh group.
- Default Segment check box - If checked, the materialized view will use the default rollback segment. If unchecked, the Rollback Segment box is enabled.
- Rollback Segment box - This is enabled if the Default Segment check box is unchecked. You type in the rollback segment that will be used.

Physical Attributes tab

The physical attributes tab contains dropdowns and value boxes that let you define physical options such as percent free, storage extents, and buffer pool.

Materialized View Subquery tab

This lets you enter the subquery that is to be used to generate the materialized view.

Partitions tab

In order for this tab to be enabled you must enter a valid subquery into the materialized view subquery tab. You select columns from the Available Columns list to determine which columns the partition will be based upon. Double-click the column name or click the column and click the single right arrow to move the selected columns into the Partitions Columns list.

Add a Partition

Once you select columns for the partitions to be based upon, you can then add a partition.

- Range Partitions For range partitions, you do this by clicking the Add button. The Add Partition dialog box appears, and you can provide a partition name. You must enter the upper range for each column within the partition, or select Maxvalue from the dropdown list on that dialog box.

Note: String value upper bounds must be enclosed in single quotes within the grid (for example, for a Last Name column with a datatype of varchar2, an upper bound could be 'Smith'). The single quotes must be entered into the grid.

- Hash Partitions To add a hash partition, select the **Hash Partitions** tab at the bottom of the dialog box, and then move the tablespaces to use for the hash partition into the partition area.
 - Subpartitions You can also add a subpartition to either hash or list.
-

Related Topics

[Materialized Views](#)

[Alter Materialized View](#)

[Materialized Views/Materialized View Logs](#)

Create Materialized View Log

A Materialized View Log is a table associated with the master table of a Materialized View. It contains information about changes made to the associated master table, which is used to refresh the Materialized View. Oracle requires a Materialized View Log for every master table that supports a Materialized View with fast refreshes.

To create a Materialized View/MView logs

1. From the **Database|Create** menu, select **Materialized View Log**.
 2. Fill out the boxes described below to create the Materialized View Log.
 3. **Schema** - Select the schema where you want the log created.
 4. **Tablename** - Enter a table name for the log
 5. **Tablespace** - Select the Tablespace where you want it stored from this dropdown.
 6. **Logging** and **Cache** check boxes - These options are only available on Oracle versions 8 and above.
 7. **Percent Free** entry box - This is the percentage of space in the data block that is reserved for updates.
 8. **Percent Used** entry box - This is the minimum percentage of used space that Oracle maintains for each data block of the table.
 9. **Initial Trans** entry box - This specifies the initial number of transaction entries allocated within each data block that is allocated to the table.
 10. **Max Trans** entry box - This specifies the maximum number of concurrent transactions that can update a data block allocated to the table.
 11. **Storage** - Dropdowns let you select the storage parameters of the new Materialized View Log.
 3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 4. Click the **Show SQL** button to display the SQL before running the command. From the dialog box that appears, you can **save** the SQL to clipboard, to a file, or you can simply close the window.
 5. Click **OK** to create the Materialized View Log.
-

Related Topics

[Materialized View Logs](#)

[Alter Materialized View Logs](#)

[Materialized Views](#)

Create Synonym

Use this dialog box to create a synonym, which will point from the synonym name to the original object name.

To create a Synonym

1. From the **Database|Create** menu, select **Synonym**

Or

From the **Schema Browser|Synonyms** page, click the **Create Synonym** button.

2. Select the **object type** from the dropdown list, such as Table, Procedure, Package, Function, Trigger, Sequence, View, Database Link, or Synonym.

*If you want to filter down the list, enter a LIKE% value in the box and click the **FIND** button. (You can check the **Include Grantable Objects** check box if desired. It is unchecked by default.)*

3. Double-click an object from the upper list, and the synonym will be added to the lower list. Check boxes let you **Include drop statement** and **Make Public**. Both are checked by default.

4. When you are done selecting objects for synonym creation, click the **Copy Script to Clipboard** button or the **Execute Script** button.
-

Create Table

Note: Toad does not support the following functionality at this time: foreign key references, LOB storage, and Varrays.

This window lets you create a new Oracle table.

Tabs and options are slightly different depending on what kind of table you are creating.

- Standard tables, index-organized tables, and clustered tables - see [Standard Create Tables](#)
- Global Temporary tables - see [Global Temporary Tables](#)
- Advanced Queuing tables - see [Create Queue Tables](#)
- External tables - see [External Tables](#)

To create a table

1. From the **Database|Create** menu, select **Table**.

Or

From the **Schema Browser|Tables** page, click the **Create Table** button.

2. Enter a name for the table in the **Table Name** box.
3. Select a **table type** as described in [Table Types](#).

Note: The Schema box has a dropdown. Enter the name of the table in the Name box, and then choose a type of table by clicking on the name.

3. Define your table using the [tabs](#):
 4. [Columns](#)
 5. [Physical Attributes](#)
 6. [Additional Attributes](#)
 7. [Constraints](#)
 8. [Partitions](#)
 9. [Subpartition Template](#)
 10. [Comments](#)
 4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 5. Click the **Execute** button to create the table.
-

Related Topics

[Schema Browser: Tables](#)

[Alter Table](#)

[Create Table Like](#)

[Create Queue Table](#)

[Column Definition](#)

[Table Script Creation](#)

[Tables - Data Grids](#)

Create Tablespace

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can use the Create Tablespace window to easily create a new tablespace from within Toad.

To create a new tablespace

1. From the **Database|Create** menu, select **Tablespace**.

Or

1. From the **Schema Browser|Tablespaces** page, click the **Create New Tablespace** button.
 2. Enter information to define your tablespace.
 3. Textboxes let you enter names.
 4. Dropdowns let you specify extents.
 5. Radio buttons let you specify **Temporary** or **Permanent** objects.
 6. With **Extent Management** checked you can choose **Dictionary**, if you want the tablespaces to use the SQL dictionary tables to track space usage. If you choose **Local**, then bit maps will track space usage.
 3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
-

Related Topics

[Schema Browser: Tablespaces](#)

[Drop Tablespace](#)

[Export Tablespaces](#)

[Create/Alter Tablespace Quota](#)

[Datafile Definition](#)

[Rename/Move Datafile](#)

Create Trigger

The Create Trigger window is available from the Create menu, or from the Schema Browser, Trigger page. You can easily create a new trigger for your database.

To create a trigger

- From **Database|Create** menu, select **Create Trigger**.

Or

From **Schema Browser|Trigger page**, click the **Create Trigger** button

The create trigger window is divided into three areas. The Main window and Basic Info/Fire Control tab, contain the buttons and main information for the trigger. Two additional information tabs let you create the WHEN clause and the body of the trigger.

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Main Window

Schema

From the schema dropdown, select the schema where you want your trigger to reside.

Trigger Name

Enter a trigger name in the Trigger name box.

Include Schema Name in SQL

This check box near the bottom of the window lets you define whether to include the schema name in the trigger, or not to include it. If it is checked, object names will be defined: *schemaname.object*. If unchecked, they will be entered as: *objectname*.

Show SQL

Click this to display the SQL that will create the new trigger. From this window you can save the code to the clipboard, or save it to a file.

Send to Editor

Click **Send to Editor** to send the completed create trigger code to a new Editor tab for editing before you run it.

OK

Click **OK** to create the trigger.

Basic Info/Fire control

Use this tab to control the basic information for the trigger, in other words, what it acts upon, when it fires, and what it references.

On

In this area, select whether the trigger acts upon a table, view, nested table in a view, a database or an entire schema.

Note: If you have a table or a view in this area and this box has focus, you can press F4 to display the describe window for that table. See also the [Describe](#) topic.

Fire When

Select when the trigger should fire: before, after or instead of the **Fire On** action.

Fire On

Select what action the trigger should fire on: Delete, Insert, and/or Update.

Status

Select the status of the trigger. Should it be enabled or disabled when first created?

For Each

Choose whether the trigger should fire for each row or each statement.

Referencing

By default, Toad references New as New and Old as Old in the created trigger. If you need to change these references, enter the new references in the appropriate boxes. A "**Parent as**" box will appear if "**Nested table of view**" is selected in the **On** area.

When Clause

The tab for the **When** clause lets you enter your own specific clause.

Note: DO not begin with the word "WHEN". Just enter the clause itself. Toad will include the WHEN as it compiles the SQL.

Body

Enter the body code for the trigger. Templates are supported. If Toad cannot load a template, this area will have the notation "your code here". Replace this with code, and you are ready to create your trigger.

Related Topics

[Schema Browser: Triggers](#)

[Alter Trigger](#)

Create User

Create User lets you create new users, basing them upon grants from existing users.

To create a user

1. From the **Database|Create** menu, select **User**

Or

2. From the **Schema Browser|Users** page, click the **Create New User**  button.
2. Enter the required information in the fields described below.
3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
4. You can save **To Clipboard**, **Execute** the code (Create User), and **Cancel** by using the buttons above the tabs.

User Info tab

Textboxes let you enter the **User Name** and **Password**.

Use Database Authentication radio button - this is the standard and default

Use Operating System Authentication radio button - this uses the network identification for Oracle

Use Enterprise Authentication - this sets up global external authentication

Notice there is also a standard **Verify Password** box.

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If you check the **Password expired (user must change password on next login)** check box, you must change the password the next time you connect.

A dropdown lets you choose the **Resource Profile**.

You can lock the account by checking the **Account is locked** check box.

Tablespace tab

Dropdowns let you choose Default Tablespace and Temporary Tablespace.

For **Quota on default tablespace** you can check the **Unlimited** check box OR you can enter your own value and radio buttons let you choose **megabytes** or **kilobytes**.

A dropdown lets you select a **Temporary tablespace**.

You can also set the choices you make here to be the default for all new users. Check the **Set Tablespace names as defaults for all User Creates** box.

Roles tab

This contains a list of the **Available Roles**. Check boxes are arranged in columns Granted, Default and Admin roles. Click in the check boxes to grant or revoke roles to the user.

The **Admin All** button will place a checkmark in all items in the Admin privileges column. The **Admin None** button unchecks all the items in the admin privileges list.

The **Grant All** button places a checkmark in all items in the Granted column. The **Revoke All** removes these checkmarks.

The **Default All** button places a checkmark in all items in the Default column. The **Default None** button removes these checkmarks.

Click the **Copy From** button to copy roles and grants from a selected user. Select the user from the list and click **OK**. This dialog box is not multi-select compatible; however, you can select from it multiple times and the additional roles will be appended to the previous selections.

System Privileges tab

This contains a list of the **Privileges** for the user. Check boxes are arranged in columns for Granted and Admin privileges. Check the boxes to grant or revoke privileges to the user.

The **Admin All** button will place a checkmark in all items in the Admin privileges column. The **Admin None** button unchecks all the items in the admin privileges list.

The **Grant All** button places a checkmark in all items in the Granted column. The **Revoke All** removes these checkmarks.

Click the **Copy From** button to copy roles and grants from a selected user. Select the user from the list and click **OK**. This dialog box is not multi-select compatible; however, you can select from it multiple times and the additional roles will be appended to the previous selections.

Object Grants tab

Click the Object Grants tab to view grants for specific objects.

From this screen you can

- Revoke grants that have previously been granted.
- or Copy grants from an existing user. However, you cannot add new grants. Adding new grants must be done by SQL statement in the Editor.

You can choose to work with **Grants Received** or **Grants Made**.

Quotas tab

Click the Quotas tab to add or modify tablespace quotas for the selected or new user.

If you are creating a new user, the new user must be created before you can add quotas.

On the Quotas page, click the **New/Alter quota**  button .

Resource Groups tab

Click the Resource Groups tab to add or modify resource groups for the selected or new user.

A list of available groups is displayed on the left of the page. To the right are check boxes to select permissions to those groups as follows:

Switch

Switch grants permission to switch to that resource group during a session.

Initial Group

This is the group that the user is a part of when he first connects to the database. When the connection is established, the user can switch to any other resource group included in his "switch" list.

Note: Only one initial group is permissible for a single user.

Admin

A user with the Admin permission can grant the switch privilege for that group to other users.

Proxies tab

Click the proxies tab and add other users to make this user a proxy user for those users.

Related Topics

[Schema Browser: Users](#)

[New User Info](#)

Create View

This window is used to create a new view. A view is a customized display of data from a table or tables or from another view or views. A view does not get any storage space (except for the stored query). It is basically displaying the output of a query in the form of a table.

To create a new view

1. From the **Database|Create|View** menu item

Or

From the **Schema Browser|Views** page, click the **New View** button.

2. Choose the **Schema** from the dropdown and enter a **Name** in the box.

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3. Enter any required or optional View information in the areas described below.
4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
5. Click one of the following:
6. **Show SQL** button - The **Show SQL** statement button will display the SQL statement window which will show the create view SQL statement for your new view.
7. **Clipboard** button - Copies the statement to the Clipboard.
8. **Save to File** button - Saves the statement as a file.

View Info tab

Aliases section

For more information about aliases, see [Aliases](#).

- Add button - This displays the **Add Alias** window where you enter the name for the alias. The defaults are Alias1, Alias2, and so on.
- Edit button - This displays an Edit Alias window for the selected alias. You can then change the name of the alias and click OK to implement the change.
- Delete button - This deletes the selected alias.
- Clear button - This clears the Alias list.

Force check box

If selected, this forces the creation of the view even if the user does not have access to the table.

With check box

If selected, the following check boxes are enabled.

- Read Only - If checked, the alias will be read-only.
- Check Option - The Check Option specifies that inserts and updates performed through the view must result in rows that the view query can select. The check option cannot make this guarantee if there is a subquery in the query of this view or any view on which this view is based or INSERT, UPDATE, or DELETE operations are performed using INSTEAD OF triggers.

Source tab

You can type in your subquery in this section. When you have entered your subquery, you can click **Check Query** to make sure it parses correctly before you execute it.

Related Topics

[Schema Browser: Views](#)

[Views - Data Grids](#)

Create New Database

New Database Wizard

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Toad Database Wizard provides a rapid way for DBAs to create Oracle databases. It offers an easy wizard-style interface consisting of five screens prompting the user to select parameter values:

- for construction of the database parameter file (INIT.ORA)
- for values used in the construction of a SQL file that can later be executed by either a batch file (Windows) or a script (UNIX), generated by the wizard.

It is easy to use and has the ability to automatically assign tablespaces across available hard drives (or volumes), optimized according to either a drive performance rating it assigns, or available volume space. It is OFA-compliant (Optimal Flexible Architecture) in the directories it creates for 8.1.x databases.

To access the New Database Wizard

- From the **Database** menu, select **Create|New Database** menu item. Step 1 appears.

Databases created with the New Database Wizard can be started up and shut down with the [Instance Manager](#):

- The .bat/.sh script the wizard creates calls orapwd, the Password File creation utility.
- This creates a password file to permit the use of a client connection using a SYSDBA privileged account. This, in conjunction with remote_password_login = EXCLUSIVE in the pfile (INIT.ORA) is required for starting up & shutting down from the client with a SYSDBA privileged connection (OS authentication alone will not work).
- The INIT.ORA the wizard creates sets remote_password_login to exclusive to support this.
- The sysdba privilege is also granted to both SYS and SYSTEM.

Note: The database to be shutdown/started does not have to have been created with the Wizard, but a password file is required and remote_password_login=EXCLUSIVE must be set in the pfile (typically INIT.ORA or INIT<sid>.ORA).

Related Topics

[New Database Step 1](#)

[New Database Step 2](#)

[New Database Step 3](#)

[New Database Step 4](#)

[New Database Step 5](#)

New Database Step 1

Step 1: Basic Information

Step 1 of the New Database wizard allows you to set up the name and location of your new database.

You can create a new database in two ways. You can Load your previously saved settings, or you can go through the steps sequentially and fill in the fields manually.

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To Load settings

Settings can be loaded from any of the New Database wizard windows. Loading settings will replace all the settings for all the steps and allow you to move directly to Finishing the database.

1. Click **Load...**
2. Select previously saved settings from the dropdown menu.

To Save settings

Settings can be saved from any of the New Database wizard windows. Saving settings will save the settings as entered for all steps, no matter where you are in the process.

1. Click **Save....**
 2. Select a previously saved setting from the dropdown menu to replace with the new settings.
- OR

Click in the box and enter a name for your new set of settings.

To Set up your database manually

1. Enter the **Database name** – This is the name of the new database that will be created. It also acts as the unique System Identifier (SID) for this database. The maximum length of the SID is eight characters. This is a required field, and the **Next** button is disabled while it is blank.
2. Choose your **Database location** – Local indicates the user is on a database server. Remote offers two choices: Windows and UNIX. Selecting Windows will effectively create the same files as choosing Local, while selecting UNIX will create a UNIX style script instead of the Windows batch file. Selecting UNIX will also change the paths in the SQL file according to the UNIX environment (using "/" instead of "\" for example).
3. In the Directories area, two pathnames are loaded from the registry keys when the wizard starts. Check to make sure they are correct.
4. **Oracle base** – Oracle 8.1 introduced the Optimal Flexible Architecture where multiple Oracle homes may reside under one C:\Oracle directory structure. Prior to this, each Oracle home was the top of its own directory structure. The Oracle Base field represents the new ORACLE_BASE, or top-most directory, for 8.1 databases (for earlier databases it can remain the same as the Oracle home field value). When the wizard starts, this field is loaded from the registry ORACLE_BASE key, if on a database server, otherwise it loads the ORACLE_HOME key and has the same value as the Oracle home field. This is a required field.
5. **Oracle home** – This is the Oracle home, or top-most directory for Oracle databases prior to 8.1. For 8.1 specified databases it is the first home created under the ORACLE_BASE, as previously described. Multiple databases can reside under the same Oracle home. For an Oracle 8.1 installation this home is named Ora81. This field is populated from the registry ORACLE_HOME key (local machine/software/oracle) when the wizard starts. It is a required field.
4. Choose the appropriate **Application type** – This specifies how the database will be used. It sets the default block size field according to the following values:
 5. Web – 4K
 6. Multi-purpose – 8K
 7. Data warehouse – 16K

If you change the block size manually, changing the Application type will not overwrite its value unless you click the Default button.
5. You can also change the block size manually. Generally, the block size is determined by the Application type. This is the database block size. It will be used for the DB_BLOCK_SIZE parameter in the parameter file. The block size is typically either 2K or 4K. The default is 4K. This value should be a multiple of the operating system's block size. This is a required field. Its minimum is 1K, and its maximum is a very large number. If you change this number and want to return to the default, click **Use Default**.

6. Choose the Oracle version you are running.
-

Related Topics

[New Database Wizard](#)

[New Database Step 2](#)

[New Database Step 3](#)

[New Database Step 4](#)

[New Database Step 5](#)

New Database Step 2

Step 2: INIT.ORA factors

Step 2 of the New Database Wizard sets the INIT.ORA factors. These are the factors that describe your database.

1. Slide the slider by dragging it with your mouse to select the number of **Users** the database will support. This number is used in the computation of the log_buffer value in the parameters files, as well as the size of the redo log files during automatic tablespace layout with only one volume.
 2. Select the number of available **CPUs**. This number is used in the computation of the cpu_count value in the parameters file. The cpu_count will only be included if its value is greater than 1.
 3. Select the **CPU MHz**. This is used in the computation of the cpu_count value in the parameters file.
 4. Specify the available **RAM**. This figure is used in the computation of the db_block_buffers and shared_pool_size values in the parameters file.
 5. Specify the **Cache** size. The cache size is used in the computation of the cpu_count value in the parameters file.
 6. Specify the number of **Channels/Directors**. This will be used in the computation of the cpu_count value in the parameters file.
-

Related Topics

[New Database Wizard](#)

[New Database Step 1](#)

[New Database Step 3](#)

[New Database Step 4](#)

[New Database Step 5](#)

New Database Step 3

Step 3: Tablespace Mode Selection

Step 3 of the New Database wizard allows you to choose the way Toad creates tablespaces. This can be done automatically by Toad, or manually by you.

- Choose **Automatic** if you want to give Toad a list of hard drives/volumes and their attributes and have Toad automatically lay out the tablespaces across these volumes, optimizing the layout for either drive speed or available drive space.
- Select **Manual** if you want to specify all tablespace information, including datafile location, starting with a default list that Toad provides.

Related Topics

[New Database Wizard](#)

[New Database Step 1](#)

[New Database Step 2](#)

[New Database Step 4](#)

[New Database Step 5](#)

New Database Step 4

Step 4: Automated Tablespace Mode or User Defined Tablespace Mode

The step 4 window appears in one of two ways. If you chose Automatic in Step 3, Toad displays the choices for Automatic tablespace mode. If you chose Manual, Toad displays choices for manually allocating tablespaces.

Automatic

The Automatic Step 4 allows you to enter the list of volumes you want Toad to consider available for datafiles. The list starts with a default C drive of 136 mb, which is the smallest required volume for the minimum database size of 136.

The **Add**, **Edit** and **Delete** buttons operate on the volume list grid. (See also: [Add/Edit Volume](#))

1. Specify the total size of the database you want created in the **Total database size (mb)** field. The tablespaces will be created to fill this size.
2. Select whether to **optimize for Speed** or **Space**. Tablespaces are assigned to the provided volumes according to either Speed or Space.
3. If Speed, an algorithm is used to determine how fast each volume is, given the user inputs. The tablespaces are then assigned to the volumes according to their speed rating, the tablespaces being assigned, and those that can best coexist on one volume.
4. If Space is chosen, the volumes with the most room are chosen, for the tablespace being assigned.
5. Click **Preview** to review how the tablespaces are being assigned.

Manual

The Manual Step 4 Tablespace Mode screen allows you to enter the tablespace information yourself, instead of having Toad assign them automatically. You are provided with standard default tablespace and redo log information.

- **Add/Edit tablespace** – These buttons open the [add/edit tablespace dialog box](#). This dialog box makes changes to the tablespace grid.
- **Add/Edit redo log** – These buttons open an [add/edit redo log dialog box](#). This dialog box makes changes to the redo grid.
- **Total database size** – Shows the total size of the tablespaces and redo logs you have entered.

The only restrictions on your settings are:

- There must be a minimum of 2 redo logs.
- SYSTEM, RBS and TEMP tablespaces may not be deleted.

Related Topics

[New Database Wizard](#)

[New Database Step 1](#)

[New Database Step 2](#)

[New Database Step 3](#)

[New Database Step 5](#)

New Database: Add/Edit Redo Log

Clicking the Add or Edit button displays the Add/Edit Redo Log Screen. The title of the window will either specify Add Redo Log or Edit Redo Log, depending on what you chose.

1. Enter or change the **File name** of the redo log.
2. Enter or change the **Size** (in megabytes) of the redo log.
3. Click **OK** to save your changes and return to the New Database Wizard.

[Return to New Database: Step 4](#)

New Database: Add/Edit Tablespace

Clicking the Add or Edit button displays the Add/Edit Tablespace Screen. The title of the window will either specify Add Tablespace, or Edit Tablespace, depending on what you chose.

These properties are Oracle requirements to specify tablespace. Enter or change information in the fields as follows:

- **Tablespace name:** Enter the tablespace name in this text field
- **File name:** Enter the file name
- **Size (Mb):** Enter the size of the tablespace
- **% Increase:** Enter the percent increase desired
- **Initial:** Enter the size of the first extent allowed
- **Next:** Enter the size of extents after the first
- **Max Extents:** Enter the maximum number of extents you want to allow

Click **OK** to save your tablespace modifications.

[Return to New Database: Step 4](#)

New Database: Add Edit Volume

Clicking the Add or Edit button displays the Add/Edit Volume Screen. The title of the window will either specify Add Volume or Edit Volume, depending on what you chose.

Enter information in the fields as follows:

- **Volume name** – The name of the hard drive/volume. For Windows, this will typically be a drive letter, while for UNIX it will be a mount point (/u01, for example)
- **Datafile directory** – The directory to put the datafiles into on this volume

- **Available space** – The amount of space the wizard should use on this volume
- **# disks** – The number of disks on this volume (used in the speed rating calculation)
- **RAID** – The RAID type of this volume, if any
- **Interface** – The drive interface type (for example, IDE, SCSI, and so on)
- **Transfer rate** – The transfer rate speed of the volume
- **RPM** – The drive's RPM value
- **Operating System** – Check if there is an operating system on this volume
- **Swap** – Check if this volume is used as a swap drive
- **Defaults** – If checked, the provided values are saved and are used the next time a volume is added (during the current session)

Most of these properties are used in the calculation of the speed rating for the drive, determining where the tablespaces are put.

[Return to New Database: Step 4](#)

Related Topics

[New Database Wizard](#)

[New Database Step 1](#)

[New Database Step 2](#)

[New Database Step 3](#)

[New Database Step 4](#)

[New Database Step 5](#)

New Database Step 5

Step 5: Build Database

This is the final Step of the wizard. Select from a variety of Oracle options, and start the execution of various SQL install scripts.

1. Select the appropriate Oracle options for your database from the check boxes provided. Information on the Oracle options can be found in your Oracle documentation.
2. Select the appropriate choice from the Generate options:
 - **Create database now** – Saves the wizard information to a script (one is generated in the Windows Temp directory if not provided) and then executes the script. This option is only available if Local is chosen on the first screen (user is operating a PC that has a database server installed).
 - **Save information to a batch/script file** – (caption changes according to Windows/UNIX). This field specifies a batch (.BAT) or script (.SH) file to create that can be executed at a later time in order to create the database. If the provided directory path is not present, the user is asked if they want the directory created. By default, the file is put into the datafile directory (varies according to version specified) and is named "create" + the database name.
 - Click **Finish**.
 - If you are saving to a batch file that does not yet exist, Toad will ask if you want to create it. Click **Yes**.
 - If you have chosen Create database now, a dialog box lets you know the database has been created.

3. Make adjustments to the database name if required. Adjustments will be required if the following conditions are met:
4. a SQLNET.ORA file is present in the Network/Admin directory AND
5. a domain name is used for the database aliases (if there is a NAMES.DEFAULT_DOMAIN value present). The wizard will not extract this information and include it in the database name entry in TNSNAMES.ORA. Choose the correct option below and make the appropriate changes as described.

If you saved to a Batch or Script File:

- You can make the adjustments prior to executing the file. Open the batch file or shell script (.BAT or .SH file) the wizard created.
- The last section is a series of ECHO commands. Modify the first line in this series as necessary. For example:

Assuming a named domain of "WORLD" is being used, modify the script as follows:

Change

```
echo "TEST = ">>c:\orant\network\admin\tnsnames.ora
```

To

```
echo "TEST.WORLD= ">>c:\orant\network\admin\tnsnames.ora
```

If you chose Create Database Now:

- You will need to manually edit TNSNAMES.ORA to add the domain name to the end of the database name.
- *For example:*
- A SQLNET.ORA file is present, with the line: NAMES.DEFAULT_DOMAIN = world
- If Ora805 is the database name, you will edit TNSNAMES and add **.WORLD** to the end. The following is one scenario:

```
ORA805.WORLD =
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP)(Host = ORA804)(Port = 1521))

  (CONNECT_DATA =
    (SID=ORA805)
  )
)
```

Related Topics

[New Database Wizard](#)

[New Database Step 1](#)

[New Database Step 2](#)

[New Database Step 3](#)

[New Database Step 4](#)

Diagnosing Problems

View Extents

Use this dialog box to view the data file extents information.

To view extents

1. Access this dialog box from the **Database|Diagnose|Extents** menu item.
2. Select the desired **Object Type**: All Objects, Tables, Indexes, Rollback, or Cluster.
3. Click the **Refresh**  button to fetch the results.

You can sort the grid by clicking on a column heading. The "sorted by" column displays an arrow pointing upward if it is sorted in ascending order, or pointing downward for a descending sort.

To see the Extents for objects owned by SYS, select SYS from the Owner dropdown list.

If you have access to the DBA_ views, make sure the **View|Toad Options|Startup|Check for DBA Views** check box is checked. If it is checked, the Owner dropdown list will become active, and a DBA user can select a specific schema owner. Click **GO** to fetch the results.

Identify Space Deficits

You get to this window from the **Database|Diagnose|Identify Space Deficits** menu item.

This displays tables that do not have enough free disk space to allocate their next extent.

The **Alter Tablespace** button opens the Alter Tablespace window for the selected tablespace so you can modify it.

Log Switch Frequency Map

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This screen shows when your database performs a log switch. Many DBAs aim to size their redo logs so that there are few log switches per hour. Frequent log switches can drastically decrease performance, and infrequent log switches can increase database startup times. You can use this window to judge the balance of log switches.

The database schema for the active connection is shown in the grid. Information is displayed in columns as follows:

- Date
- Day of the week for that date
- Total log switches for that day
- Log switches in each hour of the day, beginning with Midnight to 1:00 a.m.

A cell is left empty if there were no log switches during that hour, and days with no log switches do not appear in the grid at all. Every log switch that is recorded in the control file for the database is displayed.

To see log switch details

- Double-click in any cell for details.
- Clicking the hour columns displays details for just the clicked hour.
- Clicking the date, day, or total column displays details for the entire day.

To print the grid

- Right-click and choose **Print Grid** from the menu. See [Report Link Designer](#) for more information on printing grids.

To export the grid

- Right-click and choose **Save As** from the menu. See [Save Grid Contents File](#)
-

Tablespace Map

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Access this window from **Database|Diagnose|Tablespace Map** on the menu.

This map provides a graphical view of how space is allocated to objects in the tablespaces in your database. This lets you view Segment Fragmentation by tablespace.

As you mouse over cells in the map, Toad displays the segments that consume data blocks represented by that cell. However, if this is a large tablespace that cell might represent hundreds of actual data blocks. Thus they may not overlap at all. Keep in mind that red cells really represent segments that consume a high percentage of blocks for their overall size. Thus they may be candidates for object rebuilds.

To view tablespace graphically

1. Select a **tablespace** from the dropdown menu.



2. Click the **Analyze button**  to fetch the data for the map. Parts of the map that are used by that table are highlighted in green.
3. Areas that equal or exceed the fragmentation percentage limits set in **View|Toad Options|DBA** are displayed in red. In addition, you may have set other fragmentation limits from **Toad Options|DBA**. (See Also [Toad Options: DBA](#).)

Note: Toad measures Internal Fragmentation: a measure of the fragmentation of the object within the tablespace. The actual SQL Toad uses to measure this can be found in the [Toad FAQ](#), under the question "How does the Tablespace Map Work?"

To coalesce a fragmented chart

1. Select a **tablespace** from the dropdown menu.



2. Click the **Coalesce button**  to coalesce the tablespace. After coalescing, Toad performs an analysis and the tablespace map appears.

To view segments and extents

Run your mouse slowly over the tablespace map. The **segments** display beside the pointer. Click in a grid cell and all other cells containing the same segments as the first cell display in yellow. Alternatively, you can get more detailed information as follows:

1. Select a **tablespace** from the dropdown menu.



2. Click the **Analyze**  button to fetch the data for the map. Cells representing occupied blocks are highlighted in green.
3. Click the **Segments and Extents**  button. The Segments dialog box appears with the Segments tab selected. Now when you run your mouse over the tablespace map, segments for each grid cell display in the Segments dialog box. In addition, the percentage of fragmentation for those segments appears at the bottom of the dialog box.

To display **Extents**, click the **Extents** tab. These display in the same manner as described for segments above.

To filter the tablespace map

1. Select a **tablespace** from the dropdown menu.



2. Click the **Analyze**  button to fetch the data for the map. Cells representing occupied blocks are highlighted in green.
3. Click the **Filters**  button. The Filters dialog box appears. Filters are arranged in categories under the following tabs:
 - Datafiles
 - Object Types
 - Owners
 - Objects (This filters dialog box contains a grid. To see the entire grid, use the scroll bar at the bottom of the dialog box.)
4. Select the filters you want to see.
 - You can select multiple filters by holding down the <Ctrl> key while selecting.
 - You can also select filters on multiple tabs. The spaces covered by the filters you choose turn yellow on the Tablespace map.

Note: Selected filters are cumulative, whether on the same tab or on multiple tabs. They remain in effect until you clear them.

To clear highlighting

- If you have highlighted different areas of your tablespace map using the **View segments** or **Show Filter** buttons, click the **Clear Highlighting**  button to clear your highlighting.

To restore window size

- You can also restore the window size to its original, optimal viewing size. Click the **Restore Form Size**  button. The window returns to the original size.

To Display Tablespace Legend

You can display the legend for the Tablespace map.

- Click the **Legend**  button on the toolbar.

To Launch Quest Space Manager

If you have Quest Space Manager installed on your computer, you can launch it from within Toad.

- Click the **Launch Quest Space Manager**  button on the Tablespace Map toolbar.

Undo Advisor

Undo Advisor Overview

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Undo Advisor in Oracle versions 10g and above provides advice and helps to automate the establishment of the database undo environment.

The advisor can inform you about the health of the current undo configuration, either overall or within a given time range. From this baseline, you can then:

- Alter the Undo tablespace
- Switch to another Undo tablespace
- Adjust the database's retention time
- Create projections of required undo space given a retention time that you define

To access the Undo Advisor

- From the DBA menu, select Undo Advisor.

The Undo Advisor Toolbar

The Undo Advisor toolbar provides an easy way for you to alter undo tablespaces, and manipulate the undo environment.



Button	Command
	Alter current undo tablespace
	Alter undo retention



Switch current tablespace

Refresh data in screen

Related Topics[Altering Undo Tablespace](#)[Altering Undo Retention](#)[Switching Tablespaces](#)

Altering the Undo Tablespace

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Undo Advisor lets you alter the current Undo Tablespace.

You can change some of the basic information options, and also add, edit or remove data files.

To alter the undo tablespace

1. Be certain the current tablespace is the one you want to alter. If not, [switch](#) to the correct tablespace before continuing.
2. On the **Undo Advisor** toolbar, click the **Alter tablespace**  button.
3. Make changes to tablespace options as desired.
4. Click **OK**.

Related Topics[Undo Advisor Overview](#)[Altering Undo Retention](#)[Switching Tablespaces](#)

Altering Undo Retention

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can change the undo retention time easily. Altering this time frame may require additional tablespace. Because of this, Toad also provides an estimate of required tablespace so that you can gauge this.

To estimated required tablespace

- Enter the desired retention in the **For this amount of retention** box.

The required undo size for the selected options is displayed beneath it.

To alter the undo retention

1. Click the **Alter Undo Retention**  button.

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2. Enter the desired retention in the box.
 3. Click **OK**.
-

Related Topics

[Undo Advisor Overview](#)

[Altering Undo Tablespace](#)

[Switching Tablespaces](#)

Switching Tablespaces

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

If you have multiple undo tablespaces, you can easily switch between them from the Undo Advisor.

To switch between tablespaces

- From the Undo Advisor, click the **Switch between tablespaces**  button and select the tablespace you want to activate.
-

Related Topics

[Undo Advisor Overview](#)

[Altering Undo Tablespace](#)

[Altering Undo Retention](#)

TKProf Interface Wizard

TKProf Interface Wizard

The TKProf Interface wizard lets you easily use the TKPROF feature of Oracle, creating the necessary scripts to set parameters and options.

To access this wizard

- Select **Database|Diagnose|TKProf Interface**.
 - [Screen 1](#) lets you view pertinent Parameter information from the ora.ini, and define input and output files.
 - [Screen 2](#) lets you choose your sort options.
 - [Screen 3](#) lets you select additional options and run TKPROF.
-

TKPROF - screen 1

Helpful Information

This section displays Ora.ini parameter information. In order to see this information you will need select privileges on `v_$parameter`.

Define Input and Output Files

In this area, you define the various Input and Output files that TKPROF uses. Select or deselect files as follows:

Input Files

These are the trace files that were produced by Oracle when you enabled tracing. Oracle places them in the directory specified by the script `USER_DUMP_DEST`, also known as the "udump directory".

To add input files

- Click the drilldown button at the top of the input files pane and select from the following:
- Browse Windows files - select a file from a Windows OS.
- Open files with FTP - this lets you select files on a UNIX based server.
- UNIX File name Browse (no file transfer) - This lets you select files on a UNIX server without transferring them. If you want to run TKProf against trace files that are still on the server, you will need to copy the code and run it server side. See the [Copy code to Clipboard](#) topic on TKProf-screen 3.

Enter as many input files as you like in this field, but there must be at least one entered.

Output Files

The output files are placed in the same directory as the input files. The file names are the same, but the extension is different.

You can change this extension, if necessary.

Insert Files

The insert file is the script produced by TKPROF. It inserts the results of the trace file into a database table.

Record Files

The record file is a script produced by TKPROF. It records the SQL statements issued by the traced session.

- Click **Next** to continue.
-

TKPROF - screen 2

Sort Options

From this screen, you define how you want the SQL statements in the output file sorted. You can choose more than one sort option, and sort results are cumulative from the top of the list to the bottom.

- Select sort options by checking the box to the left of the option.
 - Click **Next** to continue.
-

TKPROF - screen 3

This screen lets you set final options for how you collect SQL statements with TKPROF and how TKPROF is executed.

Other Options

Set any other options you want TKPROF to follow. These include:

- Limit the number of SQL statements in the file to ____
- Aggregate multiple uses of the same SQL statements
- Show recursive SQL statements
- Connect to DB to perform Explain Plan
- Use this table for Explain Plan (you must choose Connect to DB to perform Explain Plan to use this option)

Execution Options

Execute Locally

Toad calls the instance of TKPROF that is located on your computer. If you did not choose the option to connect to the database to perform explain plans, you can copy files from any oracle database of the same or earlier version to your machine to run TKPROF. This works as file parsing, with no database activity. Define where your TKPROF is located under [Toad Options|Executables](#).

View Output Files When Finished

Check this box to automatically open your external editor and view the Output file.

By default, this box is checked if you have only selected one input file, and unchecked if you have selected multiple input files.

Just copy the commands to the clipboard

This option allows you to copy all generated commands into the clipboard. You might use this option if you run TKPROF on a Unix machine by telnet. Toad's TKPROF interface lets you just paste the code in, saving you the time spent typing.

Running TKPROF

When you have selected the final options, click **Finish** to run TKPROF.

Note: If you have not selected at least one input file, clicking finish will do nothing. If you have selected all pertinent options and click Finish, a confirmation dialog box appears.

Segment Advisor

Segment Advisor

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Active with Oracle 10g and above, this screen is an interface to Oracle's segment advisor. It can examine tables, indexes, and partitions to determine if and how much, space can be reclaimed in them with the SHRINK command.

The Segment Advisor generates advice at three levels:

- At the object level, advice is generated for the entire object, such as a table. If the object is partitioned, then the advice is generated on all the partitions of the object. Advice does not cascade to dependent objects such as indexes, LOB segments, and so forth.
- At the segment level, the advice is generated for a single segment, such as unpartitioned table, a partition or subpartition of a partitioned table, or an index or LOB column.
- At the tablespace level, advice is generated for every segment in the tablespace.

The Segment Advisor is made up of three tabs that let you perform advisor tasks easily:

- [Examine Objects](#)
 - [Advisor Tasks](#)
 - [Advisor Recommendations](#)
-

Related Objects

[Examining Objects](#)

[Advisor Tasks](#)

[Advisor Recommendations](#)

[Excel Style Filtering](#)

Examining Objects

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The heart of the Segment Advisor is its ability to examine objects and give recommendations. You can view objects by owner, object type, or tablespace and then select objects to be examined.

To examine objects

1. From the **Database** menu, select **Diagnose|Segment Advisor**.
2. Click the **Examine Objects** tab.

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3. Select a schema from the Object Owner drop down menu.
 4. Select an object type. Options include:
 5. All
 6. Indexes
 7. Tables
 5. From the Tablespace dropdown, select a tablespace (or All tablespaces).
 6. In the grid, select the objects you want to submit for advice in the grid.
 7. Click the **Submit Advisor task for selected objects**  button.
 8. Select **Segment Advisor options**.
 9. Click **Execute**.
 10. Enter connection information if necessary, and click **Connect**.
-

Related Objects

[Segment Advisor Overview](#)

[Advisor Tasks](#)

[Advisor Recommendations](#)

[Excel Style Filtering](#)

Advisor Tasks

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

When you have examined objects, you can view or delete the tasks run by the Segment Advisor.

To review tasks

- Click the **Advisor Tasks** tab.

To delete tasks

1. Click the **Advisor Tasks** tab.
 2. In the data grid, select the tasks you want to delete.
 3. Click the **Delete Selected Tasks**  button.
 4. Click **Yes** to confirm.
 5. Enter connection information if necessary and click **Connect**.
-

Related Objects

[Segment Advisor Overview](#)

[Examining Objects](#)

[Advisor Recommendations](#)

[Excel Style Filtering](#)

Advisor Recommendations

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Advisor recommendations is the output of a Segment Advisor task. Toad sorts recommendations into an easy-to-read grid format.

You can choose to display either only the tasks you have created, or only tasks entered through Toad.

Recommendation Toolbar



Button	Command
	Show recommendation script
	Execute recommendation script
	Schedule Script Execution
	Set Status (Accept, Ignore, Implemented, Reject)
	Delete selected tasks
	Refresh Grid

To act on recommendations

1. Select the recommendation you want to use.
2. Click on one of the toolbar buttons.
3. Complete any required steps.

Related Objects

[Segment Advisor Overview](#)

[Examining Objects](#)

[Advisor Tasks](#)

[Excel Style Filtering](#)

LogMiner Interface

LogMiner Overview

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

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The Oracle LogMiner packages DBMS_LGMNR and DBMS_LOGMNR_D help you extract information from the online or archived Oracle redo logs. This information can be used to analyze where problems occurred. With LogMiner, if a System Change Number (SCN) caused a corruption problem, you can easily analyze a database and recover to the transaction exactly before the corruption.

This package is only available in Oracle 8i and above.

Note: Access to some V\$ tables are required to use this option. To see a list of these permissions, see [V\\$ tables required for LogMiner](#).

If you cannot access V\$PARAMETER, V\$LOGFILE, V\$SESSION, V\$VERSION, the screen will still work, but the screen will not do some things automatically for you (such as tell you if utl_file is not setup, or automatically determine where your log files are stored, and so on).

If you cannot access things that are actually required (like execute privs on dbms_logmnr) the screen will tell you what is required, and the permissions you are missing will be highlighted.

To access the LogMiner Interface

- From the **Database** menu, select **Diagnose|LogMiner**.

Toad makes it easy for you to use Oracles LogMiner packages. The interface is designed in wizard format, including the following steps:

[Step 1: Specify an existing dictionary file or create a new one.](#)

[Step 2: Specify files to mine.](#)

[Step 3: Choose ranges of dates and SCNs to mine.](#)

[Step 4: View the contents of the V\\$LOGMNR_CONTENTS.](#)

Requirements

Before Toad starts LogMiner, it checks whether all of the requirements for using the LogMiner have been satisfied. These include:

- Execute privileges on DBMS_LOGMNR
- Execute privileges on DBMS_LOGMNR_D
- Select privileges on V\$LOGMNR_CONTENTS
- Select privileges on V\$LOGMNR_LOGS
- Parameter UTL_FILE_DIR set in init.ora (required for Oracle 8i only)

If any of these parameters are not met, Toad will display a screen listing them, with the missing requirement displayed in red.

LogMiner: Step 1

This step of the wizard lets you specify a dictionary file (a text file containing the contents of the database's current data dictionary).

You can choose to use DBMS_LOGMNR_D.BUILD to create a new dictionary file, or you can specify the location of an existing file.

This window saves its settings. If you enter a path and filename, then close the wizard; the path and filename will still be filled in when you reopen the window.

Oracle 8i

Verify UTL_FILE Parameter

This box displays the value of the UTL_FILE_DIR.

If it is incorrect, you will need to edit your init.ora file and then shut down and restart the database to make the parameter change take effect.

Dictionary File Name and Path

These boxes allow you to enter the file name and directory path of the dictionary. Whether you build a new file or use an existing one, these paths must be entered.

The dictionary file path must be a path accessible by the database server, and accessible by UTL_FILE.

Oracle 9i

Dictionary

- Use Online Data Dictionary - This option is the fastest, because there is no file building required.
- Use Dictionary in Redo Logs - This option activates the next area, "Next" button action, letting you choose to build a new dictionary or use an existing dictionary.

Click **Next** to continue to [Step 2](#).

LogMiner: Step 2

This step lets you select the files you want to mine.

1. Select files from the Browse button in one of several ways. Click the **Browse** button to bring up a standard browse dialog box.

To populate the dropdown, Toad checks to see if the ARCHIVE_LOG_DEST parameter is set. If it is, both of the following options will be displayed. If it is not set, then only the Browse in Redo log directory will appear.

- From the dropdown, select **Browse in Redo Log Directory** open the browse dialog box in the redo log directory. If you have a network drive mapped to the server, the browse dialog box will show the redo log directory; otherwise it will show the last browsed directory you browsed.
- From the dropdown, select **Browse in Archive Log Directory** to open the browse dialog box in the archive log directory. A browse dialog box will display. If you have a network drive mapped to the server, the browse dialog box will show the archive log directory; otherwise it will show the last browsed directory you browsed.

If your database is on a Unix server, an FTP-style dialog box appears.

If you are running Oracle 9i and have written a dictionary to the redo logs, be sure to include the redo log containing the dictionary in your file selection.

Note: If your database is running on a Windows server (but not your local PC) it is important to make sure that the drive letters appear as they do on the server when selecting files. For example, if the Browse window adds this file to your file list:

```
\\Car004555\d$\oracle\oradata\CARY9I\REDO01A.LOG
```

You may want to change it to this:

```
D:\oracle\oradata\CARY9I\REDO01A.LOG
```

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You can edit directly in the files list window.

2. Click **Next** to continue to [Step 3](#).
-

LogMiner: Step 3

Step three of the LogMiner interface presents you with a range of date and SCN ranges to mine. You have the option of accepting these options or changing them.

Narrowing the range

You can narrow the range of either the SCN range or the date ranges. Alternatively, you can mine the range that Toad has selected.

Expanding the range

If you expand the range from this screen, you will be presented with an ORA error. To expand the range, click **Back** and choose more files to mine.

Oracle 9i

If you are using Oracle 9i, you can also choose:

Show committed data only

This option allows you to bypass any data changes that have not been committed. If this is set, the only DMLs returned are those that correspond to committed transactions.

DDL Dictionary Tracking

This is only an option if you wrote your dictionary to a redo log file. It will be disabled if you are using an online dictionary.

If this option is selected, subsequent DDL changes will be written to the redo logs for LogMiner, ensuring that the correct SQL_REDO and SQL_UNDO information is maintained.

No Dictionary Reset on Select

This option is only enabled when **DDL Dictionary Tracking** is selected.

If this option is selected, LogMiner will not reload its internal dictionary before every select operation performed on V\$LOGMNR_CONTENTS.

Continue

- When you have edited the ranges to your satisfaction, click **Next** to continue to [Step 4](#).
-

LogMiner: Step 4

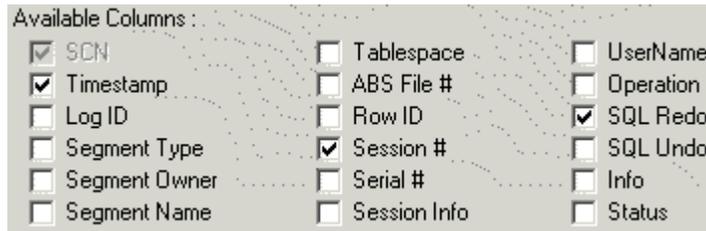
This step lets you view the results of your mining. When the grid first appears, it is blank. You can view results here or in a Editor window as described below.

The LogMiner Interface Grid

The default way to view results of your mining is within LogMiner's own interface grid.

To view results in the LogMiner interface grid

1. Click the **Options**  button at the top left of the tab. A list of column options appears.



2. Select the columns you want displayed
3. You can either:
4. Execute the LogMiner SQL immediately: click the **Execute**  button. The grid populates with the information you requested.

- Copy the SQL into the Editor to edit, save and execute later: click the SQL  button. A new Editor window opens with the SQL loaded.
- 4. Right-click the grid to
 - **Print Grid** – This option takes you to the [Report Link Designer](#), where you can format and print the grid contents.
 - **Save as** – This option lets you export the grid's contents to a file or to the clipboard.
 - **Filter** – This option lets you filter the information retrieved into a format more suited to your needs. You can set Boolean filter conditions and **Apply** them to the grid. Click **Cancel** or close the dialog box to continue. The filter remains on the grid until you open the filter dialog box and click **Clear**.

In the Editor

Alternatively, you can leave this window open and open a Editor window to view your results. You may need to do this if you want to specify a 'where clause' so you can retrieve a more focused dataset from v\$logmnr_contents.

To view results in the Editor

- **SELECT** data from v\$logmnr_contents. This data is only available from your current session in the database. It will be cleared when you close the LogMiner interface window or click **Back**.

Health Check

Database Health Check

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

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The Database Health Check performs a series of checks on a selected database and displays the results. You can save the results to a color-coded RTF or HTML file, or to a plain text file. You can also send the results through email to another address.

Health checks utilize optimizer hints as configured in [Toad Options|Oracle|Optimizer Hints](#).

Health checks require access to the DBA_views and to some of the V\$ views. A list of V\$ views required is located in the [V\\$ Tables Required](#) topic.

Note: The Database Health Check opens a separate connection to Oracle, and then closes it after the check, even if Toad already has a connection open to the selected database. This connection will show in the Session Browser as a separate session, and could cause difficulties if you have limited Toad connections.

To run a health check

1. From the **Database** menu, select **Diagnose|Health Check**. The Database Health Check window appears.
2. In the left pane, select the databases you want to check. You can multi-select using the <CTRL> or <Shift> keys.
3. In the **Checks and Options** tab on the right side of the window, select the pre-defined health checks you want to run. (See [Health Check - Checks and Options](#) for more details about each of these.)
4. If you want to email the results, make appropriate settings to the **Email Settings** tab, as described in [Health Check - Email Results](#).
5. When all your options have been set, click the **Generate a Report**  button on the toolbar. The report is generated, and you can view results on the **Report Output** tab. (See also [Health Check - Saving Results](#).)

Alternately, you can save your settings and run Health Check later from the [Command Line](#).

Health Check - Checks and Options

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

In the Checks and Options tab of the Health Check window, you can set many different pre-set conditions. Each of these preset checks represents something that a DBA or Developer should be aware of in their databases. In addition, some of these conditions are adjustable.

Finding Specific Checks

There are many checks that you can run on your database. Although checks are grouped by settings, database, and schema checks, you may find that it is difficult to locate every check you want to make just by looking down the list. Toad provides a search feature that will highlight the checks that meet your specified criteria.

To search for a specific health check

- In the **Highlight Rows with:** box, enter the word you want to search for.

Note: Toad searches for entries as they are typed. You can enter entire words, multiple or portions of words. For example, you entering data will find checks containing data, datafile, datatype, and so on. However, if you are using multiple words, Toad sees everything you enter as one word. Therefore, Toad will only find the words that are in the order you enter. For

example, if you are looking for the check containing "datafile IO distribution," entering "IO datafile" will not find the check you want. You must enter "datafile IO."

Adjusting Conditions in Checks

Some of the conditions described below are adjustable.

To change conditions

1. Click the word **Adjust** in front of the condition. The cell becomes active.
2. Click the **drill down**  button. An adjustment box appears, describing the condition that can be changed, and letting you change it.
3. Change the **condition** and click **OK**.

Related Topics

[Database Health Check](#)

[Health Check - Check Descriptions](#)

[Health Check - Schemas](#)

[Health Check - Email Results](#)

[Health Check - Saving Results](#)

[Health Check - Run from Command Prompt](#)

Health Check - Check Descriptions

Note: Actions performed on jobs are not viewable to other connections until they are committed. This means that when it is run the Database Health Check will not catch actions that have been performed, but not committed.

The following is a list of checks that the Database Health Check can perform, separated by:

- [Settings](#)
- [Database \(DB\)](#)
- [Schema](#)

Settings

Check Number	Check Name	Description
1	Show output only for 'bad' conditions	If this option is checked, Toad displays only items that fail the health check. If your databases are generally in good working order, this can shorten your reports dramatically.
2	Suppress header for a database when the report is empty	If this option is checked, and your health check ran on several databases in one report, then only the databases that failed the health check will appear in the report. While this can shorten your reports dramatically, you will not have a record of the databases that pass all

3	For items 28, 29 and 30, exclude objects in "SYSTEM" tablespaces	<p>aspects of the health check. This option applies to:</p> <ul style="list-style-type: none"> • List tablespaces that are more than 30% fragmented, having more than 50 total extents • List tablespaces with less than 10% free space remaining. • List segments that can't extend because there is not enough room in the tablespace.
4	Play a custom script at the end of the health check	<p>This option executes a user-supplied script at the end of the health check. The script output is included in health check report. The file name for the script to play is adjustable.</p>
5	Store results in table TOAD.TOAD_HEALTH_CHECK in database being checked	<p>Use this option to populate results into a table on each database being checked, or results of all health checks into a single table in a repository database. Use the adjust option to specify one database, or many. If the table specified does not exist, Toad will attempt to create it when the health check runs.</p>
6	Save results to file: C:\Program Files\Quest Software\ToadBeta\User Files\healthcheck.htm	<p>This option automatically saves health check results to a file at the end of the health check. The file name is adjustable, and the type of file is determined by the file extension you specify.</p> <ul style="list-style-type: none"> • If file extension is "HTM", the file will be HTML format. • If the file extension is "RTF", the file will be a rich-text format. • All other file extensions will result in a non-color coded ASCII text file.

Database (DB)

Check Number	Check Name	Description
7	List connect time, version info, and a few basic ratios	<p>If this option is checked, the Health Check report lists the following:</p> <ul style="list-style-type: none"> • the time it took Toad to connect to this database • database version • how long the database has been

		up
		<ul style="list-style-type: none"> • buffer cache hit ratio • library cache miss ratio • dictionary cache miss ratio
8	List SGA usage stats	If this option is checked, the report lists SGA total size in MB, amount used, amount unused, and percent usage.
9	List archive log info	This option controls display of the following in the Health Check Report: <ul style="list-style-type: none"> • archiving is turned on or not • average log switches per day • the predicted amount of disk space necessary to store a day's worth of archive logs.
10	Alert.Log for Ora-600 errors	This shows each error and the three previous lines.
11	Alert.Log - show summary	This displays a count of all the 600 errors, checkpoint not complete messages, database startups, count of each ORA error found in the file, and a count of new trace files reported.
12	Alert.log - Mark file so next Toad Health check against it examines only new items	Places a bookmark record in the alert.log file so that the next time you run a Health Check against it, Toad will only display new items.
13	Alert.log - Save local copy in User Files dir	This saves a copy of the alert.log file in the Toad for Oracle\Temps directory.
14	Check redo log sizes and quantities (min. groups: 3; min. members per group: 2)	Checks for a minimum number of log groups, and that each group has the same size members.
15	List rollback segments with a wait ratio > 1%	If the wait ratio is above the selected percentage, the rollback segment is included on the report. This percentage is adjustable.
16	List datafile IO distribution	Lists all datafiles and their tablespaces, and the percentage of the total reads and writes from the database for each datafile. If your datafiles are on different disks, this can show you if you have them properly distributed across your disks. It can also help you determine if your objects are properly distributed across your tablespaces.
17	List analyzed SYS and SYSTEM Objects (except 10g - can cause bad performance)	This option lists all SYS and SYSTEM objects that you have analyzed.
18	List unanalyzed SYS and SYSTEM Objects (except 10g - can cause bad performance)	This option lists all SYS and SYSTEM objects that you have not yet analyzed.
19	List public synonyms that point to nonexistent objects	Lists public synonyms that point to objects that have been dropped.

20	List private synonyms that point to nonexistent objects	Lists private synonyms that point to objects that have been dropped.
21	List roles not granted to any role or user	This option displays any roles that are not assigned to roles or users. This can be used to decide if a particular role is unused and can be dropped.
22	List profiles not granted to any user	This option displays any profiles that are not assigned to roles or users. This can be used to decide if a particular profile is unused and can be dropped.
23	List DB Links which are inaccessible	This option displays any DB links that cannot be accessed, for whatever reason. Some (but not all) possible reasons a link cannot be accessed are: <ul style="list-style-type: none"> • The linked database is down • The linked database is accessible through the network • That the link is no longer valid
24	List users with SYSTEM as a temporary tablespace	This option displays any users that are using SYSTEM as a temporary tablespace.
25	List users except SYS with SYSTEM as a default tablespace	This option displays any users that are using SYSTEM as a default tablespace, with the exception of the SYS user.
26	List users with a non-existent temporary tablespace	This option displays any users that are using a temporary tablespace that does not exist.
27	List users with a non-existent default tablespace	This option displays any users that are using a temporary tablespace that does not exist.
28	List tablespaces > 30% fragmented having > 50 total extents	This options list tablespaces that are more than a stated percentage fragmented and have more than the selected number of total extents. Both the percentage and the number of extents are adjustable.
29	List tablespaces with < 10% free space remaining	This option lists tablespaces that have filled. The percentage of free space remaining is adjustable.
30	List segments which can't extend because there is not enough room in the tablespace, including autoextend tablespaces	Optionally, using the Adjust column can include objects in autoextend tablespaces. This option takes the maximum size for autoextend datafiles into account.
31	Make sure SYS.AUD\$ isn't in SYSTEM tablespace	Checks that SYS.AUD\$ isn't located in the SYSTEM tablespace.

Schema

Check Number	Check Name	Description
32	List tables with no primary key	Primary keys uniquely define a record in a database. Most tables should have a

33	List tables with no unique key or index	primary key. Check this option to alert you of tables that do not have such a key assigned.
34	List non-system tables with > 6 indexes	Check this option to alert you of tables that do not have a unique key or index assigned to them.
35	List tables with > 100 columns	The number of indexes defined in this check is adjustable. The number of tables defined in this check is adjustable.
36	List indexes with > 6 columns	The number of indexes defined in this check is adjustable.
37	List tables with LONG or LONG RAW datatypes	This lists all tables that include LONG or LONG RAW datatypes.
38	List partitioned tables with non-partitioned indexes	Lists all partitioned tables with non-partitioned indexes.
39	List tables with max row size > tablespace (or db) block size	Lists all tables where maximum row size exceeds tablespace (or database) block size.
40	List redundant indexes (same leading columns)	Lists objects that have indexes with the same leading columns: this indicates that the index is redundant.
41	List primary and unique keys using non-unique indexes (9i+ only)	Lists primary and unique key constraints that are using non-unique indexes. This applies to Oracle versions 9i and newer only.
42	List foreign keys with non-matching column definitions (causes poor performance)	This option lists foreign keys that have parent table columns with a different type as the child table columns. This situation causes performance degradation.
43	List foreign keys with no matching index on child table (causes locks)	This option is listed because without such an index, deletes and updates on the parent table result in table-level locks on the child table until the transaction is complete.
44	List foreign keys with a mix of nullable and not nullable columns	Lists all foreign keys on a mix of nullable and not nullable columns.
45	List unique keys with one or more nullable columns	Lists all unique key constraints with one or more nullable columns.
46	List objects with mixed-case names	Check this option to alert you of tables that have mixed-case names.
47	List object type counts by owner and tablespace	One reason to use this option is to see if you have indexes in your "tables" tablespace. Selecting this option lists object <ul style="list-style-type: none"> • owners • tablespaces • number of storage objects (tables, indexes, and so on) in each tablespace.
48	List analyzed tables with > 5%	Both the percentage and the number of

	chained rows and > 500 total rows	total rows are adjustable. Note: To produce accurate results, you must have recently analyzed the tables in the selected database.
49	List analyzed table partitions with > 5% chained rows and > 500 total rows	Both the percentage and the number of total rows are adjustable. Note: To produce accurate results, you must have recently analyzed the tables in the selected database.
50	List schemas with unanalyzed tables	This option lists tables you have not analyzed, or that have had the analyze statistics deleted. This option excludes objects owned by SYS, SYSTEM, and other "built in" schemas.
51	List schemas with unanalyzed table partitions	This option lists table partitions you have not analyzed, or that have had the analyze statistics deleted. This option excludes objects owned by SYS, SYSTEM, and other "built in" schemas.
52	List schemas with unanalyzed indexes	This option lists indexes you have not analyzed, or that have had the analyze statistics deleted. This option excludes objects owned by SYS, SYSTEM, and other "built in" schemas.
53	List schemas with unanalyzed index partitions	This option lists index partitions you have not analyzed, or that have had the analyze statistics deleted. This option excludes LOB indexes, and objects owned by SYS, SYSTEM, and other "built in" schemas.
54	List segments with a possible poorly sized next extent	Lists segments where the NEXT_EXTENT is less than 10% or more than 200% of the object's total size. These numbers are not adjustable. A small NEXT_EXTENT can lead to an object with lots of extents, and a large NEXT_EXTENT can lead to an object that takes up more space than it needs. Note: This health check item does not necessarily indicate a problem.
55	List segments with < 10% of extents remaining and > 1 maxextents	Lists segments that are approaching maxextents. Both percentage and number of maxextents are adjustable.
56	List segments with > 100 extents	This number is adjustable. This health check item can be used to find "runaway" segments due to extent sizes being too small.
57	List jobs with broken = Y	Lists jobs that have failed with an error.
58	List jobs with Next Date < Sysdate	Lists jobs that will never run again unless altered.
59	List jobs that have been running longer than 60 minutes	The number of minutes is adjustable.
60	List objects for which there is a granted privilege but no	This option displays objects that have a privilege granted to them, but do not

	corresponding synonym	have a synonym. This can be useful if you need to check that you've granted both a privilege and a synonym or that you've dropped both.
61	List redundant object privileges with conflicting grant options	This option displays objects that have the same privilege granted to the same user/role by two different users.
62	List unusable indexes	This option lists indexes that are unusable until they are rebuilt.
63	List invalid objects	This option lists invalid objects, allowing you to easily locate and correct the problem.
	List package bodies with no associated packages	This option lists package bodies that cannot be used because they have no associated package specification.
	List disabled constraints and triggers	This option lists constraints and triggers that are disabled. While there may be good reason for a disabled constraint or trigger, this health check item can help find those that should not be disabled.

Related Topics

[Database Health Check](#)

[Health Check - Checks and Options](#)

[Health Check - Schemas](#)

[Health Check - Email Results](#)

[Health Check - Saving Results](#)

[Health Check - Run from Command Prompt](#)

Health Check - Schemas

The Schemas tab on the Database health check window provides you with a location to select the schemas you want to examine.

From this tab, you can:

- Load schemas from the selected database.
- Choose how to include schemas (the default is to include all schemas except for SYS, SYSTEM, and so on). Options include:
 - Include all schemas
 - Include all schemas except SYS, SYSTEM, etc.
 - Include only the schemas checked below
 - Include all schemas except those checked below

Related Topics

[Database Health Check](#)

[Health Check - Checks and Options](#)

[Health Check - Check Descriptions](#)

Toad 9.5

[Health Check - Email Results](#)

[Health Check - Saving Results](#)

[Health Check - Run from Command Prompt](#)

Health Check - Email Results

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To have email sent when you run a health check you must first set up the email pages. From the [Database Health Check](#) window, click the **Email Settings** tab. You must also have the global [Email Options](#) set up with your SMTP server, and recipient addresses.

When to Send Mail

Select when you want to send email after a health check. The email sent will include the entire Health Check Report.

- Never
- Always
- Only When 'Bad' Conditions Exist

Send Mail as

You can send the email as either HTML or plain text.

- Choosing HTML mail will send the Health Check report with all formatting intact.
 - Choosing plain text will include the Health Check report in ASCII plain text. All formatting will be lost.
-

Related Topics

[Database Health Check](#)

[Health Check - Checks and Options](#)

[Health Check - Check Descriptions](#)

[Health Check - Schemas](#)

[Health Check - Saving Results](#)

[Health Check - Run from Command Prompt](#)

Health Check - Saving Results

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

When the Database Health Check report has been executed, you can save the results to a file, in Rich Text Format (.rtf), web page (.htm), or plain text (.txt) format.

To save the report

1. From the **Report Output** tab, click the **Save Report**  button on the toolbar or choose the format you want to save the report in from the dropdown.

2. Enter a name for the report in the **File name:** box.
 3. From the dropdown, select the type of file format you want to use for your report.
 - Text files (*.txt)
 - RTF files (*.rtf)
 - HTML files (*.htm)
 4. Click **Save**.
-

Related Topics

[Database Health Check](#)

[Health Check - Checks and Options](#)

[Health Check - Check Descriptions](#)

[Health Check - Schemas](#)

[Health Check - Email Results](#)

[Health Check - Run from Command Prompt](#)

Health Check - Run from Command Prompt

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You may find you would like to run health checks at regular intervals to monitor for unexpected changes. With a little preparation, you can do the health check from a command prompt when you are away from your desk. Results are saved to files.

To build the file to run Health Check

1. Start **Toad**.
2. From the **Database** menu, select **Diagnose|Health Check**.
3. Make all settings to perform the comparison (see [Health Check](#)), but do not click Execute.
4. Instead, on the toolbar, click the **Save All Settings to File**  dropdown. Select **Save Options to File**. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Note: You can also save your options to file by right-clicking over the options tab and selecting **Save Options to File**.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

You can put commands at either the end or the beginning of the file. Write them in the order of execution. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

You may notice that within this file are one or more rows of connection information that have been partially commented out. These connections have nothing to do with the connection you use in the command line to open Toad. This is connection info for the various health checks you are running. The commented portion of the lines do not contain all the info that is contained in the encrypted connection information, but they give you a way to tell what part of the file goes with what connection. These

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comments can be removed, but they let you identify the connect info. If the connect info needs to be changed and you don't care if it is encrypted you can change the lines to: SELECTEDDB:USER/PASS@DB.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- CloseToad - Closes Toad after the script finishes
- CloseHealthCheck - Closes the health check window after the health check has finished.
- # - This line is a comment and will be ignored.

Run from the Command Prompt

Once your file is ready, you can run the comparison from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@mydb HC c:\thisfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
 - Change c:\thisfile.txt to the path of the settings file you saved above.
-

Related Topics

[Database Health Check](#)

[Health Check - Checks and Options](#)

[Health Check - Check Descriptions](#)

[Health Check - Schemas](#)

[Health Check - Email Results](#)

[Health Check - Saving Results](#)

CodeXpert

CodeXpert Overview

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

CodeXpert analyzes the code against a set of rules for best practices. These rules are stored in a ruleset and can be either user-defined or pre-defined. (See [Configuring Rulesets](#).) CodeXpert can be accessed from various locations within Toad.

CodeXpert can store reports within the Toad schema on the database. To enable this feature, CodeXpert objects must be set up using the [Server Side Objects](#) window.

Accessing the CodeXpert from the Editor

When run in the Editor, the CodeXpert window opens as a tab within the Output Frame. The window consists of the CodeXpert toolbars, the Results tab, the CodeXpert Report tab and the Rules and Statements Totals.

To access the CodeXpert from the Editor

- If the CodeXpert tab is not displayed, right-click and then select **Desktop Panels|CodeXpert**.

Accessing the CodeXpert throughout Toad

You can run the CodeXpert in its own window. Do this from the File menu, or from various places in Toad via the right-click menu. Running CodeXpert from these areas allows you work with multiple objects at the same time. When run in areas other than the editor, the CodeXpert opens in its own window. In addition, you can drag and drop objects into this window to analyze code as you work.

To access the CodeXpert from the Menu

- From the **Database** menu, select **Diagnose|CodeXpert**.

To access the CodeXpert from other windows

- Right-click to run the CodeXpert in:
 - Schema Browser
 - Procedures
 - Functions
 - Packages
 - Triggers
 - Views
 - Users (runs CodeXpert on all objects owned by the selected user)
 - Project Manager
 - Code Road Map
-

Related Topics

[Code Xpert Options](#)

[CodeXpert Parameter File](#)

[Run CodeXpert from the Command Line](#)

[SQL Scanning Overview](#)

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-

Related Topics

[Code Xpert Options](#)

[CodeXpert Parameter File](#)

[Run CodeXpert from the Command Line](#)

[SQL Scanning Overview](#)

CodeXpert Icon Legend

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

The tree structure of the CodeXpert includes icons to identify the various objects listed.

Toad includes an Icon Legend that you can use to easily decipher these images.

To access the icon legend

- On the General CodeXpert toolbar, click the **Icon Legend**  button.

CodeXpert Toolbars

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

The toolbars at the top of the CodeXpert window let you easily access the features of the advisor. There are two toolbars. Buttons may be rearranged slightly depending on whether you are accessing CodeXpert from the Editor desktop tab or from the CodeXpert window. In general, however, the Main toolbar will be located at the top of the tab or window, and the reports toolbar will be located on the results tab.



Button	Command
	Change active session
	Run the CodeXpert against the selected code or the code in the Procedure Editor
	Load code from file
	Load code from database
	Include the selected ruleset
	Scan for SQL Optimization when running the CodeXpert
	CodeXpert can store reports within the Toad schema on the database. To enable this feature, CodeXpert objects must be set up using the Server Side Objects window.
	Schedule a CodeXpert run
	Create a command file
	Find a rule in the results tree by rule number
	View the advice tip for the selected rule
	Select ruleset
	Launch the RuleSet Window to configure, edit, create or remove RuleSets
	View results tree legend
	Zoom on summary: opens the summary report in a separate window
	Save the CodeXpert Report to a variety of HTML formats
	Print Preview
	Print



Related Topics

[General CodeXpert Toolbar](#)

[Report Toolbar](#)

Code Xpert Options

General Options

General options are applicable to all of the Code Xpert.

Prompt for CodeXpert Run names

When checked, Toad will prompt you for a name to use for the database insert. If not checked, Toad will insert it with a number followed by the date and time stamp.

The default is checked.

Use Central Repository for DB Inserts

When this option is checked, Toad will use a central database for database inserts.

If not checked, it will use the active connection. The default is unchecked.

To change the repository connection

1. Select Use Central Repository for DB Inserts.
2. Click **Change**.
3. Either select a connection from the list of current connections
or

Click **New** and select a connection from the login window.

4. Click **OK**.

SQL Scanning Options

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

Scanning

Scanning options are designed to help you specify how and what the scanner will scan. In this way, you can choose to ignore duplicate statements, skip some SQL, and so on. (See [SQL Scanning tab](#) for details.)

SQL Classification Options

The classification of SQL statements is designed to help you quickly identify the SQL statements that are likely to be causing performance problems in your database environment. This classification lets you specify the criteria to analyze your SQL statement. A problematic SQL statement indicates potential performance problem because the SQL statement has characteristics that can contribute to poor performance. Optimizing these SQL statements gives you the best possibility for improving the database performance.

These classification settings are used to set the criteria for Simple, Complex, and Problematic SQL statements. (See [SQL Classification tab](#) for details.)

To select SQL Scanning options

- Click the **Configure Options for Optimization Scan**  button on the CodeXpert toolbar.

Related Topics

[SQL Scanning Overview](#)

[SQL Classification Tab](#)

[SQL Scanning Tab](#)

[Applying the Classification Options](#)

Working with Results

Results Tab

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

The Results tab displays results of the analysis. This is provided in a tree hierarchy.



Beneath the tree, there are three more tabs:

- All Rules by Objects (the default display) - lists the results of the rules scan (see [Rules](#) for more information).
- Properties - Displays the properties of the code analyzed (see [Properties](#)).
- SQL Scan - This displays the results of running a SQL scan on the code. (See [SQL Scanning Overview](#))

Related Topics

Toad 9.5

[Rules](#)

[Statistical Analysis](#)

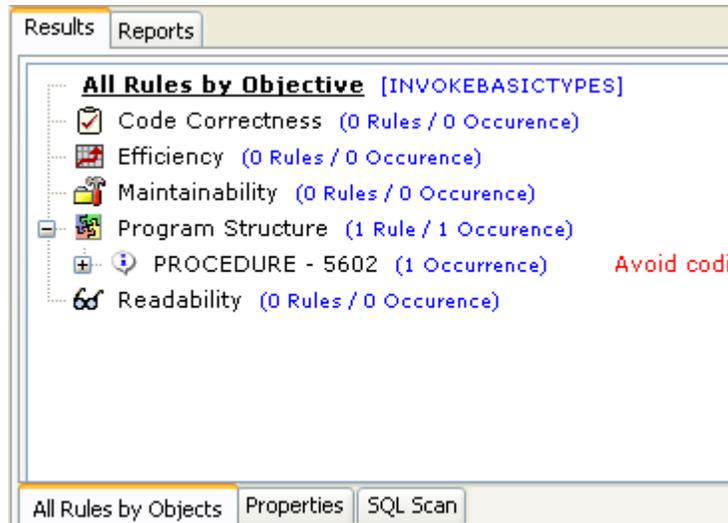
[Properties](#)

[Reports](#)

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Related Topics

[Rules](#)

[Statistical Analysis](#)

[Properties](#)

[Reports](#)

Rules

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

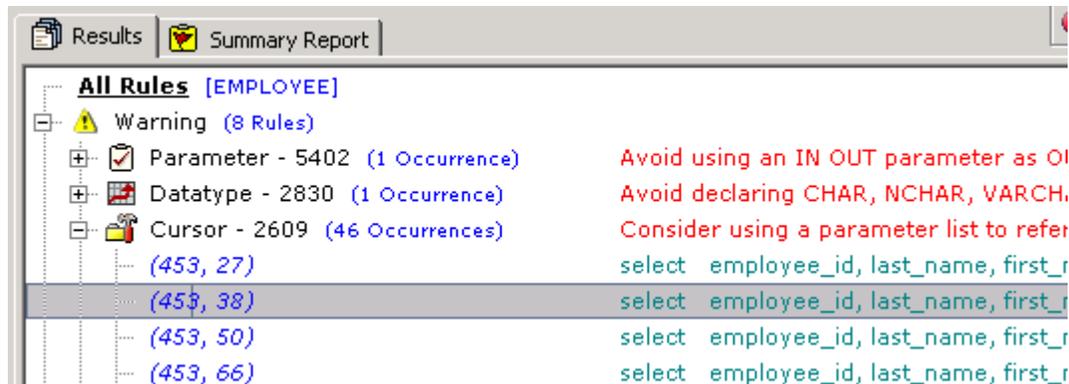
The contents of the Rules area is sorted according to how the sorting option is configured on the [RuleSet](#). The two sorting options are:

- Severity, then Objective
- Objective, then Severity

The different types of rules issues are represented by icons to the left of the topic. (See [Icon Legend](#) for more information.)

Moving to the right, the information provided in the second level of the Rules node is:

- Icon
- Code Element
- RuleNumber
- (Number of Occurrences)
- Rule Title



For example, the highlighted occurrence in the screen above, is one occurrence of forty-six for Rule 2609 – 'Consider using a parameter list to reference variables outside of this cursor', belonging to the 'Cursor' Code Element group.

The numbers in parentheses represent where the occurrence appears in the code:

(453, 38) = Line 453, Column 38 of the code

By observing the icons in the tree, it can be determined that this rule falls under the Maintainability Objective, and a Warning Severity.

Related Topics

[Statistical Analysis](#)

[Properties](#)

[Reports](#)

Statistical Analysis

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

There is a statistics column in the stand-alone CodeXpert and a tab in the CodeXpert panel within the Editor that displays a statistical analysis of your code.

The Statistics tree contains three sections that highlight program units that exceed criteria for:

- Computational Complexity (Halstead Volume)
 - Cyclomatic Complexity (McCabe's)
 - Maintainability Index
-

Related Topics

[Rules](#)

[Properties](#)

[Reports](#)

Properties

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

The Properties tree contains a profile analysis of the PL/SQL. Categories include:

- Cursor Analysis
 - Declaration Analysis
 - DML Analysis
 - Exception Handling Analysis
 - Flow of Control Analysis
 - Module Analysis
 - Oracle Version Dependencies
 - Procedure/Function Analysis
 - Complexity Analysis
-

Related Topics

[Rules](#)

[Statistical Analysis](#)

[Reports](#)

Overriding Statements

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

You can override specific occurrences. An overridden occurrence is not counted against the total statements 'Flagged'.

This feature is only available in a single-user environment and will be overwritten if source control is used and another user runs an analysis on the code.

Toad will add a comment to your code to mark that you want to override certain rules or occurrences of rules violations.

To override a rule

1. Select the rule you want to override.
2. Right-click and select **Override Rule**.

To override an occurrence

1. Select the occurrence of the rule you want to override.

2. Right-click and select **Override Occurrence**.

That occurrence will no longer display in the tree structure.

Related Topics

[Code Xpert](#)

[Rules and Statements Breakdown](#)

Reports Tab

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

The Reports tab contains graphical displays of the CodeXpert analysis. These reports can be saved as HTML documents, printed, or viewed in a separate viewer through the functionality of the Report Toolbar.

Reports available from this tab include:

- Rules Summary - The Rules Summary displays any best practices rules violated in a graphic form. (See [Configuring RuleSets](#).)
 - CRUD Matrix - The CRUD (Create (i.e. INSERT), Retrieve (i.e. SELECT), Update and Delete) matrix, can be used to analyze the consistency of functional requirements. This analysis helps to identify performance bottlenecks in the form of unused tables, as well as tables used heavily.
 - Code Metrics - Code metrics analyze your code for performance issues under the Halstead Volume (computational complexity), McCabe's (cyclomatic complexity), number of statements and Maintainability Index (MI). For more information on any of these metric scales, click the appropriate header in the first chart for a detailed description.
-

Related Topics

[Results Tab](#)

[Rules](#)

[Statistical Analysis](#)

[Properties](#)

[Reports](#)

Configuring RuleSets

Configuring RuleSets

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

The selected CodeXpert RuleSet determines what rules will or will not be included in a particular Analysis.

RuleSets are configured through the CodeXpert RuleSet window. For more information on creating your own rulesets and otherwise using your ruleset window, see [RuleSet window](#).

To configure rulesets

1. Click the **Launch RuleSets**  button found on the CodeXpert General Toolbar.
2. Check and clear the checkboxes for the rules you want to include or exclude.

3. Click **Close**.
-

Related Topics

[RuleSet Window](#)

[RuleSet Toolbar](#)

[Rules Tab Toolbar](#)

[Summary Tab Toolbar](#)

[Creating a RuleSet](#)

Configuring RuleSets

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

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Related Topics

[RuleSet Window](#)

[RuleSet Toolbar](#)

[Rules Tab Toolbar](#)

[Summary Tab Toolbar](#)

[Creating a RuleSet](#)

RuleSet Window

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

The RuleSet Window is divided into two panels with the right panel containing two tabs.

Left Panel

The left panel contains the RuleSet list, a list of all available RuleSets for CodeXpert. Every RuleSet is uniquely identified by its' properties and will be one of two types – User-defined or Quest-defined.

Icon	Meaning
	Quest-defined RuleSet
	User-defined RuleSet

Right Panel

The right panel contains two tabs: Rules and Summary.

Rules Tab

The rules tab contains the Rules List, a list of all available rules for the CodeXpert. Every rule is identified by a rule number. These can be sorted, found and configured to use a full SQL Scan from the [Rules Tab toolbar](#).

To view the advice tip for a rule

- Double-click the item in the list.

Summary Tab

The Summary tab contains a graphical display of the RuleSet's properties and characteristics. This summary can be saved as an HTML document, printed, or viewed in a separate viewer. See the [Summary Tab Toolbar](#) topic for more information.

Related Topics

[Configuring RuleSets](#)

[RuleSet Toolbar](#)

[Rules Tab Toolbar](#)

[Summary Tab Toolbar](#)

[Creating a RuleSet](#)

RuleSet Toolbars

RuleSet Toolbar

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.



Button	Command
	Create new RuleSet. Only available if have the RuleSet node active.
	Deletes the selected user-defined RuleSet. Note: Toad RuleSets cannot be deleted.
	Load an existing RuleSet.
	Save RuleSet.
	Save RuleSet with new name.



Save all RuleSets.

Related Topics

[Configuring RuleSets](#)

[RuleSet Window](#)

[Rules Tab Toolbar](#)

[Summary Tab Toolbar](#)

[Creating a RuleSet](#)

RuleSet Toolbar

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.



Button	Command
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	Deletes the selected user-defined RuleSet. Note: Toad RuleSets cannot be deleted.
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	Save RuleSet.
	Save RuleSet with new name.
	Save all RuleSets.

Related Topics

[Configuring RuleSets](#)

[RuleSet Window](#)

[Rules Tab Toolbar](#)

[Summary Tab Toolbar](#)

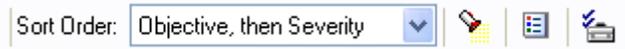
[Creating a RuleSet](#)

Rules Tab Toolbar

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

From the Rules tab toolbar, you can:

- Change the sort order for the selected rule.
- Find a rule by rule number
- View the icon legend



Button	Command
	Select a sort order from the drop down menu. Find a rule by its number.
	View icon legend .
	Open CodeXpert Options.

Related Topics

[Configuring RuleSets](#)

[RuleSet Window](#)

[RuleSet Toolbar](#)

[Summary Tab Toolbar](#)

[Creating a RuleSet](#)

Summary Tab Toolbar

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.



Button	Command
	Launch Summary in a separate viewer
	Save the Summary to a variety of HTML formats
	Print Preview
	Print

Related Topics

[Configuring RuleSets](#)

[RuleSet Window](#)

[RuleSet Toolbar](#)

[Rules Tab Toolbar](#)

[Creating a RuleSet](#)

Creating RuleSets

Creating a RuleSet

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

You can create custom rulesets that include the rules your company wants code to follow. Rulesets can be organized into folders under the RuleSets node on the RuleSet tree.

To create a new folder

- Right-click in the tree structure and then select **New Folder**. Name your folder.

A RuleSet is created using one of two methods. Both methods utilize the [Create Ruleset wizard](#). You can:

- Create from a blank RuleSet
- Create from a template

To create from a blank RuleSet

1. Select the folder or node where you want your ruleset created.
2. In the RuleSet Toolbar, click the **Create New RuleSet**  button.

To create from a template

1. Select the folder or node where you want your ruleset created.
2. Near the **New RuleSet**  button, click the dropdown arrow to the right of the button.
3. Select an existing RuleSet to use as a template. All rules selected in the existing RuleSet are selected for the new template.

Related Topics

[Configuring RuleSets](#)

[RuleSet Window](#)

[RuleSet Toolbar](#)

[Rules Tab Toolbar](#)

[Summary Tab Toolbar](#)

[RuleSet Properties](#)

Creating a RuleSet

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-

Related Topics

[Configuring RuleSets](#)

[RuleSet Window](#)

[RuleSet Toolbar](#)

[Rules Tab Toolbar](#)

[Summary Tab Toolbar](#)

[RuleSet Properties](#)

Create Ruleset Wizard

If the provided rulesets do not meet your needs, you can create your own rulesets.

1. Click the **Configure Ruleset**  button. The configuration window opens with a ruleset selected.
2. Click the **Rule Sets** node.
3. Click the **New Rule Set**  button.
Note: If you want to base your ruleset on another ruleset, click the dropdown button beside the New Rule Set button and then select the ruleset you want to use as a template. Rules will be pre-selected using this method.
4. Enter a title in the **Rule Set Title** box.
5. Toad creates a filename for you based on your title and stores it in the Rulesets folder. You can change this if desired.

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6. The author is automatically filled in from your computer information. If this is not correct, change it now.
7. Enter any comments about your ruleset.
8. Click **Next**.
9. Change the sort order if desired.
10. Select the rules you want to enforce.
11. Click **Finished**.

The ruleset is now listed at the bottom of the navigation panel, with the User-created  icon identifying it.

RuleSet Properties

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

When a RuleSet is newly created, it appears as a generic node on the RuleSet tree, usually possessing a name such as **RuleSet0***. This indicates that the properties have not been set for this RuleSet and they must be done before a save can be performed.

When the RuleSet has had properties set, rules selected, and been saved it is available for selection and use in the RuleSet drop-down found on the CodeXpert General Toolbar.

To select RuleSet properties

1. Right-click the **RuleSet** and select **Properties**.
2. Set the properties:
3. Rule Set Title – the title is the name identifying the RuleSet in the tree
4. Author – the author of the RuleSet
5. Comments – comments about the RuleSet can be entered here

[Run CodeXpert from the Command Line](#)

Run CodeXpert from the Command Line

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

You can run CodeXpert from the command line and create a CodeXpert report that you can access from any location, with or without Toad.

To run CodeXpert from the command line, you must first set up a parameter file. Then you can run CodeXpert. After completion, an html, an xml, and a bin subfolder are placed in the output directory you specify in the parameter file.

To run CodeXpert from the command line

1. Set up your parameter file as described in [CodeXpert Parameter File](#).
2. Run CodeXpert from the command line using the following syntax:
Toad.exe -CX C:\CMDLineCodeXpertINIFile.ini
3. View the html file located in the OUTPUT DIRECTORY you specified.

Note: The web page created (html file) is best viewed in MS Internet Explorer.

Scheduling CodeXpert

When you have created a CodeXpert ini file, you can create a small program to then schedule the scan. Your application should do the following:

1. Dynamically create the **Command Line CodeXpert INI** file.
2. Right-click in the **CodeXpert** window and select **Add to Task Scheduler**
3. Enter the INI file name in the **Command Line Parameter** box.
4. Select or enter an output directory in the **Output Directory** box.
5. Select one or more output type: **HTML, XML, or DB Inserts**.
6. Click **OK**.

Command Line Error Log

If there are errors running CodeXpert from the command line, Toad stores a log of these in User Files\CXCmdLineErrors.log. Any errors you would have received in the CodeXpert window are sent to the log file, as well as start and stop times. If no errors occurred, the log will state that as well.

You can use this log file to determine how and why the job failed, and also as documentation as to when and how it ran.

Related Topics

[CodeXpert Parameter File](#)

Run CodeXpert from the Command Line

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3. Enter the INI file name in the **Command Line Parameter** box.
4. Select or enter an output directory in the **Output Directory** box.
5. Select one or more output type: **HTML**, **XML**, or **DB Inserts**.
6. Click **OK**.

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You can use this log file to determine how and why the job failed, and also as documentation as to when and how it ran.

Related Topics

[CodeXpert Parameter File](#)

CodeXpert Parameter File

You can create the parameter file by hand, or you can generate it from within Toad.

Generating a Parameter file

If you generate it from within Toad, all passwords will be encrypted and the file will be more secure than creating it by hand. It is recommended that you have Toad generate parameter files for you.

Note: If you are planning to schedule Toad to run CodeXpert, you must create the parameter file manually.

To generate a parameter file

1. Open the CodeXpert window:
2. From the **Database** menu, select **Diagnose|CodeXpert**.
3. From the **Schema Browser**, right-click on an appropriate object and select **Send to CodeXpert**.
2. In the grid, select the objects or files you want to run from the command line.
3. Right-click and select **Create Command Line Parameter File**.
4. Choose a directory in which to save the parameter file and then set options as desired.
5. Click **OK**.

Creating a parameter file manually

If you create your own parameter file, it should follow the following format:

NOTE: If you create your own file, the `PASSWORDS_ENCRYPTED` option should be set to "0" so you can enter passwords. This is not secure.

```
[OPTIONS]
```

```
RULESET_FILENAME=C:\Work\Toad\RuleSets\All12.rst
```

```
OUTPUTDIR=C:\CodeXpertResults
```

```
CODEXPERT_SCAN=1
```

```
SQL_SCAN=1
```

PASSWORDS_ENCRYPTED=0

[CONNECTIONS]

LOGIN1=schema/password@dbalias

LOGIN2=schema/password@dbalias

[OBJECTS]

OBJECT1=LOGIN1, USERNAME, OBJECTNAME

OBJECT2=LOGIN1, USERNAME, OBJECTNAME

OBJECT3=LOGIN2, USERNAME, OBJECTNAME

[FILES]

FILE1=C:\MyProcedure.sql

FILE1=C:\MyFunction.sql

Configuration Variable	Meaning
RULESET_FILENAME=	The path to the ruleset you want to use.
OUTPUTDIR=	The path to the directory where you want the output stored.
CODEXPRT_SCAN=	1 runs CodeXpert, 0 does not.
SQL_SCAN=	1 runs a SQL Scan, 0 does not.
CONNECTIONS	Specify any connections you want to use. You must specify at least one connection.
OBJECTS	Specify database objects to run the scan against in the format LOGIN <i>n</i> , USERNAME, OBJECTNAME.
FILES	Specify any files you want to run the scan against.

Note - you can specify any number of Objects, and Files to scan, in any combination.

Related Topics

[Run CodeXpert from the Command line](#)

SQL Scanning

SQL Scanning Overview

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

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Including a SQL Scan within your ruleset can find additional ways to improve your code. You can attach a SQL scan to all rulesets, or you can attach it to limited numbers of them.

To include a SQL Scan

1. Click on the **Code Xpert** tab at the bottom of the editor.
 2. Select the **Include SQL Scan**  toggle button.
 3. Click the **SQL Scanning Options**  button and select any [SQL Scanning Options](#).
 4. Run CodeXpert against the chosen code with whatever ruleset, if any, you want to use.
-

Related Topics

[SQL Scanning Overview](#)

[SQL Scanning Options](#)

[SQL Classification Tab](#)

[SQL Scanning Tab](#)

[Applying the Classification Options](#)

SQL Scanning Results

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

When you choose a Ruleset that includes SQL Scanning, the results nodes in the [Report tab](#) will include a SQL Scan Results node.

Results are divided into four areas:

- Invalid SQL
- Problematic SQL
- Complex SQL
- Simple SQL



The screenshot shows a tree view of SQL Scan Results. The root node is 'SQL Scan Results'. It has four sub-nodes: 'Invalid SQL', 'Problematic SQL', 'Simple SQL', and 'Complex SQL'. The 'Problematic SQL' node is expanded, showing two entries: '(1, 1)' and '(10, 1)'. The '(1, 1)' entry is linked to the SQL statement 'SELECT * FROM EMP'. The '(10, 1)' entry is linked to the SQL statement 'select 1 from emp (Double-click for more information)'. The 'Simple SQL' node is also visible but not expanded.

The numbers in parenthesis refer to the location of the SQL statement in the code. For example, the notation (10,1) means that the code in question begins at line 10, column 1.

In addition, if Toad has had to convert any code (see SQL Conversion Overview), it will appear here. The notation **Double-click for more information** displays. When you double click on that line, a dialog with details on the conversion appears. Any other pertinent information will display in the line below the entry.

SQL Scanning Conversions

SQL Conversion Overview

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

When the scanning process identifies a SQL statement, it retrieves the execution plan. If it is unable to retrieve the execution plan, it checks to see if a SQL conversion can be applied to the SQL statement in order to render the SQL statement as a valid standalone SQL statement. The following conversions may be applied:

- [Indicator Conversion](#)
- [External Parameter Conversion](#)
- [PL/SQL Conversion](#)
- [Date Conversion](#)
- [COBOL Conversion](#)
- [Local Variable Conversion](#)

If any of the above conversions were applied to the SQL statement during the scanning process, the results panel shows what conversions were applied and what changes were made to the SQL text.

Related Topics

[Indicator Conversion](#)

[External Parameter Conversion](#)

[PL/SQL Conversion](#)

[Date Conversion](#)

[COBOL Conversion](#)

[Local Variable Conversion](#)

Indicator Conversion

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

For Pro*C or similar programming language every host variable can be associated with an optional indicator variable. There are two cases in which the Indicator Conversion is applied by the SQL scanning algorithm.

INDICATOR keyword found in an INTO clause

When the INDICATOR keyword is found in an INTO clause, it is concatenated with the variable name. For example:

Original SQL statement

```
SELECT EMP_ID, EMP_NAME
      INTO :v_empid INDICATOR :I_emp_id,
           :v_empname INDICATOR :I_empname
      FROM EMPLOYEE
     WHERE EMP_ID = 100
```

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After conversion

```
SELECT EMP_ID, EMP_NAME
  INTO :v_empid_INDICATOR:I_emp_id,
       :v_empname_INDICATOR:I_empname
  FROM EMPLOYEE
 WHERE EMP_ID = 100
```

TWO Variables found in the INTO clause without a separator

When two variables are found in the INTO clause without a comma separator, it is concatenated together. For example:

Original SQL statement

```
SELECT EMP_ID, EMP_NAME
  INTO :v_empid :I_emp_id,
       :v_empname :I_empname
  FROM EMPLOYEE
 WHERE EMP_ID = 100
```

After conversion

```
SELECT EMP_ID, EMP_NAME
  INTO :v_empid_:I_emp_id,
       :v_empname_:I_empname
  FROM EMPLOYEE
 WHERE EMP_ID = 100
```

Related Topics

[SQL Conversion Overview](#)

[External Parameter Conversion](#)

[PL/SQL Conversion](#)

[Date Conversion](#)

[COBOL Conversion](#)

[Local Variable Conversion](#)

External Parameter Conversion

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

In some source codes, a question mark (?) is used to define external parameters. In order to make it possible to use unique referencing for individual parameter, the SQL Scanner adds a number so that each parameter has a unique name within the SQL statement. For example:

Original SQL statement

```
SELECT EMP_ID
  FROM EMPLOYEE
 WHERE EMP_ID = ?
    AND EMP_NAME = ?
```

After conversion

```
SELECT EMP_ID
  FROM EMPLOYEE
 WHERE EMP_ID = ?1
    AND EMP_NAME = ?2
```

Related Topics

[SQL Conversion Overview](#)

[Indicator Conversion](#)

[PL/SQL Conversion](#)

[Date Conversion](#)

[COBOL Conversion](#)

[Local Variable Conversion](#)

PL/SQL Conversion

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

This conversion simulates the behavior of PL/SQL by adding a `/*+CHOOSE*/` hint when the optimizer_mode is FIRST_ROWS. For example:

Original SQL statement

```
SELECT EMP_ID
  FROM EMPLOYEE
 WHERE EMP_ID = 100
```

After conversion

```
SELECT /*+CHOOSE*/ EMP_ID
  FROM EMPLOYEE
 WHERE EMP_ID = 100
```

Related Topics

[SQL Conversion Overview](#)

[Indicator Conversion](#)

[External Parameter Conversion](#)

[Date Conversion](#)

[COBOL Conversion](#)

[Local Variable Conversion](#)

Date Conversion

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

The Date conversion adds the TO_DATE function to a date variable parameter. This conversion is handled in the following manner:

If there is an "Inconsistent datatype" error returned when the execution plan is retrieved from your original SQL, then the SQL Scanner checks for a variable calculation using a date (for example: var_date – date_field) and applies the conversion since only a date can perform a calculation using another date. If there is still an "Inconsistent datatype" error, then the SQL Scanner checks all remaining variable names for "%date%" and converts all variables whose name includes the word "date", (for example datefield – lastdateused).

An expression with the pattern date_field – var_a, where the variable name is on the right side of the expression and does not include the word "date", is not converted. This is because the variable can be a date, a number, or even a string. Oracle can perform an implicit conversion on this variable or on the result of this expression, therefore making it difficult to detect if the variable on the right-side of the expression is actually a date.

The following are examples when the conversion is applied.

Example 1

Original

```
SELECT 1 FROM dual WHERE a - sysdate = 1
```

Conversion

```
SELECT 1 FROM dual WHERE to_date(a) - sysdate = 1
```

Example 2

Original

```
SELECT 1 FROM dual WHERE sysdate - mydate = 1
```

Conversion

```
SELECT 1 FROM dual WHERE sysdate - to_date(mydate) = 1
```

Example 3

Original

```
SELECT 1 FROM dual WHERE sysdate - a = 1
```

Conversion

No conversion

Related Topics

[SQL Conversion Overview](#)

[Indicator Conversion](#)

[External Parameter Conversion](#)

[PL/SQL Conversion](#)

[COBOL Conversion](#)

[Local Variable Conversion](#)

COBOL Conversion

The COBOL conversion searches for three items within the syntax of a SQL statement that are allowed in the COBOL, but are not valid SQL syntax: 1) a dash or minus in a variable name, 2) comments in the middle of the SQL statement, and 3) the]] (double right square bracket) as the concatenate symbol.

Conversion for variable name

If a variable name contains "-" minus sign, then it will be replaced with an "_".

Conversion for comment

If the 7th column of the line is an "*" (asterisk) then the complete line will be recognized as a line comment.

Conversion for concatenate character

If "]]" (two right square brackets) are used to concatenate column names, they will be replaced with a "+".

For example:

Original SQL statement:

```
SELECT * FROM EMPLOYEE
        * Get the department number
WHERE EMP_ID > :employee-id
AND ENAME]]JOB = :name-job
```

After conversion:

```
SELECT *
FROM EMPLOYEE --      * Get the department number
WHERE EMP_ID > @employee_id
AND ENAME || JOB = @name_job
```

Note: If your COBOL file has tags at the beginning of the lines of code, you need to use the "Number of characters to be skipped at the beginning of every line for all files" option found on the SQL Scanner tab page in the Preferences window.

This conversion is only applied when the Scanner Job is added to the Job Manager window using the COBOL option under the Source Codes tab in the Add Jobs window.

Related Topics

[SQL Conversion Overview](#)

[Indicator Conversion](#)

[External Parameter Conversion](#)

[PL/SQL Conversion](#)

[Date Conversion](#)

[Local Variable Conversion](#)

Local Variable Conversion

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

The local variable conversion is only applied to the Single Command Line Dynamic (SCLD) SQL files and database objects.

If a local variable is detected in the SQL statement, the SQL Scanner encloses the variable name with "&[" and "]"

For example:

Original source SQL statement before scanning:

```
"SELECT " + VEMPID + " FROM EMPLOYEE WHERE EMP_ID > 100"
```

After conversion:

```
SELECT &[VEMPID] FROM EMPLOYEE WHERE EMP_ID > 100
```

Note: The local variables in a scanned SQL statement should be treated as replacement or substitute variables rather than bind variables. Therefore, you should hard code the values before you optimize the SQL statement. The reason for hard coding the values is that the local variables may be literals and when the application is run, these values are replaced before the SQL is sent to the database. That's why the SQL Scanner uses "&[" and "]" to differentiate the local variables from the bind variables.

This conversion is only applied if the SCLD option is selected from the Summary tab page in the Add Jobs window or from the Modify option from the Pop-up menu in the Job Manager window.

Related Topics

[SQL Conversion Overview](#)

[Indicator Conversion](#)

[External Parameter Conversion](#)

[PL/SQL Conversion](#)

[Date Conversion](#)

[COBOL Conversion](#)

SQL Scanning Options

Code Xpert Options

General Options

General options are applicable to all of the Code Xpert.

Prompt for CodeXpert Run names

When checked, Toad will prompt you for a name to use for the database insert. If not checked, Toad will insert it with a number followed by the date and time stamp.

The default is checked.

Use Central Repository for DB Inserts

When this option is checked, Toad will use a central database for database inserts.

If not checked, it will use the active connection. The default is unchecked.

To change the repository connection

1. Select Use Central Repository for DB Inserts.
2. Click **Change**.
3. Either select a connection from the list of current connections
or
Click **New** and select a connection from the login window.
4. Click **OK**.

SQL Scanning Options

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

Scanning

Scanning options are designed to help you specify how and what the scanner will scan. In this way, you can choose to ignore duplicate statements, skip some SQL, and so on. (See [SQL Scanning tab](#) for details.)

SQL Classification Options

The classification of SQL statements is designed to help you quickly identify the SQL statements that are likely to be causing performance problems in your database environment. This classification lets you specify the criteria to analyze your SQL statement. A problematic SQL statement indicates potential performance problem because the SQL statement has characteristics that can contribute to poor performance. Optimizing these SQL statements gives you the best possibility for improving the database performance.

These classification settings are used to set the criteria for Simple, Complex, and Problematic SQL statements. (See [SQL Classification tab](#) for details.)

To select SQL Scanning options

- Click the **Configure Options for Optimization Scan**  button on the CodeXpert toolbar.

Related Topics

[SQL Scanning Overview](#)

[SQL Classification Tab](#)

[SQL Scanning Tab](#)

[Applying the Classification Options](#)

Scanning tab

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

Skip SQL within comments

Specify that the scanning algorithm ignore any SQL statement within comments using the /* */, // or -- comment format. Otherwise, the scanning algorithm finds SQL statements that are not currently being executed in the application. It may also attempt to build a SQL statement if it finds the word SELECT, INSERT, UPDATE, or DELETE within the text of a comment.

Skip SQL that only involves the SYS.DUAL table

Specify to ignore any SQL statement that only references the SYS.DUAL table.

Ignore duplicate SQL statements

Specify to include a SQL statement only once in the scanning results when it is found multiple times in the text.

Whole word matching for the first SQL keyword

Specify to search for SELECT, INSERT, UPDATE, or DELETE as a whole word. When this option is selected, these keywords must be preceded and followed by a space or end of line character and, therefore, the SQL Scanner will not find the word INSERT in text like PROCEDUREINSERT and then attempt to build a SQL statement from it.

Maximum scanned word size (Bytes)

Specify the largest size (in bytes) for scanned word. If a word is larger than this size, the SQL is ignored, and the scan resumes in the next position.

The default is 1024KB. Choose from 30 to 9,999,999.

Related Topics

[SQL Scanning Overview](#)

[SQL Scanning Options](#)

[SQL Classification Tab](#)

[Applying the Classification Options](#)

SQL Classification Tab

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

Classification lets you specify the criteria to analyze your SQL statement. A problematic SQL statement indicates potential performance problem because the SQL statement has characteristics that can contribute to poor performance. Optimizing these SQL statements gives you the best possibility for improving the database performance.

Simple SQL

Number of table scan operations less than

This read-only field indicates the number of table scan operations referenced in the execution plan. If the total number of table scan operation is less than this value, then this SQL statement is classified as Simple. This value is the same as the lower limit of the Complex table scan operations range.

The default is 2.

Complex SQL

Number of table scan operations

Specify the number of table scan operations referenced in the execution plan for Complex SQL statements. The default is 2 / 3 and the range is 2 to 99.

Including SYS.DUAL table

Select this box to include the SYS.DUAL table when counting the number of tables referenced by the SQL statement.

With Full Index Scan

Specify whether SQL statements with full index scans are classified as Complex SQL statements.

Problematic SQL

Number of table scan operations greater than

This is a read-only field indicating the number of table scan operations referenced in the execution plan. If the total number of table scan operation is greater than this value, then the SQL statement is classified as Problematic. This value is the same as the upper limit of the Complex table scan operations range.

The default is 3.

With full table scan

Specify to classify, as Problematic, a SQL statement with one or more full table scans when the table size is greater than or equal to the defined table size (in Kbytes) or the specified number of rows. For a detailed explanation for setting the table size or number of rows see the Full Table Scan Threshold topic.

Table size

The default is 8 and the range available for selection is 8 to 9,999,996. With the Table size (KBytes) option, the unit of comparison is Kbytes. The value specified for the Table size (KBytes) option should be divisible by 4.

Number of rows

Select either Table size or the Number of rows in the table to determine how large the table must be before the SQL statement is classified as Problematic.

The default is 1000.

Note: If a more precise table size calculation is required, then the use of the Table size (KBytes) is recommended.

Including SYS.DUAL table

Specify to investigate the full table scans referencing the SYS.DUAL table.

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With full table scan iterated by nested loop

Specify to classify as Problematic, SQL statements with a full table scan inside a nested loop. This classification depends upon the size of the table. For a detailed explanation for setting this table size or number of rows see the Full Table Scan Threshold topic.

Table size

If Table Size (KB) is selected, then in the size box, enter the table size in KB. The default is 8. You can select a size up to 9,999,996. With the Table size (KBytes) option, the unit of comparison is Kbytes. The value specified for the Table size (KBytes) option should be divisible by 4.

Number of rows

If you have selected **Number of rows** then in the size box, enter the number of rows for the table. The default is 8. You can select a size up to 9,999,996.

Note: If a more precise table size calculation is required, then the use of the Table size (KBytes) is recommended.

Include SYS.DUAL table

Specify to investigate the full table scans referencing the SYS.DUAL table.

Retrieve table size by counting: SYS.DBA_SEGMENTS

To calculate the table size using SYS.DBA_SEGMENTS, the SQL Scanner counts the total number of bytes allocated for a table. This information is obtained with the following SQL statement:

```
SELECT SUM(BYTES)/1024 AS "KB"
FROM SYS.DBA_SEGMENTS
WHERE OWNER = :OWNER
AND SEGMENT_NAME = :TABLE_NAME
AND SEGMENT_TYPE LIKE 'TABLE%'
```

Retrieve table size by counting: System tables

To calculate the table size the SQL Scanner utilizes the information on table blocks. This information can be obtained with the following SQL statement:

```
SELECT SUM(SEG.BLOCKS * TS.BLOCKSIZE)/1024 AS "KB"
FROM SYS.USER$ USR,
SYS.OBJ$ OBJ,
SYS.TS$ TS,
SYS.SYS_OBJECTS TAB,
SYS.SEG$ SEG
WHERE SEG.FILE# = TAB.HEADER_FILE
AND SEG.BLOCK# = TAB.HEADER_BLOCK
AND SEG.TS# = TAB.TS_NUMBER
AND SEG.TYPE# = TAB.SEGMENT_TYPE_ID
AND SEG.TS# = TS.TS#
AND TAB.OBJECT_ID = OBJ.OBJ#
AND TAB.OBJECT_TYPE_ID = OBJ.TYPE#
AND OBJ.OWNER# = USR.USER#
AND TAB.OBJECT_TYPE_ID IN (2, 19, 34)
AND USR.NAME = :OWNER
AND OBJ.NAME = :TABLE_NAME
```

Related Topics

[SQL Scanning Overview](#)

[SQL Scanning Options](#)

[SQL Scanning Tab](#)

[Applying the Classification Options](#)

Applying the Classification Options

Note: This extended Toad feature is only available in Toad for Oracle XPert edition.

When scanning, you can specify if full table scans should be analyzed in execution plans to categorize SQL statements as Problematic.

Full Table Scan Threshold

Since each database environment is unique, you can specify the threshold (size of the table) for the full table scan to be considered a problematic operation. If the full table scan threshold is exceeded and the execution plan has a full table scan operation, then the SQL statement is classified as Problematic.

Default values

The default table size threshold for the full table scan operation is 8 KB. This threshold may be too low for production systems. It is recommended to review the [SQL Classification options](#) before using the SQL Scanner.

Calculating Table Size

To calculate the table size that is compared against the full table scan threshold, the SQL Scanner uses one of the following methods depending on your selection in the [Retrieving table size by counting](#) option:

- Method 1 - Utilizing the table information from `SYS.DBA_SEGMENTS` system view
- Method 2 - Utilizing the table information from the system tables `SYS.SEG$`, `SYS.OBJ$`, `SYS.TS$`, `SYS.SYS_OBJECTS`, and `SYS.USER$`.

The table size reported by each of these methods may differ according to the information available in Oracle in the system view or tables utilized. The performance of retrieving the table information under each method could be different according to the specific database environment, thereby affecting the time it takes to scan.

To use `SYS.DBA_SEGMENTS` or system tables, select the corresponding option in the [Problematic SQL section](#) of the SQL Classification Preferences.

Example – Determining the Full Table Scan threshold using `SYS.DBA_SEGMENTS`

This example illustrates how it was determined what number of Kbytes to use for the Full table scan threshold to classify SQL statements. It was decided that a full table scan on the `EMPLOYEE` table was not a performance problem for this database and should not be classified as Problematic.

First, it was decided that a full table scan on the `EMPLOYEE` table was not a performance problem for this database and should not be classified as a Problem.

Second, the table size of the table `EMPLOYEE` was obtained by running the SQL statement from Method 1 above using `SYS.DBA_SEGMENTS`.

```
SELECT SUM(BYTES)/1024 AS "KB"
```

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```
FROM SYS.DBA_SEGMENTS  
WHERE OWNER = OWNER_NAME  
      AND SEGMENT_NAME = EMPLOYEE  
      AND SEGMENT_TYPE LIKE 'TABLE%'
```

The result of this SELECT statement showed that the table size for the table EMPLOYEE is 64,804 KB.

Third, in the CodeXpert – SQL Classification Options, the SYS.DBA_SEGMENTS option was selected and the full table scan threshold was set to 64,800 KBytes (or slightly higher to allow for growth).

Related Topics

[SQL Scanning Overview](#)

[SQL Scanning Options](#)

[SQL Classification Tab](#)

[SQL Scanning Tab](#)

Database Administration

Audit SQL/Sys Privs

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Audit SQL/Sys Privs window displays the audit monitoring options for SQL Statement Objects, Reserved Words and System Privileges in the database.

From this window, you can enter and modify monitoring levels for each type, or groups of types. You can also view the audit trail records for the selected schemas.

To use auditing functionality within Toad, AUDIT_TRAIL must be set to DB.

Note: Certain privileges are required to use this screen. These include:

- To audit occurrences of a SQL statement, you must have the AUDIT SYSTEM privilege.
 - To audit operations on a schema object, the object you choose for auditing must be in your own schema or you must have AUDIT ANY system privilege. In addition, if the object you choose for auditing is a directory object, even if you created it, then you must have AUDIT ANY system privilege.
-

Audit SQL/Sys Privileges Toolbar

The SQL/Sys privileges toolbar has several, easy to use features.



Button	Command
	Change active connection
Schema	Choose schema
Audit Options	View Audit Options
Audit Trail	View Audit Trail

To view audit details

1. From the **Database** menu, select **Administer | Audit SQL/Sys Privs**.
2. From the Schema drop down menu, select the schema you want to audit.
3. Click either **Audit Options**
Or

Audit Trail to see the desired information.

NLS Parameters

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window is used to view the Session, Instance, and Database parameter settings, and to change the Session and/or Instance parameters.

The window includes tabs for **Session**, **Instance**, and **Database**.

Access NLS Parameters

- From the **Database** menu, select **Administer|NLS Parameters**.

To change a NLS (National Language Support) setting

- Double-click a **parameter** and enter the new setting in the popup window.
- Single-click the parameter line, click the **Edit** button, then enter the new setting in the popup window.

If a parameter cannot be edited, the Edit button will be disabled. Session parameters are all editable. Other parameters may not be editable.

Notice that changing a value in one cell can cause a change in other cells. For example, if you change the NLS_TERRITORY from America to Japan, notice the NLS_CURRENCY symbol changes from the dollar to the yen.

Accessing the Server Side Install Wizard

In order to install server side objects, you will need to have access to either the account for the Toad user, the account for the schema where you are installing them, or an account with the DBA role.

To install server side objects

1. From the Database|Administer menu, select **Server Side Objects Wizard**. The wizard appears.
2. Select what you want to do:
 - [Install, upgrade or remove objects for all users to share](#)

Use this to create and administer a special schema called TOAD. This schema gives you a central location from which to maintain the tables needed to run the above-mentioned portions of Toad. You could create some of these objects (Explain Plan and Profiler) in every schema in which you intend to use them (in other words, every schema would have these same tables, see below) but if you have a large number of users, using the Toad schema is more efficient. In addition, Toad Security, ObjectName, and Team Coding must reside in the Toad schema.

- [Install, upgrade or remove objects for an individual schema to use](#)

If you do not want to create the Toad user, you can create and administer certain objects in the schemas where you intend to use them. This may be more efficient if you have a small number of users for these special features and you do not want all of your users to have access.

- [Create setup scripts without a database connection](#)

You can create the scripts to set up the Toad schema, and so on without access to the database connection you need. Then you can log in later and run the scripts.

3. Click **Next**.
-

Toad Features Security

This feature restricts Toad users from having access to specific Toad features. By default users are granted access to all features of Toad. You can restrict individuals or groups of users from accessing some Toad features. In addition, you can make Toad read-only for individuals or groups of users.

Note: Due to a completely redesigned architecture for Toad Security, if you are upgrading to Toad 7.3 or higher and have already set up your security features in a previous version of Toad, you will need to recreate the security tables and assign restrictions based on the new format.

Caution: Toad Security Read-only only affects Base Toad. If you have the Debugger or the DBA module, those module components will remain fully accessible.

To set up the security mechanism

- Run the [Server Side Objects Install Wizard](#) to create the Toad_RESTRICTIONS table in the Toad schema. This is REQUIRED to be in the Toad schema, not another schema with synonyms pointing back.

Note: If you are using a prior version of Toad as well as 7.3, the old Toad Security tables will not be deleted by using this script. This merely adds the new table used by Toad 7.3.

1. Run **Toad**, log in as the **DBA_USER** (as you set it in step 1), and then select the **Administer|Toad Security** menu item to bring up the Toad Features Security window.
 1. Select the user or role, and then select the features you want to deny to that user or role.
 - All other Toad Security features will be granted to this user. Since other non-DBA users only have SELECT privileges to the Toad_RESTRICTIONS table, they cannot make changes to the security.
 - Click the **Grant Select** button so that the user or role can see the Toad.Toad_RESTRICTIONS table.
 - If the user cannot "see" the Toad_RESTRICTIONS table (in other words, they do not have SELECT access granted to them), then they have FULL access to all Toad features.
 - If the user has SELECT privilege on the Toad_RESTRICTIONS table, then the security is in effect.
 - Move any commands you do not want the user to have from the **Features** list to the **Restricted Features** list. Not all buttons, menus, or functions in Toad are contained within this security scheme. If you need to restrict other functionality, please let us know.
1. When you have completed restricting features, click **OK** to save your changes. You can also create collections of Toad features using existing Oracle roles. Grant

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the features to a role (for example, DEVELOPER_ROLE), then those Toad users will get the collections of Toad functionality without having to set up the same list of Toad features for multiple users.

Example

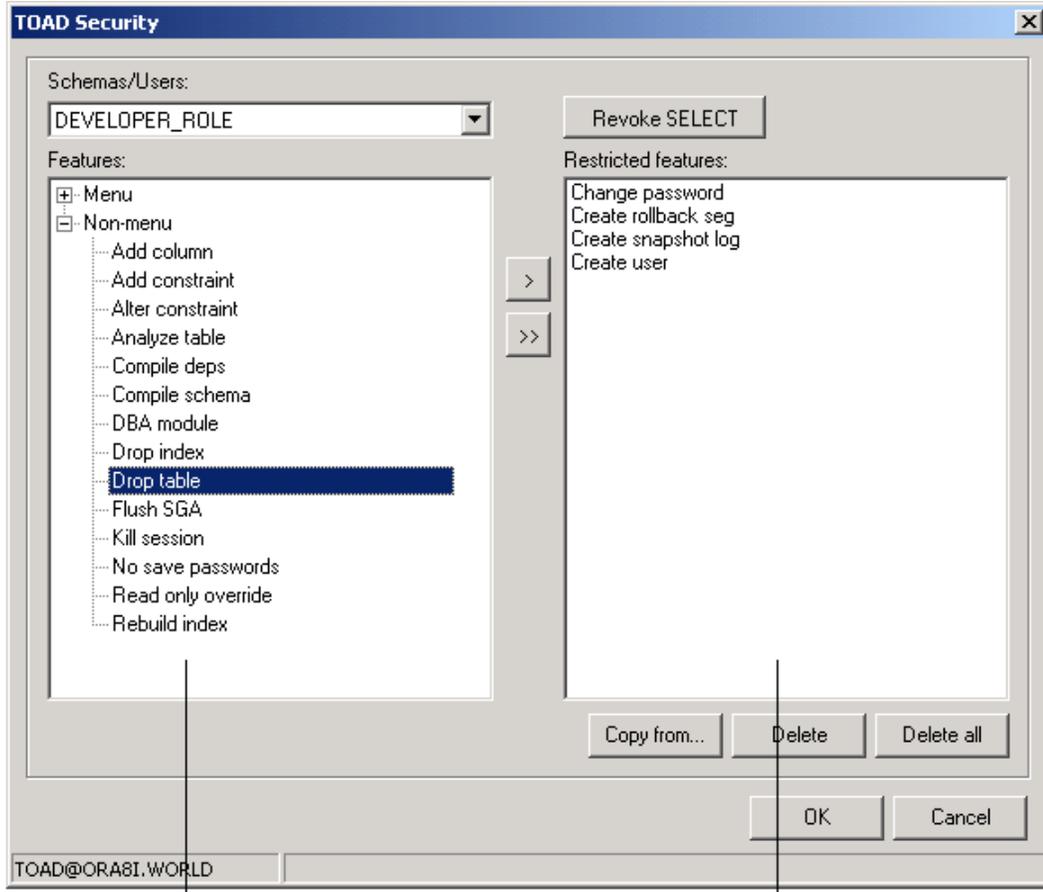
To set up a list of different kinds of Toad Features, and then revoke that list of features from select groups of users, do the following.

- Start **Toad**, log in as user **Toad**, go to **Administer**||**Toad Security**.
- Select a role, for example "DEVELOPER_ROLE" from the user/role dropdown list. These are standard Oracle roles. Have your DBA create the roles if necessary.

-

Caution: DO NOT use the DBA role for users subject to Toad Security. When Toad starts, if the user has the DBA role, then that overrides everything else, security included.

1. Ensure that DEVELOPER_ROLE has Select privilege to the Toad.Toad_RESTRICTIONS table. If the **Grant Select** button caption is "Grant Select", then click it to execute the grant. If the button caption is "Revoke Select" then the grant already exists.
1. Copy the desired features to the "Restricted Features" list.



Features you can restrict from the user or role.

Features the user or role does NOT have the authority to use.

1. Click **OK**. Toad will "grant select on toad_restrictions to developer_role" and write these records into the Toad_RESTRICTIONS table:

2.

USER_NAME	FEATURE
DEVELOPER_ROLE	CHANGE A PASSWORD
DEVELOPER_ROLE	CREATE ROLLBACK SEG
DEVELOPER_ROLE	CREATE SNAPSHOT LOG
DEVELOPER_ROLE	CREATE USER

3.

- o Ensure that the Oracle Roles have been granted to the user: [grant developer_role to scott].

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- Have user SCOTT log off/on to Toad. Scott's Toad features should be limited as specified.
- Repeat setting up restricted features for the other desired roles, e.g., TUNER_ROLE, MAINTENANCE_ROLE, and so on.

Disable Saving Oracle Passwords by Toad

This option is in the Features|Non-menu list as Save passwords. Moving it to the Restricted list lets you disable the ability to save passwords.

Read-only

You can make Toad read-only to a selected user or role. This is useful if you have someone who needs to view database objects but does not have the authority to change them.

To make Toad read-only, move the Read-only Override function from the Features|Non-menu list to the Restricted features list. This makes Toad read-only to the selected user.

Note: This Toad Security option does not apply to the DBA module. To restrict Toad entirely, you will also need to restrict the DBA module from the appropriate users.

ASM Manager

ASM Manager Overview

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

In Oracle 10g, Oracle provided a means for managing the Oracle DB file system from within the Oracle database: Automatic Storage Management (ASM).

In ASM, a standalone Oracle instance collects Raw server disks into disk groups and performs management functions necessary to make ASM files available to database instances. Oracle database files are then stored in these disk groups.

A Template, or collection of file attributes, is used by ASM during file creation. Templates simplify file creation by mapping complex file attribute specifications into a single name. A default template exists for each Oracle file type. You can modify the attributes of the default templates or create new templates.

For full information about ASM, Raw server disks, and templates, please see your Oracle documentation.

Toad's ASM Manager gives you an easy interface to the Oracle ASM features, and lets you easily manage your disk groups.

Note: Connection to the ASM instance is created through the Toad ASM Manager from the Database|Administer menu. Toad does not support creating a connection to this instance in any other way.

To access the ASM manager

- From the Database menu, select **Administer|ASM Manager**.

The ASM Manager window is divided into two pages, accessible by tabs, Disk Groups and Clients. You can view by database instance or ASM Instance, which opens a new connection to that instance while you are

viewing and working with information. Using the ASM instance will display more data and allow you to make changes to your disk groups.

From the Disk group tab, you can:

- View disk groups
- Create disk groups
- Drop disk groups
- Alter disk groups

From the Clients tab you can see the client information for the various disk groups.

Related Topics

[Viewing Disk Groups](#)

[Creating and Dropping Disk Groups](#)

[Altering Disk Groups](#)

[Viewing Clients](#)

Viewing Disk Groups

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can view disk groups from Toad's ASM Manager.

Disk group information is divided into summary information and detail information. Summary information is displayed in the upper grid, and includes the group number and disk group name. Detail information is provided in the lower grid when you when you select a disk group in the upper panel.

To view disk groups

1. From the Database menu, select **Administer | ASM Manager**.
2. Select either the database instance or the ASM instance you want to use.

The ASM instance provides more data and allows changes.

3. If it is not selected, click on the **Disk Groups** tab.
4. In the upper panel, select the disk group you want to view.

Data for that disk group is displayed in the lower panel.

Summary information

You can view summary information about a particular disk group in the upper area of the grid. Information provided includes Group number, Disk Group name, sector size, block size, allocation unit size, state, type, total MB, free MB, Required mirror free MB, etc.

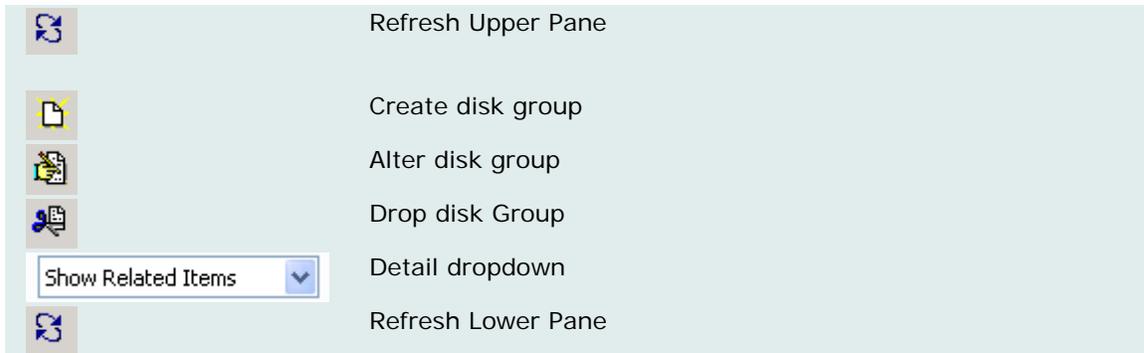
Using the toolbar, you can make create, drop, and alter disk groups if you are connected to the ASM instance (see related topics).

Disk Group Toolbar



Button

Command



Detail information

Detail information is provided in the lower panel grids. Information is separated into five data grids: Disks; Templates; Operations; Files, Directories and Aliases, and Usage. If connected by ASM Instance, changes can be made to the Files, Directories and Aliases by use of the provided toolbar.

Files, Directories and Aliases toolbar



Button	Command
	Create alias for selected file
	Create directory in selected directory
	Rename selected object.
	Drop selected object.

Related Topics

[ASM Manager Overview](#)

[Creating and Dropping Disk Groups](#)

[Altering Disk Group](#)

[Viewing Clients](#)

Creating and Dropping Disk Groups

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

If you are connected through an ASM instance, you can create and drop disk groups from the Disk Groups toolbar.

Creating disk groups

You can create a disk group quickly using the combination of Oracle ASM and Toad's ASM Manager.

To create a disk group

1. From the Database menu, select **Administer|ASM Manager**.
2. Select an ASM Instance in the **Connected To** box.
3. Click the **New Disk Group**  button.
4. Enter a name in the **Disk Group Name** box.
5. If it is not already selected, click the **Basic Info** tab.
6. Select the redundancy of the disk group:
 - High
 - Normal
 - External
7. Select an availability from the Status after creation drop down box. Options include:
 - Mounted
 - Dismounted

Note: The Alter Actions section will be disabled when creating a disk group. See [Altering Disk Group](#) for using this area.
8. Click the **Disks** tab.
9. Click **Add Disks** and select any disks you want to include in this disk group. Click **OK**.
10. Click **OK** to add the disk group.

Dropping a disk group

You can drop a disk group easily as well.

To drop a disk group

1. From the **ASM Manager|Disk Groups** tab, select the disk group you want to drop.
2. Click the **Drop disk group**  button.
3. In the **Confirm** dialog, choose to include or exclude contents when you drop the disk group.
4. Click **OK**.

Related Topics

[Viewing Disk Groups](#)

[Altering Disk Groups](#)

Altering Disk Group

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To alter a disk group

1. From the **Database menu|Administer|ASM Manager**, click the Disk Groups tab.

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2. Make sure the ASM instance is selected in the **Connected To** drop down box.
3. Select the disk group you want to alter and then click the Alter  button.
4. Make any changes you need to make. You can change disk groups in any one of the three tabs:
5. [Basic Info](#)
6. [Disks](#)
7. [Templates](#)
5. Click **OK** to commit changes.

Basic Info

You can change availability or choose specific alter actions within the alter dialog.

Availability

The availability of the disk group can be changed with the Alter command. Toad displays the current status of the disk group and provides a change to drop down to select a new status easily.

Alter Actions

Select or deselect the following options (for detailed information regarding these options, please see your Oracle documentation):

- Check All Disks
 - Repair
- Rebalance (can be used alone or with Add/Drop/Resize disk commands)
 - Specify power
 - Wait

Disks

You can alter disk groups by adding disks to the grid or dropping them.

To add disks

1. Click the **Disks** tab.
2. Click **Add**.
3. Select the disk you want to add and then click **OK**.

To drop disks

1. Click the **Disks** tab.
2. Select the disk you want to drop.
3. Click **Drop**.

To alter disks

1. Click the **Disks** tab.
2. Click in the cell you want to alter and then make changes.

Note: You can alter some, but not all data.

Templates

You can alter disk groups by adding templates to the grid or dropping them. In addition, you can alter templates by changing the data in the grid.

To add templates

1. Click the **Templates** tab.
2. Click **Add**.
3. Select the template you want to add and then click **OK**.

To drop templates

1. Click the **Templates** tab.
2. Select the template you want to drop.
3. Click **Drop**.

To alter templates

1. Click the **Templates** tab.
 2. Click in the cell you want to alter and then make changes.
-

Viewing Clients

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can view client information for each disk group.

As for disk groups, if you are connected to an ASM instance you will see more information than if you are connected via the database instance.

To view client information

1. From the **Database** menu, select **Administer|ASM Manager**.
 2. From the **Connected to** drop down, select either the Database instance (default) or an ASM instance.
 3. Click the **Clients** tab. Information is displayed in the grid.
 4. Refresh the grid if necessary by clicking the **Refresh**  button.
-

Related Topics

[ASM Manager Overview](#)

[Viewing Disk Groups](#)

Audit Objects

Audit Objects

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Audit Objects window displays the audit monitoring options for selected database objects. You can enter and modify monitoring levels for each individual object or for groups of objects.

To use auditing functionality within Toad, AUDIT_TRAIL must be set to DB.

Note: Audit parameters for objects are also available in the **Schema Browser|Object Page|RHS Auditing tab**.

Audit Objects Toolbar

The audit objects toolbar gives you easy control the objects you are auditing.



Button	Command
	Clear Object List
	Load Objects
	Change active connection
Object Type	Select object type to audit from the drop down menu.
Apply Changes	Apply changes you have made to the grid

To populate the audit object data grid

1. From the **Database** menu, select **Administer|Audit Objects**.
2. From the **Object Type** drop down, select the type of object you want to audit.
3. Click the **Load** drop down, and then select from
 4. **Load My objects**.
 5. **Load Object by schema**.
 6. **Load Objects by Schema and Name**.

Related Topics

[Audit SQL/Sys Privs](#)

Setting an Object Audit

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can set audits on a particular action on a particular object, or on all objects in the grid.

Audits display in the grid in an abbreviated code. Audit options for when successful come first, followed by a slash, followed by when not successful.

Option	Abbreviation
--------	--------------

By Access	A
By Session	S
No Audit	-

Therefore, an audit pattern will display in the grid as follows:

A/S - audit records when successful by access, and when not successful by session

To set audit options

1. Populate the [audit object grid](#).
2. In the row containing the object you want to audit, click in the column of the audit you want to perform.

For example, if you want to audit on Alter commands, click in the Alter box. A drill down button appears.

3. Click the **drill down**  button.
4. Select the options you want to audit when the command is successful or when it is not successful.
5. Click **OK**.

Multiple Object Privileges

Multiple Object Privileges

You can manage privileges for multiple objects from the Multiple Object privileges screen. You can grant or revoke privileges on multiple objects at once.

To access multiple object privileges

- From the Tools menu, select **Multiple Object Privileges**.

To grant privileges

- Click the [Grant](#) tab.

To revoke privileges

- Click the [Revoke](#) tab.

Granting Multiple Privileges

You can grant multiple privileges at once, either from selected objects, or from all objects on the screen.

To grant all objects to selected grantees

1. From the **Objects Owned by** dropdown, select the schema owning the objects you want to grant.
2. In the Grantees area, select the users or roles to whom you want to grant privileges.

Note: You can select or clear the Users and Roles check boxes to limit the list to one or the other or both.

3. Click **Actions** and select **Grant all objects to selected grantees**.
4. Select privileges you want to grant on the objects.
5. Click one of the following:
6. **Show SQL** - to view the SQL Statement before it is executed.
7. **Execute** - to execute the completed SQL statement and make the grants.
8. **Cancel** - to return to the Multiple Object Privileges screen without granting anything.

To grant selected objects to selected grantees

1. From the **Objects Owned by** dropdown, select the schema owning the objects you want to grant.
2. In the Objects area, select the objects you want to grant.
3. In the Grantees area, select the users or roles to whom you want to grant privileges.

Note: You can select or clear the Users and Roles check boxes to limit the list to one or the other or both.

3. Click **Actions** and select **Grant selected objects to selected grantees**.
 4. Select privileges you want to grant on the objects.
 5. Click one of the following:
 6. **Show SQL** - to view the SQL Statement before it is executed.
 7. **Execute** - to execute the completed SQL statement and make the grants.
 8. **Cancel** - to return to the Multiple Object Privileges screen without granting anything.
-

Revoking Multiple Privileges

You can revoke multiple privileges as easily as you can grant them.

To revoke privileges

1. From the [Multiple Object Privileges](#) screen, select the schema that owns the objects with privileges you want to revoke.
2. Click the **Revoke** tab.
3. Select **All**.

Or

Select **Objects I granted**.

4. In the grid, select the privileges to revoke.

Note: You can filter the grid by any column by clicking the arrow in the column header. Select **Custom** and set the filter.

5. Click **Actions**.
6. Select either **Revoke all**

Or

Revoke selected.

Oracle Parameters

Oracle Parameters

Oracle Parameters allows you to modify or edit the System Modifiable and Session Modifiable options.

Access this window from the **Database|Administer|Oracle Parameters** menu item. The grid provides information about the Oracle parameters in the selected session.

Note: Access to some V\$ tables are required to use this option. To see a list of these permissions, see [Oracle Parameters](#).

When you change a parameter, you are presented with

Parameters Toolbar



Button	Command
	Change the active session.
	Refresh the grid data.
	Edit parameter.
	Print the parameter grid.
	Save grid.
Default	Use this dropdown to quickly filter the grid by the Default column contents to Yes, No or All.
Single Grid	Toggles whether Toad displays a single grid or a multi-grid when connected to an Oracle RAC database. In single-grid view, Toad sorts first by default on the option and then by the instance name for easier readability. If you choose the multi-grid view, Toad displays a separate tab for each RAC instance.

Viewing Parameter Strings

You can find and view parameter strings easily.

Viewing a Parameter Setting

If you do not have the Quest DBA module, you can view the parameters but not change them.

To view a parameter setting

- Double-click on the **parameter** you want to view.

Searching for a Parameter Setting

There are several ways to search for a parameter string. For example,

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- You can search for a specific Oracle setting in any column of the grid using incremental search..
- You can use the [QuickFilter](#) to filter the grid.

To find a parameter setting using incremental search

1. Click in the column describing the parameter you want to find.
 2. Enter the first few characters of the entry you want to find. The cursor will jump to the entry as you enter characters.
-

Related Topics

[Oracle Parameters](#)

[Changing a Parameter String](#)

Changing a Parameter String

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

If a parameter is both session modifiable and system modifiable, Toad modifies at the system level. You can change the parameter settings individually.

If you are using a RAC-based database, you will also have the option to choose whether to apply the change to all instances or only the current instance.

To change a setting using the mouse

1. Double-click the **parameter** you want to change.

Or

Click the **parameter** you want to change. That line of the grid is highlighted. and then Click the

Alter Parameter Setting  button.

2. Make any changes to your setting and click **OK**.

To change a setting using the keyboard

1. Double click the **parameter** you want to change.
2. Make any changes to your setting and click **OK**.

Note: Some parameters may not allow changes. The Change Parameter Setting button will remain disabled even if you click one of these parameters.

Related Topics

[Oracle Parameters](#)

[Viewing Parameter Strings](#)

Tablespaces

View Tablespaces

Use this dialog box to view the tablespace information.

To view tablespace information

- From the **Database** menu, select **Administer|Tablespaces**.
Note: This feature requires SELECT access to the DBA_ Oracle dictionary views. Without access, you will get an error dialog box, "This function requires access to: dba_free_space, dba_data_files, and dba_tablespaces".
- To change sessions and view other tablespaces, click the **Change Session** button and select a different or new session.
- To produce a landscape hard copy report of the information, click the **Printer** button.
- Select an object where it is appropriate, and press <F4> to perform a Describe.
- From either the Space or Data Files tab, double-click a tablespace to see details for that tablespace. (*Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA module.*) See [Tablespace Details](#).

There are seven tabs of information on this dialog box, Space, Data Files, Free Space (in KB), Objects, Fragmentation, Space History, and IO History.

Note: The Space, Space History, and IO History tabs are only available in the commercial version of Toad with the optional Quest DBA Module.

On each of these tabs, to sort the information in ascending order, click the desired column header. To sort in descending order, click the same column header a second time. Double clicking on the divider between two column headings, where the mouse pointer turns into a vertical line with left and right arrows, will size the column to the width of the data.

Space

Lists each tablespace by name, including Usage, Size Mgs, Free Mgs, Used Mgs, Free Pct, and Used Pct.

Data Files

Lists each tablespace by name, including Status, Used MB, Free MB, Initial Extent, Next Extent, Min Extents, Max Extents, Percent Increase, and Filename.

Free Space (in KB)

Lists each tablespace by name, including Blocks, Min, Average, Max, and Total.

Objects

Select a Tablespace from the dropdown list. Toad will display all objects contained within the selected tablespace, including Owner, Object Name, Object Type, Size (MB), Initial Extent, Next Extent, Num Extents, and Size (bytes).

The totals of Size (MB), Num Extents, and Size (bytes) will be listed on the "TOTAL SIZE" line, at the bottom of the list.

Fragmentation

This tab describes the fragmentation of your tablespace, including the number of total blocks, empty blocks, how many fragments (pieces) there are, the sizes of those pieces (largest, smallest and average) and the number of extents are below the high water mark.

Space History

From the Space History tab, **Space Manager** tracks and forecasts database usage over time, displaying the results in an easy to read, and easily configured graph format.

For more information, see [Using Space Manager.](#)

IO History

From the Space History tab, **Space Manager** tracks and forecasts datafile usage over time, displaying the results in an easy to read, and easily configured graph format. For more information, see [Using Space Manager.](#)

Alter Tablespace

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This tablespace editor lets the DBA construct and submit the DDL to alter an existing tablespace.

To access Alter Tablespace

- Do one of the following:
 - From the **Schema Browser | Tablespaces** page, highlight a **tablespace** in the Object panel and then select **Alter Tablespace** from the toolbar.
 - From the Identify Space Deficits window, click **Alter Tablespace**
 - From the **Database menu | Administer | Tablespaces**, select a **tablespace** and click **Alter Tablespace** in the toolbar.

The Alter Tablespace window lets you alter permanent and temporary tablespaces. If you use Oracle 8i or above, you can alter both dictionary managed and local tablespaces. You can then migrate between the two types.

When you open the Alter Tablespace window, parts of the Tablespace you cannot edit are grayed out. These will differ depending on the type of tablespace you are editing, and whether it is online or off.

To create a new data definition file

1. Click **Add** to create a new Data Definition file to the File Specification area.
2. Enter the information for the Datafile **name** and **size**.
3. If you want the datafile to automatically extend, select the **auto Extend** check box and enter the space allocation information.
4. Click **Execute** to add the new datafile.

To edit a data definition file

1. Click **Edit** to create a new Data Definition file.
2. In the Data Definition dialog box, change the datafile information as required.

3. Click **Execute** to complete the editing and return to the Alter Tablespace window.

Migrate Tablespace

If you are using Oracle 8i or above, you can easily migrate between locally Managed and Dictionary Managed Tablespaces.

Note: To use this function as a DBA user, you must have the EXECUTE privilege on DBMS_SPACE_ADMIN. This must be granted by the SYS user.

Locally Managed tablespaces have the **Locally Managed** check box checked.

- To switch to a dictionary tablespace from a locally managed tablespace, uncheck this box and then click Execute. If you [spool SQL to screen](#), you can see the SQL that is executed. It should look something like this:

```
begin
    sys.dbms_space_admin.tablespace_migrate_from_local
    ('migrate');
end;
```

- To switch to a locally managed tablespace from a dictionary managed tablespace, check the Locally Managed check box and click **Execute**. If you [spool SQL to screen](#), you can see the SQL that is executed. It should look something like this:

```
begin
    sys.dbms_space_admin.tablespace_migrate_To_local ('migrate');
end;
```

Delete Datafile

If you are running Oracle 10g, release 2 or newer, you can also drop a datafile from the tablespace. The datafile must be empty, and it cannot be the last datafile in a tablespace. In the first case, Oracle will return an error if you try to drop it. In the second, the Delete button will not be available.

To delete a datafile

- Select the empty datafile you want to delete and click **Delete**.
-

Tablespace Details

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Tablespace Details window displays the same information that is found in the Schema Browser|Tablespaces tab. However, because it is displayed in a unique window, the majority of the grid can be seen without scrolling.

To Access Tablespace Details

- From the [View Tablespaces](#) window, in either the **Space** or **Data Files** tab, double-click a **tablespace**. The Tablespace Details window appears.

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Tabs

Each tab on the Tablespace Details window displays a different type of information about the tablespace.

Datafiles

Lists general information about the file, for example, number of files in each file, a usage graph, the percentage used, and so on.

Free Space

Displays the statistics for the free space parameters of the datafile.

Fragmentation

Displays the number of files, and information about the general fragmentation of those files, including number of pieces, the size of those fragments, and the number of empty blocks remaining.

Objects

Displays a list of all objects in the datafile and their pertinent statistics.

Quotas

Displays a list of quotas and space used statistics by user for the selected datafile.

Extents

Displays a list of segments, owners and ID numbers for extents.

Space Manager Setup

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Toad Space Manager is a part of the View Tablespaces window. In order to use Space Manager, you must have certain objects in the TOAD Schema.

To access Space Manager

You must have SELECT access on several V\$ tables to use this option. To see a list of required permissions, see [Space Manager Setup](#).

1. From the **Database** menu, select **Administer|Tablespaces**. The Tablespaces window appears.
2. Space Manager consists of the final two tabs on the Tablespaces window: **Space History** and **IO History**. Click one of these tabs to access Space Manager.

To Set up Space Manager

Before you can use Space Manager, you must set up specific objects in the Toad schema.

1. Click the **Create/Recreate Toad Space Manager Tables** button . If you are not logged in under the Toad Schema, the following dialog box appears:



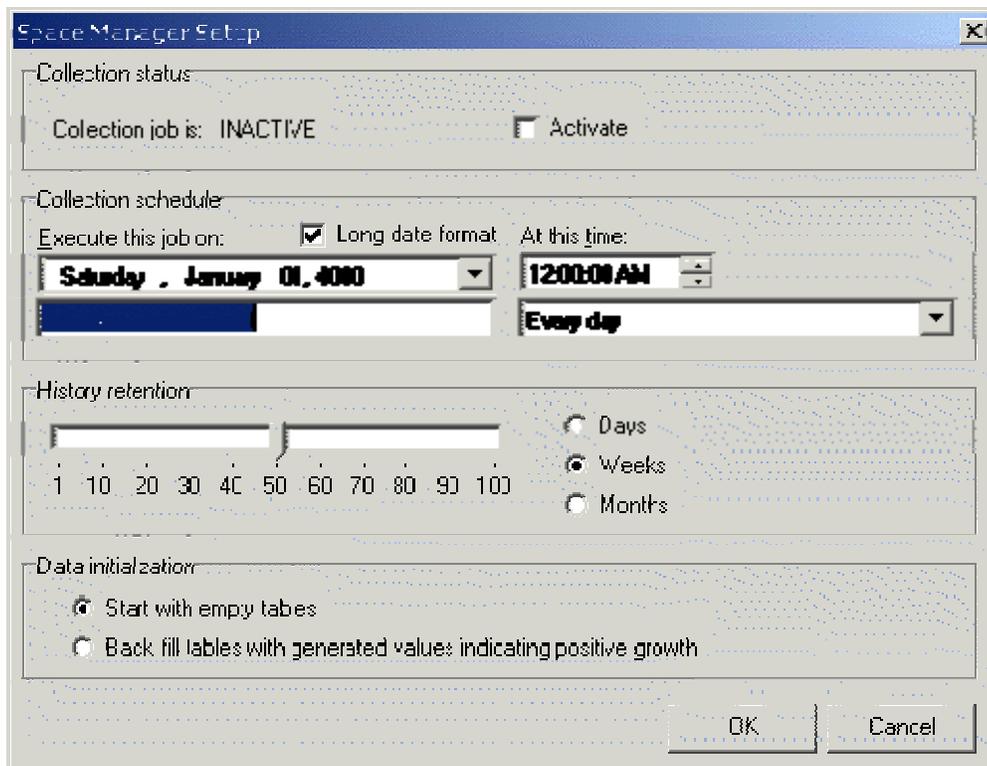
2. Click **OK** and then log in under the Toad schema.

Note: The Toad schema must have the privileges to create and alter jobs, create and drop its own tables and procedures, and must have **SELECT** access on: **DBA_TABLESPACES**, **DBA_DATA_FILES**, **DBA_FREE_SPACE**, and **V_\$FILESTAT**.

3. From the **Toad schema**, View **Tablespaces**, click the **Create/Recreate Toad Space Manager**

Tables button . If there are already Space Manager tables present, a confirmation dialog box appears. Selecting yes will lose all existing data.

Click **Yes**.



4. The Collection Status area shows the status of the existing Space Manager job: Active, Inactive, or Not Present. When the Space Manager tables are recreated, the job will be created or activated if necessary.
5. Set the **collection schedule information**:
6. Enter the starting date to **Execute** the job. Click the dropdown to display a calendar, or edit the day and year directly in the edit box. If the collection job is not present, then the default is a few minutes in the future. If the collection job is active, then the default is the Next Execution date of the existing collection job. If the collection job is inactive, then the default is many years in the future (this is what Oracle stores as the Next Execution date of the existing job).
7. In the **At this time:** field, enter the **time of day** you want the data collection performed.
8. Decide how often you want to collect the information. You can:
9. Select a choice from the dropdown menu below the **At this time:** field,

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10. Or you can enter the formula by hand in the field beneath the **Execute this job on:** field. Each time after the job is executed, Toad will use this formula to calculate the next date of execution.

Note: Whatever formula is entered in these fields, Space Manager cannot collect information more frequently than once daily.

6. Set the **History Retention information**. Use the sliding scale to select how long you want to retain the information. Click the appropriate choice for Days, Weeks, or Months.
7. Set the **Data initialization information**:
 - **Start with empty tables** - data is presented from the first collection only. No attempt is made to back-fill history.
 - **Back fill tables with generated values indicating positive growth** - data is presented with a generated history: this history is created by Toad, and indicates an increase in space usage over time.

Toad creates the necessary tables to maintain the Space Manager history. The information in these tables provides the basis for the graphs displayed on the Space Manager tabs.

To edit Space Manager setup information

You can edit Space Manager information in a similar manner to setting it up. If the collection job has been dropped, Collection Status will display as Not Present. Altering the Space Manager settings will recreate the job.

1. You must be logged in under the Toad schema. From the DBA menu, select Tablespaces. The Tablespace window appears. Click either the **Space History** or **IO History** tab.
2. Click the **Edit Space Manager** button . Change the information as described in Setting Up Space Manager, above and then click **OK**.

Using Space Manager

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Toad Space Manager is a part of the View Tablespaces window. In order to use Space Manager, you must have certain tables created in the TOAD Schema. Space Manager can add these tables automatically. To add these tables to the TOAD Schema, see [Space Manager Setup](#).

Space Manager tracks and forecasts database usage over time, displaying the results in an easy to read, and easily configured graph format.

To access Space Manager

You must have DBA privileges to view the Space Manager windows.

1. From the **Database** menu, select **Administer|Tablespaces**. The View Tablespace window appears.
2. Space Manager consists of the final two tabs on the View Tablespace window: **Space History** and **IO History**. Click one of these tabs to access Space Manager.

Space History tab

From the Space History tab, you can graph usage in several different ways. In addition, you can print the graphs, and forecast future usage.

Graph Usage

The graph on the Space History tab displays the tablespace usage. You can display the graphs of tablespaces in varying configurations:

- **View all the Tablespaces** - Uncheck the **By datafile** box and select **<All>** from the Tablespaces dropdown.
- **Select a specific tablespace** - Uncheck the **By datafile** box and select a **tablespace** from the dropdown **Tablespaces:** menu.
- **View tablespaces by Datafile** - Check the **By datafile** box and select a **datafile** from the dropdown **Datafile** menu.
- **View all the Datafiles** - Check the **By datafile** box and select **<All>** from both dropdowns.

Sometimes there will be so many lines on the graph that the colors seem to run together. You can now easily find a particular line.

To find a single line

1. Click the tablespace in the legend and highlight the line you want to see.
2. Click the line and highlight it.
3. Move your mouse over a line. The status bar displays the tablespace name, the date and # mb for that date. For example,
SYSTEM (12/11/2002, 123 mb)

Forecast Usage

You can forecast usage of tablespaces and datafiles using the Forecasting tool. You can set the number of days in the future and Toad uses linear regression (continuation of a line based on its slope or trend) to extrapolate the tablespace and datafile space usage at the specified time.

To forecast usage

1. Create your graph as described above in Graph Usage to create the graph you want to forecast.
2. On the **Space Manager** toolbar, click the **Forecast button** . The forecast window appears.
3. At the bottom of the forecast window, you can select the **number of days** (the default is 30) in the future you want to forecast. The estimated number of MB appears, and the graph changes as you change the number of days.
4. Click **Print** to print the forecast.
5. Click **OK** to close the forecast window.

Zoom

You can zoom in on a graph and scroll through it.

To zoom a graph

- Right-click the graph you want and select **Zoom**. The graph appears in a new window. You can scroll this window to see more of the graph.

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Print Graph

When you have selected the graph view you want, you can print it from the toolbar above the graphs.

To print a graph

- Click the **Print** icon  and the graph is sent directly to the printer.

IO History tab

Information Tracked

The IO History portion of the Space Manager tracks datafile I/O history. It graphs the following information:

- Physical Reads
- Physical Writes
- Block Reads
- Block Writes
- Read Time
- Write Time

Selecting Datafiles

- Select the datafile to view by clicking the dropdown menu at the top of the tab, and selecting the datafile (or All Datafiles) from the list. The graph changes immediately to display the information for the new datafile.

Zoom

You can zoom in on a graph and scroll through it.

To zoom a graph

- Right-click the graph you want and select **Zoom**. The graph appears in a new window. You can scroll this window to see more of the graph.

Print Graph

When you have selected the graph view you want, you can print it from the toolbar above the tabs.

To print a graph

- Click the **Print** icon  and the graph is sent directly to the printer.
-

Redo Log Manager

Redo Log Manager

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Oracle background process log writer (LGWR) stores information about database changes in redo log files. These files can be used to recover the database in case of failure by reapplying the changes. The redo records are stored in the redo log buffer in the SGA and then written to the redo log files when either the buffer is full or the associated transaction is committed.

The DBA defines "groups" of identical (same size) redo logs, so that LGWR simultaneously writes identical information in parallel to each member of a group and switches between groups in a circular fashion. Each redo log within a group is called a "member". An Oracle database must have at least two groups, so that one group can be active while the other group can be archived (if in ARCHIVELOG mode).

The lower panel displays the members of the selected group as described below.

Upper panel

The upper panel displays groups and information pertaining to them at a glance.

Tip: The current Group is highlighted in blue.

If a log group is unbalanced, then the Members column will display in red and a suggestion for fixing it displays above the grid. In addition, you can use the toolbar to:



Button	Command
	Change sessions
	Refresh the screen
	Add log group
	Drop selected log group
	Clear selected log group
	Switch logs
	Alter system archive log

Lower Panel

The lower panel contains the details for the members of each log group. From the toolbar you can access each member, make changes to it or drop it.



Button	Command
	Refresh grid
	Add log group member
	Drop log group member

Related Topics

[Balancing Redo Log Groups](#)

Balancing Redo Log Groups

Each redo log "group" must have an equal number of "members," in other words, redo log files, and each redo log file must be the same size as all others.

If either of the above conditions is not met, the entry is considered out of balance and displayed in red. For example:

Group	Thread	Sequence	Size	Members	Archived	Statu
1	1	145	50 Mb	2	NO	INAC
2	1	143	50 Mb	2	NO	INAC
3	1	146	50 Mb	2	NO	CUR
4	1	0	50 Mb	1	YES	UNU

In this example, Group 4 does not meet the member condition: there is only one member contained in it, rather than the 2 members of each of the other groups.

Add another member using the **Add** button below the grid in the lower panel.

The Members grid will now appear as follows, entirely in black:

Group	Thread	Sequence	Size	Members	Archived	Statu
1	1	145	50 Mb	2	NO	INA
2	1	143	50 Mb	2	NO	INA
3	1	146	50 Mb	2	NO	CUR
4	1	0	50 Mb	2	YES	UNI

Related Topics

[Redo Log Manager](#)

eBiz

eBiz Module Overview

Note: The eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Quest E-Biz module for Toad provides developer and administrator with the familiar Toad user interface while supplying E-Business specific object browser capabilities, configurable reports, activity monitor and the unique lookup finder. These views into Oracle E-Business objects and activity reduce the required research time when developing new Concurrent programs, adjusting menus and examining flexfields, among other time saving benefits.

It consists of four parts:

- [eBiz Browser](#)
 - [eBiz Monitor](#)
 - [eBiz Reports](#)
 - [eBiz Lookup Finder](#)
-

Related Topics

[Privilege requirements for using the eBiz module](#)

Privilege Requirements for Using eBiz

To use the eBiz Module you will need SELECT privileges on the views and tables listed below.

APPLSYS.AD_APPL_TOPS
APPLSYS.AD_APPLIED_PATCHES
APPLSYS.AD_BUGS
APPLSYS.AD_FILE_VERSIONS
APPLSYS.AD_FILES
APPLSYS.AD_PATCH_COMMON_ACTIONS
APPLSYS.AD_PATCH_DRIVERS
APPLSYS.AD_PATCH_RUN_BUG_ACTIONS
APPLSYS.AD_PATCH_RUN_BUGS
APPLSYS.AD_PATCH_RUNS
APPLSYS.FND_APPL_SESSIONS
APPLSYS.FND_APPLICATION
APPLSYS.FND_APPLICATION_TL
APPLSYS.FND_CONCURRENT_PROCESSES
APPLSYS.FND_CONCURRENT_PROGRAM_SERIAL
APPLSYS.FND_CONCURRENT_PROGRAMS
APPLSYS.FND_CONCURRENT_PROGRAMS_TL
APPLSYS.FND_CONCURRENT_QUEUES
APPLSYS.FND_CONCURRENT_QUEUES_TL
APPLSYS.FND_CONCURRENT_REQUEST_CLASS

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APPLSYS.FND_CONCURRENT_REQUESTS
APPLSYS.FND_DATA_GROUPS
APPLSYS.FND_DESCR_FLEX_COL_USAGE_TL
APPLSYS.FND_DESCR_FLEX_COLUMN_USAGES
APPLSYS.FND_DESCR_FLEX_CONTEXTS
APPLSYS.FND_DESCR_FLEX_CONTEXTS_TL
APPLSYS.FND_DESCRIPTIVE_FLEXS
APPLSYS.FND_EXECUTABLES
APPLSYS.FND_FLEX_VALUE_SETS
APPLSYS.FND_FORM
APPLSYS.FND_FORM_FUNCTIONS
APPLSYS.FND_FORM_FUNCTIONS_TL
APPLSYS.FND_FORM_TL
APPLSYS.FND_ID_FLEX_SEGMENTS
APPLSYS.FND_ID_FLEX_SEGMENTS_TL
APPLSYS.FND_ID_FLEX_STRUCTURES
APPLSYS.FND_ID_FLEX_STRUCTURES_TL
APPLSYS.FND_ID_FLEXS
APPLSYS.FND_LOGIN_RESP_FORMS
APPLSYS.FND_LOGIN_RESPONSIBILITIES
APPLSYS.FND_LOGINS
APPLSYS.FND_LOOKUP_TYPES
APPLSYS.FND_LOOKUP_TYPES_TL
APPLSYS.FND_LOOKUP_VALUES
APPLSYS.FND_MENU_ENTRIES
APPLSYS.FND_MENU_ENTRIES_TL
APPLSYS.FND_MENUS
APPLSYS.FND_MENUS_TL
APPLSYS.FND_ORACLE_USERID
APPLSYS.FND_PRINTER
APPLSYS.FND_PRINTER_DRIVERS
APPLSYS.FND_PRINTER_INFORMATION
APPLSYS.FND_PRINTER_STYLES
APPLSYS.FND_PRINTER_STYLES_TL
APPLSYS.FND_PRINTER_TL
APPLSYS.FND_PRINTER_TYPES
APPLSYS.FND_PRODUCT_GROUPS
APPLSYS.FND_PRODUCT_INSTALLATIONS
APPLSYS.FND_PROFILE_OPTION_VALUES
APPLSYS.FND_PROFILE_OPTIONS
APPLSYS.FND_PROFILE_OPTIONS_TL

APPLSYS.FND_REQUEST_GROUP_UNITS
APPLSYS.FND_REQUEST_GROUPS
APPLSYS.FND_REQUEST_SET_PROGRAMS
APPLSYS.FND_REQUEST_SET_STAGES
APPLSYS.FND_REQUEST_SET_STAGES_TL
APPLSYS.FND_REQUEST_SETS
APPLSYS.FND_REQUEST_SETS_TL
APPLSYS.FND_RESPONSIBILITY
APPLSYS.FND_RESPONSIBILITY_TL
APPLSYS.FND_UNSUCCESSFUL_LOGINS
APPLSYS.FND_USER
APPLSYS.FND_USER_RESP_GROUPS -- this one might be owned by APPS, depending on your environment
APPLSYS.WF_ACTIVITIES_TL
APPLSYS.WF_ITEM_ACTIVITY_STATUSES
APPLSYS.WF_ITEM_ATTRIBUTE_VALUES
APPLSYS.WF_ITEM_ATTRIBUTES
APPLSYS.WF_ITEM_ATTRIBUTES_TL
APPLSYS.WF_ITEM_TYPES
APPLSYS.WF_ITEM_TYPES_TL
APPLSYS.WF_MESSAGES_TL
APPLSYS.WF_NOTIFICATIONS
APPLSYS.WF_PROCESS_ACTIVITIES
APPS.FND_APPLICATION
APPS.FND_CONCURRENT_WORKER_REQUESTS
APPS.FND_DATA_GROUP_UNITS
APPS.FND_DATA_GROUPS
APPS.FND_FORM_FUNCTIONS_TL
APPS.FND_FORM_TL
APPS.FND_LOGIN_RESP_FORMS
APPS.FND_LOGIN_RESPONSIBILITIES
APPS.FND_LOGINS
APPS.FND_LOOKUPS
APPS.FND_ORACLE_USERID
APPS.FND_RESPONSIBILITY_TL
APPS.FND_USER
APPS.FND_V\$PROCESS
APPS.ICX_SESSIONS
APPS.ORG_ORGANIZATION_DEFINITIONS
APPS.WF_ITEM_ACTIVITY_STATUSES_V
APPS.WF_NOTIFICATIONS_VIEW
APPS.WF_USERS

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AR.HZ_PARTIES

HR.PER_ALL_PEOPLE_F

ICX.ICX_SESSIONS

PO.PO_VENDOR_CONTACTS

SYS.ALL_OBJECTS or SYS.DBA_OBJECTS

SYS.ALL_VIEWS or SYS.DBA_VIEWS

SYS.OBJ\$ -- used only in Activity tab of the browser

SYS.USER\$ -- used only in Activity tab of the browser

V\$INSTANCE -- used only in Activity and 'User' tabs of the browser

V\$LOCK -- used only in Activity tab of the browser

V\$PROCESS -- used only in Activity tab of the browser

V\$SESS_IO -- used only in Activity tab of the browser

V\$SESSION -- used only in Activity tab of the browser

eBiz Browser

eBiz Browser Overview

Note: The eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Utilizing the industry leading Toad object browser user interface, the eBiz browser allows administrators and developers to quickly navigate some of the most common Oracle E-Business data types including: Activity, Applications, Audit, Concurrent Programs, Request Sets, Users, Workflow, Printers, Profile Options, Key Flexfields, Descriptive Flexfields, Lookups, Menus, Patches, Data Groups, and Invalid Objects. Each of these object types are shown with detail screens which allow developers to see key information such as menu Ids, Application Ids, Responsibility Ids, creation dates, update dates, values and other information relevant to the object type.

The eBiz Browser lets you browse your eBiz objects easily and quickly.

The left panel can be [configured](#) to list object types in tabs, a dropdown list. For example, all applications appear in the left panel when the Applications type is selected, all concurrent programs appear in the left panel when the Concurrent Programs type is selected, and so on.

When you select an object, details for that object are displayed in the right panel. This eliminates having to drill down through hierarchical mountains to find the desired data. It also lets you compare details between objects of the same type with one click. Keyboard users can easily use the scroll keys to perform the same tasks.

Related Topics

[Updating eBiz Objects](#)

[Creating eBiz Reports](#)

Filtering the eBiz Browser

Note: The eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Quickfilter Edit box is located below the Schema dropdown for the tabbed and dropdown Schema Browser views. Using the Quickfilter, you can filter the object list without requerying the database. This provides a quicker way to filter the list than using the browser filters.

The Quickfilter is a client-side filter, so it filters all Browser Object lists without requerying the database. This filter works in conjunction with the existing Browser Filters.

By default, this contains the "select all" wildcard character (*). You can quickly and easily filter the Object list by changing the contents of this box.

To use the Quickfilter box

- Enter the filter information. You can use the wildcard characters at any point in your filter.

Note: The Quickfilter maintains a history of up to 25 items, listed most recent first. Right-click on the Quickfilter to access this list.

Configuring the eBiz Object Panel

Note: The eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

You can change the way the eBiz Browser displays object types.

To change the display from within the eBiz Browser

1. Click the Browser Style  button on the right hand side toolbar.
 2. From the drop down menu, select the display type you want to use.
-

Updating eBiz Objects

You can update several eBiz objects from the eBiz browser.

Objects you can update include:

- [Users](#)
- [Request Activity](#)
- [Concurrent Programs](#)

Specifying an eBiz User

Toad connections are Oracle connections. To work with the eBiz objects, you must be logged as an eBiz user. Because of this, when updating objects, you must choose an eBiz user to perform the update action. Updates are then marked as being done by that user.

If you have not chosen an eBiz user to perform updates, Toad will prompt you for one the first time you attempt to update an object. This user is then remembered and used whenever you update again. You can also change the user when you wish.

To change users when updating

1. From the eBiz Browser, on the right hand side above the information grids, click the **Perform eBiz updates as**  button.
 2. Select the user you want to perform updates in the grid and then click **OK**.
-

Activity

Activity Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Activity Objects panel has been designed to provide an overall view of the application activity in a single glance.

Information provided consists of nine items:

- [Managers](#)
- [Request Activity](#)
- [Full Service Activity](#)
- [Self Service Activity](#)
- [Sessions](#)
- [Application Locks](#)
- [OAM](#)
- [Time Shift](#)
- [Point in time](#)
- [Performance](#)

Note: The performance option uses data from the Oracle OAM collection concurrent program (FNDOAMCOL). If the program has never been run then this option will not be displayed.

Time dependent items

A number of the items in the Objects Panel are time dependant and are not automatically refreshed. The date and time of the last refresh is displayed above the panel.

Time dependant application activity information is provided in the following objects:

Item	Extension Description
Managers (22-Jun-05 07:10)	The date and time the managers were last restarted.
Request Activity -R- (0) P(0)	R = the number of running requests. P = the number of pending requests. Pending requests do not include Scheduled or On-hold requests.
Full Service Activity (1)	Number of full service connections. <i>Note: A (default) filter has been applied to the Full Service Activity counter. The filter removed all "Dead" full service sessions."</i>
Self Service Activity (3)	Number of self service connections. <i>Note: If a Self Service sessions has had no activity for more than 30 min it will be considered closed.</i>
Sessions (35)	Number of database sessions (Excludes Oracle Background processes).
Application Locks (0)	Will change to 1 id there is an application blocking lock that is held for longer than 60 seconds.
ICM Locks (0)	Will change to 1 if the concurrent managers are locked.

Note: If you are running Oracle Application Manager (OAM) there will be one self service session generated each time the OAM collection process runs. As the session is not closed appropriately, the session will be shown as active for the TOAD timeout period of 30 minutes. This if the OAM collector is run every 10 min (Default) this Self Service count will normally include 3 sessions associated with the OAM collector process

Caution: The Object Panel (left hand side) and Details panel (right hand side) can be independently refreshed. For time dependant functions this may cause the values to not match. '

Activity - Managers Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Managers detail panel displays a list of all the concurrent managers and their current statuses. The location and name of the Internal manager log file is displayed above the Details grid.

Column Heading	Description
Manager	The manager short name.
Queue Name	The full manager name.
Application ID	The application ID of the manager.
Queue ID	The internal queue ID of the manager.
Target	The host where the manager is running.
Max Processes	The number of process the manager should be running.
Running Processes	The actual number of running manager processes.
Sleep (sec)	The manager sleep time.
Cache size	The manager cache value.
Status	The status of the manager.
Running	The number of running requests.
Pending	The number of pending requests.
On-hold	The number of on-hold requests.
Scheduled	The number of scheduled requests.
Paused	The number of paused requests.

Note: Inappropriately configured specialization rules will cause some requests to be counted in multiple queues.

Filter Example

To show only active running requests

- Add a "Custom" filter to the Running Processes column Where the values are "Is Greater Than" and 0

Updating Activity Requests

You can alter activity requests from the Activity Request page.

For Running/Pending, Scheduled and On-Hold requests, you can:

- Cancel
- Terminate

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- Change the request's priority
- Put it on hold
- Take it off hold

To Update an activity request

1. From the eBiz object dropdown, select **Activity**. In the object panel side, select **Request Activity**.
 2. In the data grid on the, select the **Request Activity** that you want to alter.
 3. Click the button that relates to the Update you want to make:
 4. Cancel selected request
 5. Place selected request on hold
 6. Take selected request off hold
 7. Adjust priority of selected request
 4. Make any changes.
 5. Click **OK**.
-

Activity - Request Activity Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you have selected Request Activity, the details panel displays the following tabs:

- [Running/Pending](#) - List all the running and pending requests
 - [Scheduled](#) - List all the scheduled requests including schedule details
 - [On-Hold](#) - List all the On-hold requests including the length of time they have been On-hold
 - [Completed](#) - List all the complete requests (Default Today) includes all completion statuses, Normal, Error, Warning, Cancelled, Terminated
 - Completed (Historical) - List all of the complete requests
-

Activity - Request Activity - Running/Pending

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Request Activity tab lists all running and pending requests:

Column Heading	Description
Request ID	The concurrent request ID.
Requestor	The user who submitted the request.
Program Name	The concurrent program name.
Prog Appn ID	The internal application program ID.
Program ID	The internal program ID.
Manager	The manager that will run or is running the program.
Parameters	The runtime parameters of the program.

Priority	The program priority.
Req/Actual Start Date	The requested start date if the request is pending or the actual start date if the request is running .
Status	The current status of the request.
Run/Pending Time	The pending time if the request is pending or the current run time if the request is running.
Request Set	Indicates if the request is part of a request set.
Printer	The printer and number of copies the request will be sent to.

Note: A program will appear in both the manager running the request and the FNDCRM manager if the conflict resolution manager has to resolve a conflict prior to the program being run.

A program will appear in multiple managers (FNDCRM Excluded) if there is a issue with specialization rule configuration

Activity - Request Activity - Scheduled

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The scheduled tab lists all the scheduled requests including schedule details.

Note: A scheduled request is any request that has a future requested start date and the time

Column Heading	Description
Request ID	The concurrent request ID.
Requestor	The user who submitted the request.
Program Name	The concurrent program name.
Prog Appn ID	The internal application program ID.
Program ID	The internal program ID.
Manager	The manager that will run or is running the program.
Parameters	The runtime parameters of the program.
Priority	The program priority.
Requested Start Date	The date and time the request is to run.
Time Until Start	A countdown timer to show when the request will be run (HH:MM:SS).
Resubmit Interval	The number of resubmit units to resubmit the request.
Resubmit Unit	The interval units.
Resubmit From	Indicates if the requests is to be re-submitted from the start or end of the prior request.
Resubmit Time	Time of day the request is to be run.
Resubmit End	The end date for resubmitting the request.
Printer	The printer and number of copies the request will be sent to.

Note: A program will appear in both the manager running the request and the FNDCRM manager if the conflict resolution manager has to resolve a conflict prior to the program being run.

Activity - Request Activity - On-Hold

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

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The On-hold tab lists all the On-hold requests including the length of time they have been On-hold. It is very common to find requests that have been On-hold for an extremely long time. This grid can be used to find those requests that may no longer be required.

Column Heading	Description
Request ID	The concurrent request ID.
Requestor	The user who submitted the request.
Program Name	The concurrent program name.
Prog Appn ID	The internal application program ID.
Program ID	The internal program ID.
Manager	The manager that will run or is running the program.
Parameters	The runtime parameters of the program.
Priority	The program priority.
Requested Start Date	The requested start date.
Est. time on Hold	The time the request has been On-hold ((HH:MM:SS).
Resubmit Details	The resubmit details if the request is a scheduled -resubmit request.
Printer	The printer and number of copies the request will be sent to.

Activity - Request Activity - Completed

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The completed tab lists all the complete requests (Default Today), and includes all completion statuses, Normal, Error, Warning, Cancelled, Terminated.

Column Heading	Description
Request ID	The concurrent request id
Requestor	The user who submitted the request
Program Name	Full name of the concurrent program
Program App'n ID	The internal application ID for the concurrent program relates to
Program ID	The internal concurrent program Identifier
Manager Name	Concurrent Manager that ran the request
Parameters	Run-time parameters for the request
Priority	The request priority
Requested Start Date	The data and time the request was requested to start
Actual Start Date	The date and time the request started processing
Actual Completion Date	The date and time the request completed
Completion Status	The completion status of the request
Time in Queue	The total pending time of the request
Run Time	The total run time of the request
Printer	The printer the request was sent to including the number of copies
Completion Text	Completion text for the request
Log File Node	The host machine where the log file is stored
Log File Name	The log file location and name
Out File Node	The host machine where the out file is stored

Out File Name	The out file location and name
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Activity - Request Activity - Completed (Historical)

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Completed (Historical) tab lists all the historically complete requests and packages them together into either a bar chart or a grid. This displays concurrent processing in an easily viewed format, and creates a direct way to assess when a large number of requests are completed, or when there are slower periods.

You can view this data in one of four ways:

- By Day - in chart form
 - By Day - in grid form
 - By Hour of Day - in chart form
 - By Hour of Day - in grid form
-

Activity - Full Service Activity Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Full Service Activity Details panel consists of one tab with two parts:

- Full Service Sessions - Lists the full service users currently connected to the application including their current activity.
- Activity for the selected session - This sub grid displays the full session activity for the selected full service session.

Full Service Sessions

This area lists the full service users currently connected to the application including their current activity.

Column Heading	Description
Login ID	The internal login ID Sequence number.
User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user.
Description	The description of the user.
Email Address	The users E-mail address.
Responsibility	The responsibility level of the current applications user. Only displayed if sign-on audit is enabled at the responsibility level.
Form	The user's form. Only displayed if sign-on audit is enabled at the forms level.
Login Name	The login name of the users session.
Program Name	The program the user is running.
Connected Time	The time the user has been connected to the application (HH:MM:SS).
Dead Session	Indicates if the session is a "Dead" session. In this case a dead session is any session that has a start date older than the last database restart time.
Oracle PID	The Oracle process for the user.

PID	The Operating system process for the user.
Terminal	The terminal the user is working on.
<i>Note: The terminal ID is not always populated by the application</i>	

The Sign-on Audit level is displayed in the status bar below the grids.

Note: In some of the later release of 11.5.9 and 11.5.10 CU1 may not display any information. Refer Oracle patch 4201122.

Activity for the selected session

This sub grid displays the full session activity for the selected full service session. This information can be used to view a users work practices (Full Service Activity Only) within the application.

Note: The sign-on Audit level will determine the amount of information available in this grid. The sign-on audit level can be found in the lower status bar of the right hand side grid.

Column Heading	Description
Login ID	
Activity	This column contains one of the following: <ul style="list-style-type: none"> • Connection – Indicating the session start • The session Responsibility Name • The session Form name.
Session Start	The date and time the activity started.
Session End	The date and time the activity ended.
Session Time	The duration of the activity (HH:MM:SS). <ul style="list-style-type: none"> • Total session time • Time spent in the responsibility • Time spent in the form.

Activity - Self Service Activity Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Self Service Activity details panel lists all self service sessions as follows:

- Self Service Sessions - Lists the self service users currently connected to the application including their current activity

A session will be considered closed if there has been no session activity for more than 30 minutes.

If you are running Oracle Application Manager (OAM) there will be one self service session generated each time the OAM collection process runs. As the session is not closed appropriately, the session will be shown as active for the TOAD timeout period of 30 minutes. This if the OAM collector is run every 10 min (Default) this grid will normally include 3 sessions associated with the OAM collector process.

Column Heading	Description
Session ID	The internal session ID for the Self Service Web Apps session
User ID	The unique internal identifier for the application users account
User Name	The login name of the application user
Description	The description of the user

Session Mode	The self service session mode
Resp ID	The internal application reference number for the Responsibility
Responsibility	The Application Responsibility associated with the users last activity
Org ID	The internal application reference number for the Organization
Org Name	The organization associated with the users last activity
Function ID	The internal application reference number for the function
Function	The function associated with the users last activity
Session start	The date and time the session started
Last Connect	The date and time of the users last page request
Last Activity Age	The age of the last session page request (HH:MM:SS)
Connect Time	The total session connection time (HH:MM:SS)
Session Limit	The activity time limit for the session (HH:MM:SS) (set by profile options)
Activity Count	The number of page requests the user has made during the session
Activity Limit	The page request limit for the session (set by profile options)

Activity - Sessions Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The sessions details tab lists information on application-related database sessions.

Note: Does not include Oracle background processes.

Column Heading	Description
SID	The Oracle session identifier
Serial #	The serial number for the specified database session
Machine	The name of the computer that initiated the session
Module	The internal module name for the specified session
User Name	If the specified session is an application user session, the user's logon name will be displayed. Where the session is a non-application user, the OS User name is displayed
Apps Module	Where the module is an application form, this shows the name of the form. Where the module is a concurrent request, this shows the full concurrent program name
Process Name	The name of the process currently running in the session
OS User	The operating system user ID for the session
Process ID	The Operating system process ID for the session
Logon Date	The date and time the session started
Session I/O	The total I/O generated by the session <i>Note: The I/O is the sum of the session's consistent_gets and block_gets</i>
Client PID	The identifier for the client process associated with the session
Server PID	The identifier for the server process associated with the session

Finding a Session in Session Browser

You can also locate a session in the Session Browser.

To locate a session

1. In the objects list of the Ebiz browser, click **Sessions**.
2. Select a session in the Objects Panel.
3. Click the **Find in Session Browser**  button.

Activity - Application Locks Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Application Locks details panel displays all the application related locks.

Column Heading	Description
Oracle SID	The Oracle session identifier
Oracle PID	The Oracle Process Number
Status	The lock status
Lock/Wait Time	The lock wait time
Lock Type	The Lock Type
Locked Object	The object being Locked
Apps User	The application user holding the lock
Description	The application users description
Oracle User	The Oracle user
OS User	The OS system user
Client Program	The program the lock holder is running
Machine	The host running the program
Terminal	The terminal running the program

Activity - OAM Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

If OAM activity is being collected, then Toad will include OAM information. The following information can be reviewed:

- App Status
- Web Components
- Managers
- Activity
- Throughput (Last 24 Hrs)
- Config Changes (Last 24 Hrs)
- System Alerts
- User Alerts
- Messages

Activity - OAM - App Status Tab

The App Status tab displays the status of the application components.

Column Heading	Description
Sample Date	The date and time the individual item was last checked by the OAM application
Application Component	The application component group – Used to group application components
Component Item Name	The application component being checked by OAM The reference name of the application component
Status	The status of the application component when last checked

Activity - OAM - Web Components tab

The web components tab displays information relating to Web components.

Column Heading	Description
Sample Date	The date and time the individual item was last checked by the OAM application
Web Component Description	The application web component being checked by OAM The description of the web component
Status	The status of the application web component when last checked
Collection Enabled	Indicates if the collection has been enabled as set in the OAM application
Alert Enabled	Indicates if the collection is to generate an OAM alert as set in the OAM application
Alert Operator	The alert threshold operator as set in OAM as set in the OAM application
Alert Threshold	The alert threshold as set in OAM as set in the OAM application

Note: A value of "N/A" indicates this value may not be available in your version of Oracle E-Business Suite

Activity - OAM - Managers tab

Column Heading	Description
Sample Date	The date and time the individual item was last checked by the OAM application
Manager Host	The concurrent manager name The host running the concurrent manager
Status	The status of the concurrent manager when last checked

Activity - OAM - Activity Tab

Column Heading	Description
Sample Date	The date and time the individual item was last checked by the OAM application
Activity Component	The activity component being checked by OAM
Description	The description of the activity component
Activity Value	The value of the activity when last checked
Collection Enabled	Indicates if the collection has been enabled as set in the OAM application
Alert Enabled	Indicates if the collection is to generate an OAM alert as set in the OAM application
Alert Operator	The alert threshold operator as set in OAM as set in the OAM application
Alert Threshold	The alert threshold as set in OAM as set in the OAM application

Note: A value of "N/A" indicates this value may not be available in your version of Oracle E-Business Suite

Activity - OAM - Throughput Tab

Column Heading	Description
Sample Date	The date and time the individual item was last checked by the OAM application
Activity Component	The activity component being checked by OAM
Description	The description of the activity component
Activity Value	The value of the activity when last checked
Collection Enabled	Indicates if the collection has been enabled as set in the OAM application
Alert Enabled	Indicates if the collection is to generate an OAM alert as set in the OAM application
Alert Operator	The alert threshold operator as set in OAM as set in the OAM application
Alert Threshold	The alert threshold as set in OAM as set in the OAM application

Note: A value of "N/A" indicates this value may not be available in your version of Oracle E-Business Suite

Activity - OAM - Config Changes tab

Column Heading	Description
Sample Date	The date and time the configuration component was last checked by the OAM application
Config Component	The configuration component being checked by OAM
Description	The description of the configuration component being checked by OAM

Config Changes	The number of configuration changes in the past 24 hours
Collection Enabled	Indicates if the collection has been enabled as set in the OAM application
Alert Enabled	Indicates if the collection is to generate an OAM alert as set in the OAM application
Alert Operator	The alert threshold operator as set in OAM as set in the OAM application
Alert Threshold	The alert threshold as set in OAM as set in the OAM application

Note: A value of "N/A" indicates this value may not be available in your version of Oracle E-Business Suite

Activity - OAM - System Alerts tab

Column Heading	Description
Sample Date	The date and time the alerts were last checked by the OAM application
Alert Type	The alert grouping, New Alerts, Open Alerts etc....
Description	The description of the alert type
Alert Count	The number of alerts within the alert type
Collection Enabled	Indicates if the collection has been enabled as set in the OAM application
Alert Enabled	Indicates if the collection is to generate an OAM alert as set in the OAM application
Alert Operator	The alert threshold operator as set in OAM as set in the OAM application
Alert Threshold	The alert threshold as set in OAM as set in the OAM application

Activity - OAM - User Alerts Tab

Column Heading	Description
Sample Date	The date and time the alerts were last checked by the OAM application
Alert Type	The alert grouping, New Alerts, Open Alerts etc....
Description	The description of the alert type
Alert Count	The number of alerts within the alert type
Collection Enabled	Indicates if the collection has been enabled as set in the OAM application
Alert Enabled	Indicates if the collection is to generate an OAM alert as set in the OAM application
Alert Operator	The alert threshold operator as set in OAM as set in the OAM application
Alert Threshold	The alert threshold as set in OAM as set in the OAM application

Activity - OAM - Messages Tab

Top Section

Column Heading	Description
Category	The OAM message category
Severity	The severity level of the message
Message Text	The full message text
Count	The number of messages within the category, Severity and Message Text

Bottom Section

Column Heading	Description
Message Date	The date and time the message was generated
Node	The node the message relates to
Session Module	The session module the message refers to
Module	The actual module the message refers to
Session Action	The session action the message refers to
Transaction Context ID	The internal transaction context ID for the message
Log Sequence	The internal log Sequence for the message

Activity - Time Shift Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Time Shift details panel consists of the following tabs. Each tab will show a line graph showing the activity since midnight in 10 min intervals for the selected day (defaults to today).

This set of charts allows you to view the relative activity looking back in time.

- [Concurrent Request](#) – Running and pending requests
- [Full Service Activity](#) – Full service connections
- [Self Service Activity](#) – Self service connections

Note: The amount of available history is dependant on the site purging policy

For each graph there is an associated "Grid" tab which provides the ability to extract the raw data for additional investigation and or graphing.

Activity - Time Shift - Concurrent Request tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This chart shows the number of running and pending requests that were running or pending in ten minute intervals from midnight of the selected day.

A request that was on hold and was subsequently released will display as pending for the entire period it was on hold and the actual pending time.

Note: The pending count does not include scheduled requests.

Activity - Time Shift - Full Service Connections

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This chart shows the number of full service sessions that were active in ten minute Intervals from midnight of the selected day

Note: Dead sessions will be shown as active sessions

Activity - Time Shift - Self Service Connections

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This chart shows the number of Self service sessions that were active in ten minute intervals from midnight of the selected day. A session will be considered closed if there has been no session activity for more than 30 minutes.

If you are running Oracle Application Manager (OAM) there will be one self service session generated each time the OAM collection process runs. As the session is not closed appropriately, the session will be shown as active for the TOAD timeout period of 30 minutes. This if the OAM collector is run every 10 min (Default) this grid will normally include 3 sessions associated with the OAM collector process.

Activity - Point in Time Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Point in Time details panel consists of the following tabs. Each tab displays the activity that was occurring at the selected date and time.

- [Concurrent Request](#) – Lists the concurrent requests that were running or pending at the selected time
- Full Service Activity – Lists the full service sessions that were active at the selected time
- Self Service Activity – Lists the Self service sessions that were active at the selected time

Note: The amount of history available is dependant on the sites purging policy

Activity - Point in Time - Concurrent Requests tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Concurrent requests tab lists the concurrent requests that were running or pending at the selected time

Column Heading	Description
Status	Running or Pending.
Request ID	The concurrent request ID.
Manager	Concurrent Manager that ran the request.
User	The user that submitted the request.
Program	Full name of the concurrent program.
Parameters	Run-time parameters for the request.
Priority	The request priority .
Request Start	The date and time the request was set to start.
Actual Start	The date and time the request started processing.
Actual Completion	The date and time the request completed processing.
Pending Time	The time (HH:MM:SS) the request spent with a status of Pending.
Running Time	The total run time (HH:MM:SS) for the request.
Printer	The printer the request was sent to including the number of copies.

Note: A request that was released from hold or a request that was submitted as a copy of a prior request may show a larger than "normal" pending time.

Activity - Point in Time - Full Service Activity tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Full Service Activity tab lists the full service sessions that were active at the selected time.

Column Heading	Description
User Name	The login name of the application user.
Description	The description of the user.
Email Address	The users E-mail address.
Responsibility	The responsibility level of the current applications user. Only displayed if sign-on audit is enabled at the responsibility level.
Form	The user's form. Only displayed if sign-on audit is enabled at the forms level.
Login Name	The login name of the users session.
Login Time	The time the user started the session.
Connection Time	The time the user has been connected up to the selected time.
Terminal ID	The terminal the connection was made from.

Activity - Performance Details

Performance information is based on the existence a Program provided by Oracle to collect information for the Oracle Application Administration (OAM) application. As part of the OAM process, Oracles run a

concurrent program every 5 – 10 min to collect information for their monitor. The main feature of this program is that it does a large number of lookups and updates to populate the OAM product; in essence the program performs the same activity every time it runs. As such any slow down in the program run time will be related to data base performance and not program activity. Thus graphing the program run time each time it ran will provide an indicator as to the overall application performance.

Note: This option will only be available in the LHS if the OAM COLLECTOR program is running.

The chart in the details panel shows the total run time for the OAM collection program each time it is run. The Grid tab provides raw information for additional investigation or graphing.

Activity - Point in Time - Self Service Activity tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists the self service sessions that were active at the selected time.

Column Heading	Description
Session ID	The internal session ID for the Self Service Web Apps session.
User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user.
Description	The description of the user.
Mode	The self service session mode.
Last Responsibility	The Application Responsibility associated with the users last activity for the session.
Org Name	The organization associated with the users last activity for the session.
Last Function	The function associated with the users last activity for the session.
Session Start	The date and time the session started.
Session End	The date and time of the users last page request.

Note: Service sessions do not store any historical session activity as such only the last activity for the session is available.

Application

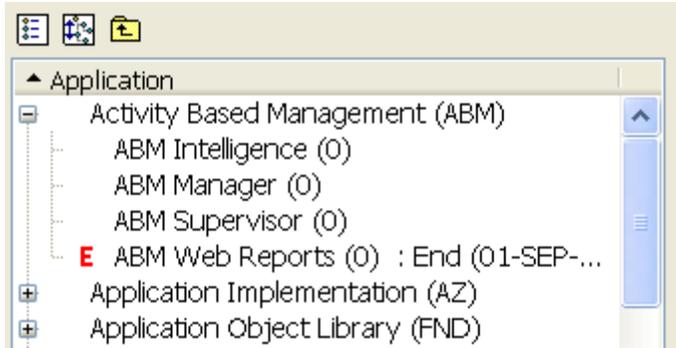
Applications Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The left hand side of the browser displays the applications and application responsibilities in a tree structure.

Selecting an application displays the application information in the right hand side. Selecting a responsibility displays responsibility information in the right hand side.

The tree structure appears as follows:



The Application short name has been appended to the application name for clarity.

The number appended to the end of the responsibility is the number of times the responsibility has been assigned to a user. The count only includes active users and active responsibilities for the user.

Where a responsibility has been end dated the end date will be appended to the responsibility name and a letter will be displayed preceding the responsibility name

Responsibility Status	Account Status Code
Active Responsibility	null
Future End Date	F
End Dated Account	E

Example

You are about to end date a responsibility and want to know if there are any users that have been assigned that responsibility who will be affected by the end date.

1. Select the responsibility application.
2. Check the number appended to the end of the responsibility.
 - If it is (0) then no users have been assigned this responsibility.
 - If the value is greater than (0) then select the responsibility and then the users tab on the right hand side to obtain a list of users who have been assigned the responsibility.

Applications Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The right hand side of the eBiz browser provides details for the selected object.

Applications Details

You can select either an application or an application responsibility. Applications details tabs include:

Tab	Information provided
Info	Shows the application information for the selected application.
Profile Options	Lists all the profile options that have been set at the application level for the selected application.

Users	Lists of users who have access to one or more of the application responsibilities.
Patches	Three sections that list patch information: <ul style="list-style-type: none"> • Lists of patches that have been applied that may have affected one or more components of the selected application. • Lists the “Patch Bugs” for the selected patch. • Lists all the “Patch Bug Details” for the selected Bug.

Application Responsibilities Details

You can select either an application or an application responsibility. Applications responsibility details tabs include:

Tab	Information provided
Info	Shows the application information for the selected application.
Profile Options	Lists all the profile options that have been set at the application level for the selected application.
Users	Lists of users who have access to one or more of the application responsibilities.
Menu	Shows the menu structure of the selected responsibility.

Applications Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Property	Description
Application ID	The internal application ID.
Application Short Name	The application short name.
Application Description	The application full name.
Base path	The base path name for the application source.
Account Information	
Created Date	The date the application was created.
Created By	The application user who created the application.
Last Updated Date	The date the application was last updated.
Last Updated By	The application user who last updated the application.
Status and Version Information	
Install Status	The install status of the application - installed, shared install, and so on.
Version	The version of the installed module.
Patch level	The patch level of the installed

application.

Note: The patch level may not be available in some early releases of Oracle 11i

Database Information

Tablespace (Data)	The default tablespace used during install.
Tablespace (Index)	The default index tablespace used during install.
Tablespace (Temporary)	The default temporary tablespace used during install
Oracle ID	The Oracle account in which the application is installed.
Oracle User Name	User name for the Oracle account.
Oracle User Description	The description of the Oracle account owner.

Applications Profile Options tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Lists all the profile options that have been set at the application level for the selected application.

Column Heading	Description
Option ID	The profile option ID.
Option name (internal)	The internal profile option name.
Option Name	The user profile option name.
Option Value	The profile option value.
Site Level Value	The site level value for the selected profile option.

Applications Users

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Lists users who have access to one or more of the application responsibilities.

Column Heading	Description
User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user.
Description	The description of the user.
Email Address	The users E-mail address.
Employee	Indicates if the users are configured as an employee.
Supplier	Indicates if the users are configured as an Supplier.
Customer	Indicates if the users are configured as an customer.
Resp Name	The responsibility the user has been granted.
Resp Start Date	The date the responsibility for the user became active.
Resp End Date	The date the responsibility for the user was or will be closed.

Applications Patches

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Applied Patches

Lists of patches that have been applied that may have affected one or more components of the selected application

Column Heading	Description
Database Name	The SID of the database to which the patch was applied.
Server	The server to which the patch was applied.
Name	The patch number.
Patch ID	The internal ID for the application patch.
Type	Indicates if the patch was a single patch or a set of patches.
Rapid Install	Indicates that the patch was applied by Oracle during the creation of the Rapid Install database (Yes/No).
Source	Indicates whether the patch has been uploaded from the applptch.txt file or created as a result of applying a patch driver (DRV) file.
Driver Name	The name of the patch driver.
Top	The folder where the patch is located.
Actions	Arguments of the "options" when Autopatch was invoked.
Start Date	Date and time when Autopatch started applying the patch.
End Date	Date and time when Autopatch completed applying the patch.
Patch Run Time	The time taken for Autopatch to apply the patch (HH:MM:SS).
Patch Run ID	The unique ID of the patch run.
Platform	The platform for which the patch was created.
Node	Indicates that the server to which the patch has been applied runs concurrent processing (Yes/No).
Admin	Indicates that server to which the patch was applied runs Administration (Yes/No).
Forms	Indicates that the server to which the patch was applied runs a Forms Server (Yes/No).
Web	Indicates that the server to which the patch was applied runs the Application Server (Y/N).
Imported From DB	ORACLE_SID of the database from which this row is imported.
Imported ID	ID of the patch run in the source database.

Patch Bugs

Lists the "Patch Bugs" for the selected patch in the Applied Patches area.

Column Heading	Description
Bug Number	Number of the bug.
Orig Bug Number	Original number of the bug.
Patch Run Bug ID	ID of the bug.
Bug Status	Status of the bug fix applied.
Applied	Indicates if Autopatch tried to apply this bug fix (Yes/No).

Reason Not Applied	The reason the bug fix was not applied.
Success	Indicates if the application of the patch was successful (Yes/No).
Failure Comments	Comments relating to the failure of the patch application.

Patch Bug Details

Lists all the "Patch Bug Details" for the selected patch bug in the Patch Bugs area.

Column Heading	Description
Orig Bug Number	The original number of the bug.
Action Code	The action code of the patch driver.
Action Phase	Phase component of the action statement in the patch driver.
Appn Short Name	Application short name.
Sub Directory	Subdirectory where the file resides.
File Name	Name of the file.
Version	Version of the component.

Application Responsibilities Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The info tab shows the general responsibility information for the selected responsibility.

Column Heading	Description
Appln ID	The internal application ID for the responsibility
Resp ID	The internal responsibility ID
Responsibility Name	The full responsibility name
Start Date	The date the user responsibility became active
End Date	The date the account was or will be closed
Menu ID	The menu entry point
Menu Name	The name of the menu the responsibility calls
Available From	Indicates the where the menu is called from: <ul style="list-style-type: none"> • Oracle Applications • Oracle Self Service Web Applications • Oracle Mobile Applications
Creation Information	
Created Date	The date the responsibility was created
Created By	The application user who created the responsibility
Last Update Date	The date the responsibility was last updated
Last Updated by	The application user who last updated the responsibility

Request Group Information

Request Group	The report request group assigned to the responsibility
Request Group Application	The full application name of the request group application

Data Group Information

Data Group	The data group associated with the responsibility
Data Group Application	The full application name of the data group application

Application Responsibility Profile tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Lists all the profile options that have been set at the responsibility level for the selected responsibility

Column Heading	Description
Option ID	The profile option ID.
Option Name (internal)	The internal profile option name.
Option Name	The user profile option name.
Option Value	The profile option value.
Site Level Value	The site level value for the selected profile option.

Application Responsibility Users tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Lists all the users who have been granted access to the selected responsibility

Column Heading	Description
User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user.
Description	The description of the user.
E-Mail Address	The users E-mail address.
Employee	Indicates if the users has been configured as an employee.
Customer	Indicates if the users has been configured as a customer.
Supplier	Indicates if the users has been configured as a Supplier.
Start Date	The date the user responsibility became active for the user.
End Date	The date the responsibility was or will be closed for the user.

Application Responsibility Menu tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The contents of this tab shows the menu structure of the selected responsibility.

From the right-click menu, you can choose to print or copy the structure to the clipboard.

Audit

Audit - Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The audit function is designed to provide some basic audit feature covering Password configuration and activity, Responsibility usage and unsuccessful login attempts. This area can be used to produce some basic monthly application audit reports.

The Audit Objects Paned information displays four options:

- [PWD Profile Options](#)
 - [Responsibilities](#)
 - [Unsuccessful Logins](#)
 - [User Accounts](#)
-

Audit - Password Profile Options Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Password Profiles Options detail panel lists the application profile options directly related to the application passwords.

Option Name	Description
Sign-On:Notification	The user is notified when a unsuccessful attempt has been made on their account.
Signon Password Length	The minimum password length (Default = 5).
Signon Password Hard to Guess	When this is set passwords must conform to the following: <ul style="list-style-type: none"> • Must contain at least one alpha character and one number • Does not match the user name • Does not contain repeating characters.
Signon Password	Reuse the minimum number of days before a password can be

No	re-used.
Signon Password Failure Limit	The account will be locked if there are more than X (default = 3) unsuccessful login attempts.

Note:

- Not all profile options are available in all releases
- All the above profile options are set at the site level only

Audit - Responsibilities Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Responsibilities details panel contains of the following tabs:

- [Usage](#) - Lists all the active application responsibilities and the number of users who have been granted access to the responsibility
- Usage - Lists all the active users granted access to the selected responsibility
- [Special Resp](#) - Lists all those users who have been granted either System Administrator or Application Developer responsibilities
- [Special Resp Usage](#) – Lists “Special” responsibilities usage by user.
- [User Resp Added](#) - Lists the responsibilities assigned to a user within the past calendar month

Audit - Responsibilities - Usage tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Lists all the active application responsibilities and the number of users who have been granted access to the responsibility.

Upper Grid

The upper grid lists all active application responsibilities. You can list only those responsibilities that are being used by adding a custom filter to the user count column: “Greater Than” and 0.

Column Heading	Description
Application	The responsibility application name
Application ID	The responsibility application ID
Responsibility ID	The internal responsibility reference number
Responsibility	The full name of the responsibility
End Date	The date the users will no longer have access to the responsibility
User Count	The number of users who have been granted access to the responsibility

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Lower grid

The lower grid lists all the active users granted access to the selected responsibility.

Column Heading	Description
User Name	The unique internal identifier for the application users account
User ID	The login name of the application user
Description	The description of the user
Email Address	The users email address
Start Date	The date the responsibility was activated for the user
End Date	The date the responsibility was or will be closed

Audit - Responsibilities - Special Resp tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Special Resp tab lists all those users who have been granted either System Administrator or Application Developer responsibilities.

For example, you can use this grid to identify those users who should not have this level of access and or who have been granted the responsibility and have not used the responsibility in x days.

Column Heading	Description
Responsibility	The responsibility name.
User Name	The login name of the application user.
Description	The description of the user.
Email Address	The users E-mail address.
End Date	The date the users will no longer have access to the responsibility.
Last Logon	The date and time the user last connected to the application (Any Responsibility).
Days Since Last Connect	The number of days since the user last connected to the application.

Audit - Responsibilities - Special Resp Usage tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists any Special responsibilities usage by user. The amount of history available is dependant on the sites sign-on audit purging policy.

For example – You can use this information to identify users who are using responsibilities they should not have access to. It may also be used to identify those users who have incompatible (Corporate Governance) responsibilities.

Note: This grid will only list responsibilities that contain the following strings: %SUPER%, %ADMIN%, %DEVOP%.

This grid will only provide relevant information where the application language is either English or one of the various forms of English.

Column Heading	Description
Responsibility	The responsibility name.
Resp End Date	The responsibility end date.

User Name	The login name of the application user.
Description	The description of the user.
User End Date	The date the users account will be closed.
Times Used	The number of times the responsibility has been used.
First Time	The date and time of the first usage of the responsibility.
Last Time	The date and time of the last usage of the responsibility.

Audit - Responsibilities - User Resp Added tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The User Resp Added tab lists the responsibilities assigned to a user within the past calendar month.

Column Heading	Description
Application	The responsibility application ID.
Responsibility	The responsibility granted.
Start Date	The date the responsibility was assigned to the user.
End Date	The date the users will no longer have access to the responsibility.
User Name	The user being granted the responsibility.
Description	The description of the user.
Created By	The application user who granted the responsibility.
Created Date	The date the responsibility was granted.

Audit - Unsuccessful Logins Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Unsuccessful Logins details panel displays the accounts that have had one or more unsuccessful logon attempts in the past calendar month and lists all the unsuccessful login attempts for the selected user.

Unsuccessful login attempt is restricted to full service sessions only. The amount of history available is dependant on the site's sign-on audit purging policy.

Audit - Unsuccessful Logins - Full Service tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Full Service tab displays the accounts that have had one or more unsuccessful logon attempts in the past calendar month and lists all the unsuccessful login attempts for the selected user.

For example, you can use this information to identify inappropriate accesses to an account or to identify those users who continually forget their password.

Upper area

The main area of the full service tab lists the accounts that have had one or more unsuccessful logon attempts in the past calendar month.

Column Heading	Description
----------------	-------------

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User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user.
Description	The description of the user.
Email Address	The users email address.
Attempts	The number of unsuccessful login attempts in the past calendar month.

Lower Area

Lists the individual unsuccessful login attempts for the selected users account from the upper area.

Column Heading	Description
Terminal ID	The terminal ID where the attempt was made. <i>Note: The terminal ID is not always populated by the application.</i>
Attempt Time	The date and time of the unsuccessful login attempt.

Audit - User Accounts Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The User Accounts details panel consists of the following tabs:

- [PWD Aging](#) - Lists all active user accounts including password aging information
 - [No PWD Aging](#) - Lists all active user accounts that do not have any password aging set
 - [Aged Users](#) - Lists all active user accounts including the number of days since last connect.
 - [Accounts Created](#) - Lists all the user accounts that have been created within the past calendar month
 - End Dated - Lists all the user accounts that have been end dated and the end date has passed within the past calendar month
 - [Will End Date](#) - Lists all the end dated user accounts that will end within the next calendar month
-

Audit - User Accounts - PWD Aging tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists all active user accounts including password aging information.

Column Heading	Description
User Name	The application user name
Description	The users description
End Date	The date the account will be closed
Last Logon Date	The date and time of the last connection to the account
Days Since Last Logon	The number of days since the user last connected to the application

PWD Last Changed	The date and time the password was last changed. A null value indicates the password has never been changed
Password Lifespan Days	The number of days between password changes
Days Remaining	If the password lifespan is set, this is the number of days remaining before password must be changed. A value of 0 indicates the password will require changing when the account is next accessed
Password Lifespan Accesses	The number of application accesses allowed before the password must be changed
Lifespan Access Left	If the password lifespan accesses is set, this is the number of accesses remaining before password must be changed

Audit - User Accounts - No PWD Aging tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists all active user accounts that do not have any password aging set.

Column Heading	Description
User Name	The application user name.
Description	The users description.
End Date	The date the account was or will be closed.
Last Logon Date	The date and time of the last connection to the account.
Days Since Last Connect	The number of days since the user last connected to the application.
Admin Changed	Indicator to identify if the Administrator may have been the last user to change the password.
Password Lifespan Days	The number of days between password changes.
Days Remaining	If the password lifespan is set, this is the number of days remaining before password must be changed. A value of 0 indicates the password will require changing when the account is next accessed.
Password Lifespan Accesses	The number of application accesses allowed before the password must be changed.
Lifespan Access left	If the password lifespan accesses is set, this is the number of accesses remaining before password must be changed.

Audit - User Accounts - Aged Users

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists all active user accounts including the number of days since last connect.

Column Heading	Description
User Name	The application user name.
Description	The users description.
Email Address	The users E-mail address.
Last Logon Date	The date and time of the last connection to the account.
Days Since Last	The number of days since the user last connected to the

Connect	application. A null value indicates the account has never been used. A value of 0 indicates the account has been accessed today.
End Date	The date the account was or will be closed.

Example - producing a list of users who are candidates for end dating

1. Save the grid as a comma delimited text file (Right click within the grid) and import into Excel (don't forget to save the headings).
2. Edit the Excel file to remove all those users who have connected within the last 120 days and any special users.

Audit - User Accounts - Accounts Created tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists all user accounts created within the past calendar month.

Column Heading	Description
User Name	The application user name.
Description	The user's description.
Email Address	The users email address.
Created Date	The date the user account was created.
Last Logon Date	The date and time of the last connection to the account.
Days Since Last Connect	The number of days since the user last connected to the application. A null value indicates the account has not been used.
End Date	The date the account was or will be closed.
Last Updated Date	The date and time the account was last updated.
Last Updated By	The user account that last updated the account.

Audit - User Accounts - End Dated

This tab lists all the user accounts that have been end dated and the end date has passed within the past calendar month.

Column Heading	Description
User Name	The application user name.
Description	The users description.
Email Address	The users email address.
Created Date	The date the user account was created.

Last Logon Date	The date and time of the last connection to the account.
Days Since Last Connect	The number of days since the user last connected to the application. A null value indicates the account has not been used.
End Date	The date the account was closed.
Last Updated Date	The date the user account was last updated.
Last Updated By	The application user who last updated the user account.

Audit - User Accounts - Will End Date tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Lists all the user accounts that have been end dated and will be closed (end date will pass) within the past calendar month.

Column Heading	Description
User Name	The application user name.
Description	The users description.
Email Address	The users E-mail address.
Created Date	The date the user account was created.
Last Logon Date	The date and time of the last connection to the account.
Days Since Last Connect	The number of days since the user last connected to the application. A null value indicates the account has not been used.
End Date	The date the account was or will be closed.
Days Remaining	The number of days remaining until the account will be closed.
Last Updated Date	The date the user account was last updated.
Last Updated By	The application user who last updated the user account.

For example, this information could be used to notify Human Resources of the accounts are about to be closed

If the account is to be end dated and the days since last connect are less than 7 days, there is a high probability the account is still being used.

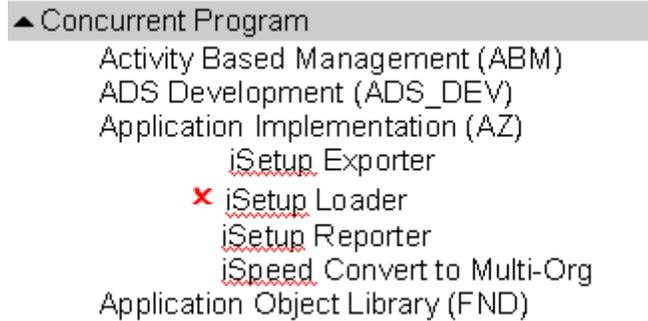
Concurrent Programs

Concurrent Programs Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Object Panel of the browser displays a two level tree structure showing only those applications having registered programs and the programs for the selected application.

Example format:



Where a concurrent program has been disabled it will be marked with a  preceding the program name

Concurrent Programs Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The right hand side of the eBiz browser provides details for the selected object.

Application Details

You can select either an application or a program. The Application details contains only one tab, displaying [Information](#) about the application.

Program Details

You can select either an application or a program. The Programs Details consist of the following tabs when a program is selected:

- [Info](#) - Shows the general concurrent program information for the selected program
- [Accessed By](#) - Lists all responsibilities including request groups that can access the selected program.
- [Users](#) - Lists all the users who have access to the selected program including the responsibility and request group used to access the Program
- [Incompatibilities](#) - Lists all the programs that are incompatible with the selected program
- [Parameters](#) - Lists all the run time parameters for the selected program where they exist
- [Activity By User](#) - Is broken down into two statistics:
 - Overall Run Stats of the Selected Concurrent Program - Lists the overall activity for the selected program by application user
 - Runs of the Selected Program by the Selected User - List the individual runs of the selected program by the selected user.
- [Run Times](#) - List the runtimes for the selected Program

Runtime Values

If the program has had prior runs the runtime statistics for the selected program will be displayed in the status bar below the right hand side (details panel) grid in the following format:

Run Stats: Runs = 92; Min Time = 00:00:01; Avg Time = 00:00:07; Max Time = 00:03:56

The status line is read as follows:

Sample size = 92

- Minimum runtime = 1 Second
- Average runtime = 7 Seconds
- Maximum runtime = 3 Minutes and 56 Seconds

Note: The statistics are based on **all** available runtime history in `fnd_concurrent_requests` for the selected program. The statistics include completed runs of the selected program regardless of any run time parameters

Runtime values are displayed from the following tabs:

- Run Times
 - Activity by User
-

Updating Concurrent Programs

You can update concurrent programs by changing or clearing the request type for a concurrent program.

Changing the Request Type

When you change the request type, the change in the info grid is very subtle. Look down to the Request type entry. This is the only entry that will change when you update this field.

To change concurrent programs request type

1. From the **eBiz Browser**, select **Concurrent Programs** from the object drop down.
2. In the left hand side, select a concurrent program to update.
3. On the right hand side, click the **Info** tab.
4. Click the **Change Request Type**  button.
5. In the grid, select the **request type** you want to assign to this program.
6. Click **OK**.

To clear the concurrent programs request type

1. From the **eBiz Browser**, select **Concurrent Programs** from the object drop down.
2. In the left hand side, select a concurrent program to update.
3. On the right hand side, click the **Info** tab.
4. Click the **Clear Request Type**  button.

5. Click **OK** to confirm.

Related Topics

[Concurrent Programs - Info tab](#)

Concurrent Programs - Applications Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The info tab displays the general application information for the selected application.

Column Heading	Description
Application ID	The internal application ID.
Application Short Name	The application short name.
Application Name	The application name.
Application Description	The application full name.
Base Path	The base path name for the application source.
Creation Information	
Created Date	The date the application was created.
Created By	The application user who created the application.
Last Updated Date	The date the application was last updated.
Last Updated By	The application user who last updated the application.
Status and Version Information	
Install Status	The install status of the application – Installed, shared install and so on.
Version	The version of the installed module.
Patch Level	The patch level of the installed application.
<i>Note: The patch level may not be available in some early releases of 11i</i>	
Database Information	
Tablespace (Data)	The default tablespace used during install.
Tablespace (Index)	The default index tablespace used during install.
Tablespace (Temporary)	The default temporary tablespace used during install.
Oracle ID	The Oracle account in which the application is installed.
Oracle User Name	User name for the Oracle account.
Oracle User Description	The description of the Oracle account owner.

Concurrent Programs - Programs - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When a program is selected in the Objects Panel, the Info tab displays the general concurrent program information for the selected program.

Column Heading	Description
Application ID	The internal program application ID.
Application	The application short name.
Program ID	The internal program ID.
Program Status	Indicates if the program is enabled or disabled.
Program Name (Internal)	The program short name.
Program Name	The program full name.
Program Description	The description of the program.
Execution Information	
Executable Name	The programs executable name.
Execution Method	The method with which the program will be executed.
Execution Options	Oracle Report execution options.
Request Priority	The programs runtime priority.
Queue Information	
Argument Method	Indicates how the program arguments are passed to the program.
Queue Control	Indicates the program is a special program that controls the concurrent managers.
Queue Method	Indicates if the program is constrained.
Request Set	Indicates if the program is the parent of a report set.
Request Type	
Request Type	The specialization rules - request type.
Runtime Information	
Increment Proc	For use by Oracle Applications internal developers only. The incrementor function is shown here.
MLS executable Application ID	Multi Language support executable Application ID.
MLS executable ID	Multi Language support executable ID.
MLS executable name	Multi Language support executable name.
SRS	Indicates if the request can be submitted from the standard reports submission form.
Run Alone	Indicates if the program is a to be run as a run alone request.
Enable Trace	Indicates if trace is turned on for the program.
Restart on System Failure	Indicates if the program will restart on failure.
NLS Compliant	Indicates if the program is NLS compliant.
Output Information	
Output File Type	Format of the output file.
Save Output	Indicates if the output is to be saved.
Printer Information	
Default Printer	
Print Output	Indicates if the output is to be printed.
Required Style	Indicates if a print style is mandatory for the program.
Output Print Style	Print style of the output.
Minimum Width	Minimum number of columns.
Minimum Length	Minimum number of rows.
Session Information	
Rollback Segment	The rollback segment the program will use.

Optimizer Mode	The optimizer mode the program will use.
Resource Consumer Group	The Resource Consumer Group for the program.

Concurrent Programs - Programs - Accessed By tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Accessed By tab lists all responsibilities including request groups that can access the selected program.

Column Heading	Description
Appn ID	The internal application ID
Application	The application short name
Application Name	The application full name
Resp ID	The internal responsibility ID
Responsibility	The full responsibility name
Resp End Date	The date the responsibility will be closed
Request Group Appn ID	The application ID of the responsibilities request group application
Request Group ID	The request group ID of the responsibilities request group
Request Group	The responsibilities report request group name

Concurrent Programs - Programs - Users tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Users tab lists all the users who have access to the selected program including the responsibility and request group used to access the program.

Column Heading	Description
----------------	-------------

User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user.
Description	The description of the user.
Email Address	The user's email address.
Employee	Indicates if the users has been configured as an employee.
Supplier	Indicates if the users has been configured as a supplier.
Customer	Indicates if the users has been configured as a customer.
Resp Start Date	The date the responsibility was added to the user account.
Resp End Date	The date the responsibility will be closed for the user.
Responsibility	The responsibility the user can user to access the program.
Request Group	The request group that associated with the program.

Concurrent Programs - Programs - Incompatibilities tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Incompatibilities tab lists all the programs that are incompatible with the selected program.

Column Heading	Description
Appn ID	The internal program application ID.
Application	The application short name.
Application Name	The application full name.
Program ID	The internal concurrent program Identifier.
Program Name Internal	Full short name of the concurrent program.
Program Name	Full name of the concurrent program.
Program Status	Indicates if the program is enabled or disabled.
Scope	Indicates if the incompatible program is a single program or a request set.
Type	Indicates if the program is a single program or a request set.

Note: When the selected program appears in the list indicates the program is incompatible with itself.

Concurrent Programs - Programs - Parameters tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The parameters tab lists all existing run time parameters for the selected program.

Column Heading	Description
Appn ID	The internal application ID.
Desc Flex Name	The descriptive flex name.
Desc Flex Context Code	The descriptive flex structure name.
Appn Column Name	The descriptive flex segment name.
Column Seq Number	The descriptive flex sequence number .
User Column Name	The full columns name.

Description	The description of the description of the column .
Enabled	Indicates if the flexfield is enabled.
Display	Indicates if the segment is displayed.
Max Description Len	The maximum size of the segment value description in the flexfield window.
Value Set ID	The flexfield value set ID.
Value Set Name	The flexfield value set name.
Default Type	The default type for the reference field.
Default Value	The default value for the reference field.

Concurrent Programs - Programs - Activity by User

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Activity by User tab lists the overall activity for the selected program by application user for the selected period (default 1 day), and then the individual runs of the selected program by the selected user.

Overall Runs

Column Heading	Format
User Name	The Application users who submitted the request.
Description	The description of the user.
Total Requests	Total number of times the program was submitted.
Completed Normal	Total number of times the program completed normal.
Completed Error	Total number of times the program completed with a status of Error.
Completed Warning	Total number of times the program completed with a status of Warning.
Completed Cancelled	Total number of times the program was cancelled.
Completed Terminated	Total number of times the program was Terminated.

Individual Runs

List the individual runs of the selected program by the selected user.

Column Heading	Format
Request ID	The concurrent request ID.
Manager Name	Concurrent Manager that ran the request.
Argument Text	Run-time arguments for the request.
Priority	The request priority.
Status	The completion status of the request.
Req Start	The data and time of the request.
Actual Start	The date and time the request started processing.
Completed	The date and time the request completed processing.
Pending Time	The time (HH:MM:SS) the request spent with a status of Pending.
Running Time	The total run time (HH:MM:SS) for the request.
Printer	The printer the request was sent to including the number of

Completion Text	copies. Completion text for the request.
Log File Node	The host machine where the log file is stored.
Log File Name	The log file location and name.
Out File Node	The host machine where the out file is stored.
Out File Name	The out file location and name.

Concurrent Programs - Programs - Run Times

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The run times tab lists the runtimes for the selected Program.

Column Heading	Format
Request ID	The concurrent request ID.
Manager Name	Concurrent Manager that ran the request.
Program App'n ID	The internal application ID for the concurrent program relates to.
Program ID	The internal concurrent program Identifier.
Program Name	Full name of the concurrent program.
Argument Text	Run-time arguments for the request.
Priority	The request priority .
Status	The completion status of the request.
Req Start	The date and time of the request.
Actual Start	The date and time the request started processing.
Completed	The date and time the request completed processing.
Pending Time	The time (HH:MM:SS) the request spent with a status of Pending.
Running Time	The total run time (HH:MM:SS) for the request.
Printer	The printer the request was sent to including the number of copies.
Completion Text	Completion text for the request.
Log File Node	The host machine where the log file is stored.
Log File Name	The log file location and name.
Out File Node	The host machine where the out file is stored.
Out File Name	The out file location and name.

Data Groups

Data Groups Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Object panel (left hand side) of the browser lists all the registered data groups. The default data group is preceded by the symbol **D**.

Toad 9.5

For example:

D Standard

Multiple Reporting Currencies

Click on a registered data group to view details in the [Details panel](#).

Data Groups Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Details Panel in the right hand side of the browser consists of the following tabs:

Tab	Contents
Info	Shows the general information for the selected data group
Oracle Accounts	Lists the oracle accounts associated with the selected data group
Responsibilities	Lists the application responsibilities associated with the selected data group unit

Data Groups Info Tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Info tab displays general information for the selected data group.

Column Heading	Description
Data Group ID	The internal data group ID
Data Group Name	The data group name
Default Data Group	Indicates if the data group is the default data group
Security Group ID	The security group ID for the data group
Creation Information	
Created Date	The date the data group was created
Creation By	The application user who created the data group
Last Updated by	The date the data group was last updated
Last Updated Date	The application user who last updated the data group

Data Groups Oracle Accounts Tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Oracle Accounts tab displays the Oracle accounts associated with the selected data group. When you select one of these accounts, the lower area displays the responsibilities for that account.

Column Heading	Description
Data Group ID	The internal data group ID
Appn ID	The data group unit Application ID

Application	The data group unit application short name
Description	Data group unit description
Oracle ID	The Oracle account ID
Oracle User Name	The Oracle account user name
Oracle User Description	The description of the Oracle account

Responsibilities

The responsibilities area lists the application responsibilities associated with the data group unit selected in the Oracle Accounts area.

Column Heading	Description
Resp Appl ID	The internal application ID for the responsibility
Application	The application short name
Resp ID	The internal responsibility ID
Responsibility Name	The full responsibility name
Description	The responsibility description
Start Date	The date the user responsibility became active
End Date	The date the account was or will be closed

Descriptive Flex

Descriptive Flex - Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you select Descriptive flex, the left hand side (Objects Panel) of the browser displays each application and its descriptive flex fields in a hierarchical format.

There are four levels to this structure:

- [Descriptive Flex Application](#)
- [Descriptive Flex Table Application](#)
- [Descriptive Flex Table](#)
- [Descriptive Flex Column](#)

Each level has its own details.

The format appears in the Objects panel as follows: Application Object Library (FND)

```

Application Object Library (FND)
  Application Object Library (FND)
    FND_PRINTER_DRIVERS
      ATTRIBUTE1
      ATTRIBUTE2
      ATTRIBUTE3
      HEADER_FLAG

```

Note: Descriptive flexes are relatively difficult to find once created. We have attempted to provide a simple yet affective descriptive flex lookup for developers based on table and column.

Descriptive Flex Application Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you select a descriptive flex application, the details panel displays the general application information for the selected descriptive flex application.

Property	Description
Application ID	The internal application ID.
Application Short Name	The application short name.
Application Name	The application name.
Application Description	The application full name.
Base Path	The base path name for the application source.
Creation Information	
Created Date	The date the application was created.
Created By	The application user who created the application.
Last Updated Date	The date the application was last updated.
Last Updated By	The application user who last updated the application.
Status and Version Information	
Install Status	The install status of the application – Installed, shared install etc...
Version	The version of the installed module.
Patch Level	The patch level of the installed application.
Database Information	
Tablespace (Data)	The default tablespace used during install.
Tablespace (Index)	The default index tablespace used during install.
Tablespace (Temporary)	The default temporary tablespace used during install.
Oracle ID	The Oracle account in which the application is installed.
Oracle User Name	User name for the Oracle account.
Oracle User Description	The description of the Oracle account owner.

Descriptive Flex Table Application Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you select a descriptive flex application, the details panel displays the general flex table application information for the selected descriptive flex application.

Property	Description
Application ID	The internal application ID.
Application Short Name	The application short name.
Application Name	The application name.

Application Description	The application full name.
Base Path	The base path name for the application source.
Creation Information	
Created Date	The date the application was created.
Created By	The application user who created the application.
Last Updated Date	The date the application was last updated.
Last Updated By	The application user who last updated the application.
Status and Version Information	
Install Status	The install status of the application – Installed, shared install etc...
Version	The version of the installed module.
Patch Level	The patch level of the installed application.
Database Information	
Tablespace (Data)	The default tablespace used during install.
Tablespace (Index)	The default index tablespace used during install.
Tablespace (Temporary)	The default temporary tablespace used during install.
Oracle ID	The Oracle account in which the application is installed.
Oracle User Name	User name for the Oracle account.
Oracle User Description	The description of the Oracle account owner.

Descriptive Flex Table Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you select a Descriptive Flex table in the Objects Panel, the Details panel displays information for all descriptive flex columns and contents.

These are separated into two areas of the grid:

- Table Columns - Lists all the defined descriptive flex columns and contexts .
- Context Info - Lists context information for the selected descriptive flex column and context.

Table Columns

This area lists all the defined descriptive flex columns and contexts in the table.

Column Heading	Description
Column Name	The table column name.
User Column Name	The segment name.
Flex Context Code	Descriptive flexfield context code.
Flexfield Name	Descriptive flexfield name.
Value Set ID	The internal value set ID.
Value Set Name	The value set name.

Context Info

Lists context information for the selected descriptive flex column and context.

Column Heading	Description
Context Enabled	Indicates if the context is enabled.
Global Context	Indicates if the context is global.
Context Name	The context name.
Description	The context description.
Created By	The date the context was created.
Creation Date	The application user who created the context.
Last Updated By	The date the context was last updated.
Last Updated Date	The application user who last updated the context.

Descriptive Flex Column Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When a descriptive flex column is selected, the Details Panel displays Information in three levels:

- Column Usage – Lists all the contexts and value set information for the selected descriptive flex column.
- Context Info - Lists context information for the selected descriptive flex column context.
- Value Set Info - Lists value set information for the selected descriptive flex column and context.

Column Usage

This area lists all the contexts and value set information for the selected descriptive flex column.

Column Heading	Description
User Column Name	The User column name.
Flex Context Code	Descriptive flexfield context code.
Flex Name	The descriptive flexfield name.
Column Seq Status	The segment number for the column, like Attribute1.
Form Left Prompt	Indicates if the descriptive flex segment is enabled.
	The left prompt of the segment in the Flexfield window.

Form Above Prompt	The prompt above the segment in the Flexfield window.
Value Set	Required Indicates if validation is required.
Value Set ID	The Flexfield value set identifier.
Value Set Name	The full value set name.
Security Enabled	Indicates if security is required.
Displayed	Indicates if the segment is displayed.
Display Size	The display size for the segment.
Range Code	Indicates if the range code is High, Low or Paired.
Default Type	The type of default value.
Default Value	The default value for the segment.
SRW Param	The Oracle Reports parameters.

Context Info

This area lists context information for the selected descriptive flex column context.

Column Heading	Description
Context Enabled	Indicates if the context is enabled.
Global Context	Indicates if the context is global.
Context Name	The context name.
Description	The context description.
Created By	The application user who created the context.
Creation Date	The date the context was created.
Last Updated By	The application user who last updated the context.
Last Updated Date	The date the context was last updated.

Value Set Info

This area lists value set information for the selected descriptive flex column and context.

Property	Description
Description	The description of the value set.
Value Set	Protected Indicates if the value set is protected.
Security Rules Enabled	Indicates if the security rules for the value set are enabled.
LOV Long list Enabled	Indicates if the LOV long list is enabled.
Format Type	The format type.
Maximum Size	The maximum size of values in the value set.
Number Precision	The precision of a numeric entry.
Numbers Only (0-9)	Indicates whether values with alphanumeric characters can be in the value set.
Uppercase Only	Indicates if all the values in the value set should all be in uppercase.
Right Justify and Zero Fill	Indicates if the value should right-justify and zero-fill .
Numbers	
Minimum Value	The minimum value for the segment.

Maximum Value	The maximum value for the segment.
Validation Type	The segment validation type.
Dependant	The default value for a dependent value set.
Default Value	
Dependant	The description of the default value.
Default Value	
Description	
Dependant Value Set ID	The independent value set ID on which the dependent value set depends.
Created By	The application user who created the value set.
Creation Date	The date the value set was created.
Last Updated By	The application user who last updated the value set.
Last Update Date	The date the value set was last updated.

Invalid Objects

Invalid Objects - Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The TOAD for Oracle Schema Browser displays all objects based on schema and object type. Only when the objects are displayed can they be seen as invalid. In order to identify a "new" invalid object in the Schema Browser, you must know the schema owner of the invalid object and the object type.

A common problem within the E-Business environment is the number of objects and the complexity and relationship between objects. It is very common for objects to become invalid for any number of reasons. The trick in an E-Business Suite environment is to find them.

The invalid objects function in the TOAD E-Business Suite plug-in lists all the application invalid objects only starting at the schema and further highlights if the object has become invalid in the past calendar month.

You can view invalid objects in either a tree view or a grid view.

Tree view

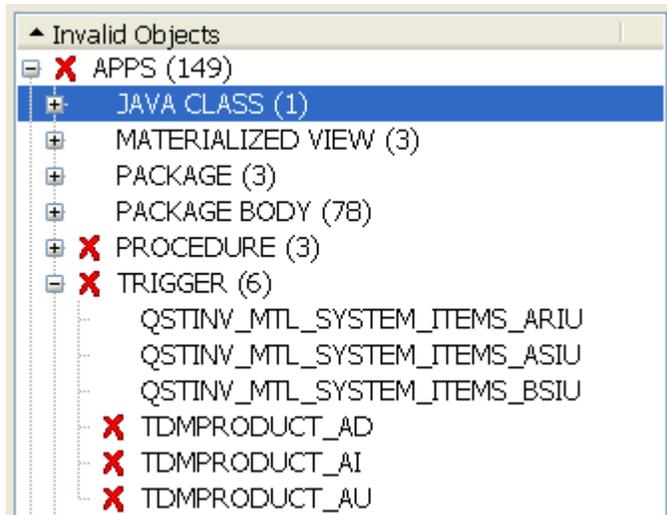
The Object Panel provides a tree view method for finding invalid objects (default).

- Level 1 - Object Owner
- Level 2 - Object Type
- Level 3 - Object

The invalid object  icon is displayed before each of the first two levels to clearly identify if an object within the grouping has become invalid within the past calendar month.

The third level entry will show the invalid object icon to identify the actual object that has become invalid within the past calendar month

For example:



The above example shows there are 149 invalid objects owned by the schema APPS. The  indicates there are one or more objects within this schema that have become invalid in the last Calendar Month.

Expanding the object owner shows the Object types.

Within the Apps Schema there are several recently invalid objects, including 78 package bodies and 6

Triggers. The  indicates that one or more triggers have become invalid in the past Calendar Month

Expanding the Trigger node displays all invalid triggers. The  indicates the object that has become invalid within the last month.

Grid Format

Click the Grid format  button to display invalid objects in grid format. In this format, the object name will be preceded with the invalid object icon to indicate that has become invalid in the last month

Column Name	Column Status	Description
Name	Displayed	The name of the invalid object
Owner	Hidden	The schema owner of the invalid object
Type	Hidden	The object type
Invalid since	Hidden	The time stamp of when the object became invalid

Invalid Objects Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The invalid objects details panel displays the Toad for Oracle Schema Browser page for that object. For more information, select an object, click in the details panel and press <F1>. Or see the [Schema Browser](#) help files for the object type you wish to view.

Key Flex Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When Key Flex is selected, the left hand side (Objects Panel) of the browser displays each applications and it's key flex fields in a hierarchical format.

There are four levels in the tree structure, each with its own detailed information in the Details Panel.

- Level 1 - [Application](#)
- Level 2 - [ID flex](#)
- Level 3 - [Flex Structure](#)
- Level 4 - [Flex Segment](#)

The tree structure is formatted as follows:

```
CRL Financials Assets (CUA)
Oracle Advanced Service Online (AHL)
Oracle Assets (OFA)
Oracle General Ledger (GL)
  GL# - Accounting Flexfield
    x ADB_ACCOUNTING_FLEX
      ADB_HOLDINGS_ACCOUNTING_FLEX
        SEGMENT1 - Company
        SEGMENT2 - Department
        x SEGMENT3 - Account
          SEGMENT4 - Sub-Account
          SEGMENT5 - Product
      ARGENTINA_ACCOUNTING_FLEX
      AU_ACCOUNTING_FLEXFIELD
      BELGIUM_ACCOUNTING_FLEX
  GLAT - Reporting Attributes:Accountin
Oracle Human Resources (PER)
Oracle Inventory (INV)
```

The symbol **x** at level 3 (Flex Structure) indicates the flex structure has been disabled.

The symbol **x** at level 4 (Flex Segment) indicates the flex segment within the structure has been disabled.

Key Flex - Application Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Applications details panel (right hand side of the browser) displays general information about the selected application as follows:

Property	Description
Application ID	The internal application ID.

Application Short Name	The application short name.
Application Name	The application name.
Application Description	The application full name.
Base Path	The base path name for the application source.
Creation Information	
Created Date	The date the application was created.
Created By	The application user who created the application.
Last Updated Date	The date the application was last updated.
Last Updated By	The application user who last updated the application.
Status and Version Information	
Install Status	The install status of the application – Installed, shared install etc.
Version	The version of the installed module.
Patch Level	The patch level of the installed application.
Database Information	
Tablespace (Data)	The default tablespace used during install.
Tablespace (Index)	The default index tablespace used during install.
Tablespace (Temporary)	The default temporary tablespace used during install.
Oracle ID	The Oracle account in which the application is installed.
Oracle User Name	User name for the Oracle account.
Oracle User Description	The description of the Oracle account owner.

Key Flex - ID Flex Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The ID Flex Details Panel displays general information for the selected ID Flex.

Property	Description
Flex Application ID	The internal application ID.
Flex Application	The application short name.
Flex Code	Key flexfield code.
Flex Name	Key flexfield structure identifier.
Description	Description of the key flexfield structure.
Table and Column Information	
Application Table Name	Name of the combination table.
Application Table Type	Indicates the table combination type - Generic / Specific .
Set Defining Column Name	Name of the column in the table.
General Information	

Allow Value Sets	Allow ID type value sets.
Dynamic Inserts	Dynamic inserts allowed.
Feasible	
Indexed	Lock code combination table in exclusive mode before performing inserts.
Max Concatenation Length	Maximum length of the concatenated flexfields combination.
Concatenation Warning Length	Provides a warning if the concatenated segment length is greater than this value.
Creation Information	
Created by	The application user who created the ID Flex.
Creation Date	The date the ID Flex was created.
Last Updated by	The application user who last updated the ID Flex.
Last Update Date	The date the ID Flex was last updated.

Key Flex - Flex Structure Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Flex Structure details panel displays the following tabs when a flex structure is selected:

- [Info](#) – Shows the general flex structure information for the selected flex structure
- [Segments](#) – Shows the list of flex segments within the flex structure

Key Flex - Flex Structure - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Info tab shows the general flex structure information for the selected flex structure.

Property	Description
Structure Application ID	The internal application ID for the structure.
ID Flex Code	Key flexfield code.
ID Flex Number	Key flexfield structure number.
ID Flex Structure Code	Key flexfield structure.
ID Flex User	Key flexfield structure view name.
Structure View Name	
Structure View Name	User structure view name.
General Information	
Enabled	Indicates if the structure is enabled.
Freeze Flex field	Definition Indicates if the flexfield is frozen.
Segment Separator	The flexfield segment separator.
Cross Segment Validation	Indicates if the flexfield should be validated by cross validation rules.
Freeze Rollup Groups	Indicates if the flexfield rollup group is frozen.
Dynamic Inserts	Indicates if flexfields combinations can be inserted dynamically.

Allowed	
Shorthand Aliases enabled	Indicates if shorthand aliases are enabled for the flexfiled.
Shorthand Alias Field Length	The display length of the shorthand alias.
Creation Information	
Created by	The application user who created the flex structure.
Creation Date	The date the flex structure was created.
Last Updated by	The application user who last updated the flex structure.
Last Update Date	The date the flex structure was last updated.

Key Flex - Flex Structure - Segment tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Segments tab shows the list of flex segments within the flex structure.

Column Heading	Description
Segment Number	The segment sequence number.
Segment Name	The flex segment name.
Application Column Name	The flexfield column name.
Enabled	Indicates if the segment is enabled.
Displayed	Indicates if the segment is displayed.
Indexed	Indicates if the column is to be indexed.
Security	Indicates if security is required.
Validation	Indicates if validation is required.

Key Flex - Flex Segment Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When a Flex Segment is selected, the Details panel displays the following tabs:

- [Info](#) – Shows the general flex segment information for the selected flex segment
- [Value Set](#) - Shows the value set information for the selected flex segment

Key Flex - Flex Segment - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Shows the general flex segment information for the selected flex segment

Property	Description
----------	-------------

Segment Application ID	The flex segment application ID.
Key Flex Field Code	Key flexfield structure.
Key Flex Field Structure Number	Key flexfield structure number.
Segment Number	The segment sequence number.
Segment Name	The flex segment name.
Application Column Name	The flexfield column name.
Enabled	Indicates if the segment is enabled.
Displayed	Indicates if the segment is displayed.
Column Indexed	Indicates if the column is to be indexed.
Security Enabled	Indicates if security is required.
Validation	
Validation Required	Indicates if validation is required.
Flex Value Set ID	The Flexfield value set identifier.
Flex Value Set Name	The full value set name.
Description	The value set description.
Default Type	The type of default value.
Default Value	The default value for the segment.
Range Code	Indicates if the range code is High, Low or Paired.
Size	
Display Size	The display size for the segment.
Max Description Length	The maximum description size of the segment.
Concatenated Description Length	The size of the concatenated flexfield description.
Prompts	
Form Above Prompt	The prompt above the segment in the Flexfield window.
Form Left Prompt	The left prompt of the segment in the Flexfield window.
Runtime property Function	The runtime property function for the flex segment.
Creation Information	
Created By	The application user who created the flex segment.
Creation Date	The date the flex segment was created.
Last Updated By	The application user who last updated the flex segment.
Last Update Date	The date the flex segment was last updated.

Key Flex - Flex Segment - Value Set tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The value set tab shows the value set information for the selected flex segment.

Property	Description
Flex Value Set ID	The internal Flexfield value set identifier.
Flex Value Set Name	The value set name.

Description	The description of the value set.
Value Set Protected	Indicates if the value set is protected.
Security Rules Enabled	Indicates if the security rules for the value set are enabled.
LOV Long list Enabled	Indicates if the LOV long list is enabled.
Format	
Format Type	The format type.
Maximum Size	The maximum size of values in the value set.
Number Precision	The precision of a numeric entry.
Numbers Only (0-9)	Indicates whether values with alphanumeric characters can be in the value set.
Uppercase Only	Indicates if all the values in the value set should all be in uppercase.
Right Justify and Zero Fill Numbers	Indicates if the value should right-justify and zero-fill.
Minimum Value	The minimum value for the segment.
Maximum Value	The maximum value for the segment.
Value Validation	
Validation Type	The segment validation type.
Dependant Default Value	The default value for a dependent value set.
Dependant Default Value Description	The description of the default value.
Dependant Value Set ID	The independent value set ID on which the dependent value set depends.
Creation Information	
Created By	The application user who created the value set.
Creation Date	The date the value set was created.
Last Updated By	The application user who last updated the value set.
Last Update Date	The date the value set was last updated.

Lookups

Lookups Object Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

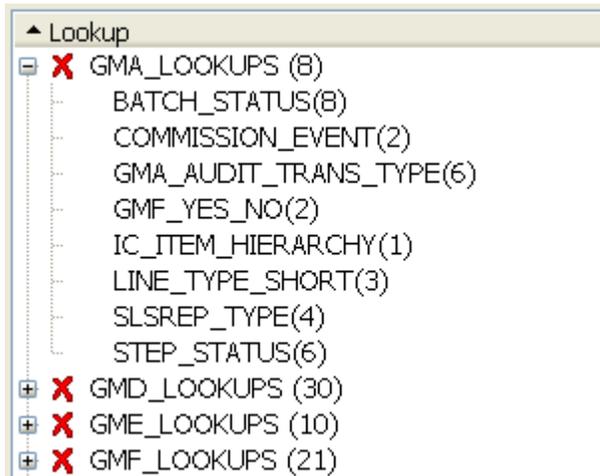
Oracle is in the process of migrating individual functional lookup tables (i.e. GL_LOOKUPS) into a central lookup table owned by Appls. Oracle then creates a series of functional level views based on the central table replacing the existing functional module lookup table. This TOAD function will only show values based on the central table owned by Appls and NOT any of the remaining module tables.

Note: Not all physical tables have been converted to the central view.

In some cases the physical lookup tables data is duplicated in the central APPLSYS lookups table

The Object Panel of the browser displays the view name and the number of lookup types. Second level nodes show the lookup types and the number of lookup codes for the type.

Example



The symbol **X** preceding the lookup type indicates a view does not physically exist (yet). The number of missing views is scheduled to decrease with subsequent Oracle releases.

Note: A physical lookup table may not exist for a functional module.

Lookups Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you select a node from the Lookups Object panel, you are selecting either a Lookup View or a Lookup Type. Each displays slightly different information in the Details Panel.

Lookup View

When you select a Lookup view, only the info tab is available in the details panel. Information provided here shows the general information for the lookup view the selected lookup type.

Property	Description
View Owner	The schema owner of the view
View Name	The name of the lookup view
Database Object ID	The internal database object ID
Created Date	The date the view was created
Last DDL Date	The date the view was last updated or rebuilt
View Status	The current status of the view – Valid / Invalid / Does not Exist
Time Stamp	The objects database time stamp

Lookups Type

When you select a Lookup Type, the details panel displays the following tabs:

- Info – Shows the general information of the lookup type for the selected lookup type
- Lookup Codes - Lists the lookup codes and meanings for the selected lookup type

Info

The Info tab displays the general information of the lookup type for the selected lookup type.

Property	Description
Application ID	The internal application ID
Application	The application short name
Application Name	The application full name
Lookup Type	The lookup type name
Customization Level	The lookup type customization level
Creation Information	
Creation Date	The date the lookup type was created
Created By	The application user who created the lookup type
Last Updated Date	The date the lookup type was last updated
Last Updated By	The application user who last updated the lookup type
View Information	
View Appn ID	The application id for the lookup view
View Application	The application name for the lookup view
View Name	The lookup view name
View Status	The current status of the view

Lookup Codes

The Lookup Codes tab lists the lookup codes and meanings for the selected lookup type.

Column Heading	Description
Lookup Code	The lookup code
Enabled	The status of the lookup code
Meaning	The meaning of the lookup code
Description	The description of the lookup code
Start Date	The date the lookup code became or will become active
End Date	The date the lookup code will ceased or will cease to be active
Territory	The lookup code territory
Attribute Category	The lookup code Attribute category
Tag	Lookup code tag
Created By	The date the lookup code was created
Creation Date	The application user who created the lookup code
Last Updated By	The date the lookup code was last updated
Last Updated Date	The application user who last updated the lookup code

Menu Object Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you choose to view the Menus objects, the Object Panel (left hand side) of the browser all application registered menus in the following format:

```

A BOM_NAVIGATE_GUI
  U CN_MAIN
  U CST_NAVIGATE
  A CST_SETUP
  R ENG_NAVIGATE_GUI
    FA_MAIN
    OE_SUPER_USER_10SC
    QA_TOP
  U WIP_NAVIGATE_10G
    
```

R = Indicates the menu is assigned to a Responsibility

U = Indicates the menu is assigned to a responsibility that has been assigned to one or more users

A = Indicates the menu is assigned to a responsibility that has been assigned to one or more users and that menu has been used within the past month

Note: The Sign-on Audit level must be set to Responsibility for the "A" indicator to be shown

There are also a number of hidden columns that can be displayed:

Attribute	Column Status	Description
User Menu Name	Active	The user menu name
Menu Name	Hidden	The internal menu name
Menu ID	Hidden	The internal menu ID
Menu Type	Hidden	The menu indicator (R – U – A) as shown above

Menu Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The right hand side (Objects panel) of the browser consists of the following tabs when a menu is selected:

- [Info](#) – Shows the application information for the selected application
- [Entries](#) - List the menu entries for the selected menu
- Where a menu entry is selected that has a function ID, the grid will display the function information.
- [Structure](#) - Shows the menu structure in a hierarchical format for the selected menu
- [Responsibilities](#) - List the responsibilities that call the selected menu
- [Users](#) - Lists the users who have access to the menu via a responsibility

- [Accessed](#) - Users who have accessed the menu via a responsibility in the past month
-

Menus - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Info tab shows the general information for the selected menu.

Property	Description
Menu ID	The internal menu ID.
Menu Name	The menu name.
User Menu Name	The user menu name.
Type	The menu type.
Menu Creation Information	
Created By	The date the menu was created.
Creation Date	The application user who created the menu.
Last Updated By	The application user who last updated the menu.
Last Update Date	The date the menu was last updated.
User Menu Creation Information	
Created By	The application user who created the menu translated information.
Creation Date	The date the menu translated information was created.
Last Updated By	The application user who last updated the menu translated information.
Last Update Date	The date the menu translated information was last updated.

Menus - Entries tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Entries tab is divided into two parts. The upper area lists the menu entries for the selected menu, and the lower displays function information for the selected menu entry.

Upper Area

The upper area displays the menu entries for the selected menu.

Column Heading	Description
Sequence	The menu entry sequence.
Prompt	The menu prompt.
Description	The menu description.
Sub Menu ID	Sub menu ID.
Sub Menu Name	Sub Menu Name.
Function ID	The function ID the menu entry calls.
Grant	Indicates that this function is automatically enabled for the user. If this is not then the function must be enabled using additional data security rules.

Created By	The application user who created the menu entry.
Creation Date	The date the menu entry was created.
Last Updated By	The application user who last updated the menu entry.
Last Update Date	The date the menu entry was last updated.

Lower Area

When a menu entry is selected that has a function ID, the grid in the lower area displays the function information.

Property	Description
Function ID	The function ID.
Function Name	The function Name.
User Function Name	The description of the function.
Form Application ID	The form application ID.
Form Application	The form application short name.
Form ID	The form ID.
Form Name (Internal)	The internal form name.
User Form Name	The full form name.
Parameters	Form parameters.
Type	Function type.
Web Host Name	IP or alias of the web server host – defaults to last used.
Web Agent Name	Web agent name – defaults to last used.
Web HTML	Call The URL to activate the function.

Menus - Structure tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Structure tab shows the menu structure in a hierarchical format for the selected menu.

Menus - Responsibilities tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Responsibilities tab displays the responsibilities that call the selected menu.

Column Heading	Description
Resp Appn ID	The responsibility application ID.
Resp Appn	The responsibility application short description.
Resp ID	The internal responsibility reference number.
Responsibility Name	The full name of the responsibility.
Resp Start Date	The date the responsibility became available.

Resp End Date	The date the responsibility will cease or have ceased to be available.
---------------	------------------------------------------------------------------------

Menus - Users tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Users tab lists the users who have access to the menu via a responsibility.

Column Heading	Description
User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user..
Description	The description of the user.
User Start Date	The date the user account became active.
User End Date	The date the account was or will be closed.
Resp Appn ID	The responsibility application ID.
Resp Appn	The responsibility application short description.
Resp ID	The internal responsibility reference number.
Responsibility Name	The full name of the responsibility.
Resp Start Date	The date the responsibility became available.
Resp End Date	The date the responsibility will cease or have ceased to be available.

Menus - Accessed tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Accessed tab displays users who have accessed the menu via a responsibility in the past month.

Column Heading	Description
User ID	The unique internal identifier for the application users account.
User Name	The login name of the application user.
Description	The description of the user.
Responsibility	The full name of the responsibility.
Accesses	The number of times the user has accessed the responsibility in the past month.

Patches

Patches Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

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The Objects Panel of the browser displays each patch name including the target system and date and time applied. The information is provided in this way as patch names in isolation are relatively meaningless.

▲ Patch
1829225: OADEV (2/2/2004 2:02:10 PM)
1829225: OADEV (2/2/2004 2:02:23 PM)
2101479: OADEV (4/21/2005 4:35:18 PM)
2101479: OADEV (4/21/2005 4:36:13 PM)

NOTE: A patch may have been applied several times if the patch failed. Hence it is important to take the date and time into consideration.

In addition, the Objects panel has an additional four hidden columns:

- Patch ID
- Patch Name
- App Name
- Patch Date

Note: The default value of Patch is a combination of Patch Name : App Name (Patch Date)

To view hidden columns

- Right click in the column heading of the Objects panel and select the columns you want to view.

Note: Not all patches are recorded in the application patch tables, this includes some earlier releases of 11i and some of the older patches that were not application patch table aware.

Patches Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Details Panel browser displays the info tab when a patch is selected:

- [Info](#) – Shows the general information for the selected patch
- Patch Details - Lists the “Patch Bugs” for the selected patch
- Patch Bug Details - Lists all the “Patch Bug Details” for the selected Bug

Patches Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Info tab lists the general information for the selected patch. There are three parts to the display.

Applied Patches

Column Heading	Description
Database Name	The SID of the database to which the patch was applied.
Server Name	The server to which the patch was applied.
Name	The patch number.

Patch ID	The internal ID for the application patch.
Type	Indicates if the patch was a single patch or a set of patches.
Rapid Install	Indicates that the patch was applied by Oracle during the creation of the Rapid Install database (Yes/No).
Source	Indicates whether the patch has been uploaded from the applptch.txt file or created as a result of applying a patch driver (DRV) file.
Driver Name	The name of the patch driver.
Top	The folder where the patch is located.
Actions	Arguments of the "options" when Autopatch was invoked.
Start Date	Date and time when Autopatch started applying the patch.
End Date	Date and time when Autopatch completed applying the patch.
Patch Run time	The time taken for Autopatch to apply the patch (HH:MM:SS).
Patch Run ID	The unique ID of the patch run.
Platform	The platform for which the patch was created.
Node	Indicates that the server to which the patch has been applied runs concurrent processing (Yes/No).
Admin	Indicates that server to which the patch was applied runs Administration (Yes/No).
Forms	Indicates that the server to which the patch was applied runs a Forms Server (Yes/No).
Web	Indicates that the server to which the patch was applied runs the Application Server (Y/N).
Imported From	DB ORACLE_SID of the database from which this row is imported.
Imported ID	ID of the patch run in the source database.

Patch Details

This area lists the Patch Bugs for the selected patch.

Column Heading	Description
Bug Number	Number of the bug
Orig Bug Number	Original number of the bug
Patch Run Bug ID	Patch run bug ID
Bug Status	Status of the bug fix applied
Applied	Indicates if Autopatch tried to apply this bug fix (Yes/No)
Reason Not Applied	The reason the bug fix was not applied
Success	Indicates if the application of the patch was successful (Yes/No)
Failure Comments	Comments relating to the failure of the patch application

Patch Bug Details

This area lists all the Patch Bug Details for the bug selected in the Patch Details area.

Column Heading	Description
Orig Bug Number	The original number of the bug
Action Code	The action code of the patch driver
Action Phase	Phase component of the action statement in the patch driver
App Short Name	Application short Name
Sub Directory	Subdirectory where the file resides
File Name	Name of the file

Version	Version of the component
---------	--------------------------

Printers

Printers Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Printers Objects Panel lists all the registered printers by printer name.

In addition, Printer Type is hidden.

To view hidden columns

- Right click in the column heading of the Objects panel and select the columns you want to view.
-

Printers Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Details Panel for Printers consists of the following tabs:

- [Info](#) – Shows the overall profile option information for the selected profile option
 - [Styles](#) - Lists all the print registered styles for the selected printer
 - Driver Info for Selected Style – Level 2
 - [Programs](#) - Lists the concurrent programs that have the selected printer set at the concurrent program level
 - [Usage](#) - List of users that have sent print requests to the selected printer
 - Concurrent Programs for the Selected User sent to the Printer - List of all the concurrent programs the selected user sent to the selected printer.
 - [Profile Options](#) - List of Applications, Responsibilities and Users that have been assigned the selected printer via the profile option "Printer"
-

Printers - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Shows the account information for the selected profile option

Property	Description
Printer Name	The printer name
Description	The description of the printer
Printer Type	The printer type
Type Description	The printer type description

Reset String	The string sent to the printer to reset the printer
--------------	-----------------------------------------------------

Printers - Styles tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The styles tab is separated into two sections. The upper area lists all the print registered styles for the selected printer and the lower area displays driver info for the style selected in the upper area.

Upper Area

The upper area lists all the print registered styles for the selected printer.

Column Heading	Description
Style	The printer style.
Style Name	The full printer style name.
Driver	The printer driver.
Description	The printer driver description.
Orientation	The Page orientation.
Width	The page width.
Length	The page length.
SRW Driver	The name of the Oracle reports printer driver

Lower Area

The lower area lists the printer driver information for the selected printer style.

Column Heading	Description
Printer Driver Name	The name of the printer driver.
User Printer Driver Name	The full name of the printer driver.
Platform	The driver platform (optional).
Driver Method Code	The method by which the driver is invoked.
Header	Suppress Page header.
Spool	Specifies if the driver creates it own spool file.
Stdin	Does the printer driver accept standard input.
Description	Description of the driver.
Command Name	The name of the program the driver should invoke.
Arguments	Concurrent manager print arguments.
Initialization	The string used to initialize the printer.
Reset String	The string used to reset the printer.
Attribute Category	The attribute category.

Printers - Programs tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists the concurrent programs that have the selected printer set at the concurrent program level.

Column Heading	Description
Appn ID	The internal application ID.
Application	The application short name.
Program ID	The concurrent program ID.
Program Name (Internal)	The program short name.
Program Name	The program full name.
Program Status	Indicates if the program is enabled or disabled.
Print?	Indicates if the output is to be printed.
Required Style	Indicates if a print style is mandatory for the program.
Output Print Style	Print style of the output.
Min Width	Minimum number of columns.
Min Length	Minimum number of rows.

Printers - Usage tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Upper area

In the upper area, this tab lists users that have sent print requests to the selected printer.

Column Heading	Description
User ID	The unique internal identifier for each application user account.
User Name	The user account name.
Description	The description of the user.
E-mail Address	The users E-mail address.
Total Requests	The total number of requests sent to the printer.
Total Copies	The total number of copies sent to the printer.

Lower area

The lower grid lists all the concurrent programs the selected user sent to the selected printer.

Column Heading	Description
Request ID	The concurrent request ID.
Program Appn ID	The internal application ID.
Application	The application short name.
Program ID	The concurrent program ID.
Program Name (Internal)	The program short name.

Program Name	The program full name.
Completion Date	The date and time the request completed.
Completion Status	The completion status of the request.
# of Copies	The number of copies sent to the printer.
Argument Text	The full argument text for the request.

Printers - Profile Options tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab lists Applications, Responsibilities and Users that have been assigned the selected printer via the profile option "Printer."

Column Heading	Description
Option Level	Application / Responsibility / User.
Level Value	The profile option value.
Last Updated Date	The date the profile option was last updated.
Last Updated By	The application user who last updated the profile option.

Profile Options

Profile Options Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

Profile Option objects are listed by Profile Option name.

There are number of hidden columns available.

Attribute Column	Status	Description
Profile Option Name	Active	This is the full profile option name as displayed in the applications profile option define screens
Option ID	Hidden	The Profile option ID
App ID	Hidden	The application ID the profile option relates to.
Apps Levels	Hidden	The number of profile option changes at the Application Level.
Resp Levels	Hidden	The number of profile option changes at the Responsibility level.
User Levels	Hidden	The number of profile option changes at the User level

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For example – You are about to take a printer off line for maintenance. Select the profile option Printer. Using the details panel grids you now have lists of all applications, responsibilities and users who will be affected by the printer maintenance.

The profile option order of precedence is as follows: User – Responsibility – Application – Site. For example, a profile option set at the user level will take precedence over all other levels.

Profile Options Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Profile Options details panel contains the following tabs:

- [Info](#) – Shows the overall profile option information for the selected profile option
- [Application](#) - Lists all the profile options that have been set at the application level for the selected profile option
- [Responsibility](#) - Lists all the profile options that have been set at the responsibility level for the selected profile option
- [User](#) - Lists all the profile options that have been set at the user level for the selected profile option

Note: When a profile option is selected regardless of profile option level the profile options site value will be displayed in the details panel caption area.

Profile Options - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The info tab displays the account information for the selected profile option.

Property	Description
Application ID	The profile option application ID
Application Short Name	The profile option application short name
Application Name	The profile option application full name
Profile Option ID	The profile option ID
Profile Option Name	The internal profile option name
User Profile Option Name	The user profile option name
Start Date	The date the profile option is valid from
End Date	The date the profile option is valid to
Option Status	The current status of the profile option - Active / Inactive
Update Options	
Write Allowed	Indicates if the profile option is write enabled at all levels
Read Allowed	Indicates if the profile option is read enabled at all levels
User	Indicates if the profile option is changeable at all levels

Changeable Site Level Enabled	Indicates if the profile option is enabled at the Site level
Site Update Allowed	Indicates if the profile option can be updated at the site level
Application Level Enabled	Indicates if the profile option is enabled at the Application level
Application Level Update Allowed	Indicates if the profile option can be updated at the Application level
Responsibility Level Enabled	Indicates if the profile option is enabled at the Responsibility level
Responsibility Level Update Allowed	Indicates if the profile option can be updated at the Responsibility level
User Level Enabled	Indicates if the profile option is enabled at the User level
User Level Update Allowed	Indicates if the profile option can be updated at the User level
Creation Information	
Creation Date	The date the profile option was created
Created By	The application user who created the profile option
Last Updated Date	The date the profile option was last updated
Last Updated By	The application user who last updated the profile option
SQL Validation	
SQL Validation Code	The SQL code used to validate the profile option value

Profile Options - Application tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Application tab lists all the profile options that have been set at the application level for the selected profile option.

Column Heading	Description
Application Name	The full Application name the profile option relates to
Option Value	The profile option value
Last Updated Date	The date the profile option was last updated
Last Updated By	The application user who last updated the profile option

Profile Options - Responsibility tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The responsibility tab lists all the profile options that have been set at the responsibility level for the selected profile option.

Column Heading	Description
Responsibility Name	The full responsibility name the profile option relates to.
Option Value	The profile option value.
Last Updated Date	The date the profile option was last updated.
Last Updated By	The application user who last updated the profile option.

Profile Options - User tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The User tab lists all the profile options that have been set at the user level for the selected profile option.

Column Heading	Description
User Name	The application user name
Description	The application user description
Option Value	The profile option value
Last Updated Date	The date the profile option was last updated
Last Updated By	The application user who last updated the profile option

Request Sets

Request Sets Object Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you have selected Request Sets, The Objects Panes (left hand side) of the browser displays each request set and its stages and programs in a hierarchical format.

There are three levels to this structure:

- [Request set](#)
- [Request set stage](#)
- [Concurrent program](#)

Note: The application short name has been added to the request set name as an aid to sorting within application module.

This tree structure displays as follows:

```

FND : CP Regression Test Set (1)
      STAGE10: CP Stage10 PLSQL RT
            x CP PLSQL Regression Test
      STAGE20: CP Stage20 SQL*Plus RT
      STAGE30: CP Stage30 Host RT
      STAGE40: CP Stage40 SQL*Loader RT
      STAGE50: CP Stage50 Java RT
      STAGE60: CP Stage60 Spawned RT
      STAGE70: CP Stage70 Text Report RT
      STAGE80: CP Stage80 Postscript Report RT
FND : Function Security Reports
FND : Print Styles Test
FND : Synchronize Workflow LOCAL tables (1)

```

The symbol **x** the Concurrent Program level indicates the Program has been disabled at the program level.

Request Set - Request Set Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When a request set is selected in the Objects Panel, the Details Panel (right hand side) displays information on the following tabs:

- [Info](#) – Shows the application information for the selected request set
- [Requests](#) - Lists all the request set runs for the selected request set

Request Set - Request Set - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Info tab shows the general application information for the selected request set.

Property	Value
Appn ID	The internal application ID.
Application	The application short name.
Application Name	The application name.
Request Set ID	The internal request set ID.
Request Set Name (Internal)	The request set internal name.
Request Set Name	The full request set name.
Description	The request set .
Set Information	
Owner	The application user account that owns the request set.
Start Date	The date the request set became or will become available for use.

End Date	The date the request set ceased to be or will ceased to be available.
Start Stage	The request sets starting stage ID.
Start Stage Name	The starting stage full name.
Allow Constraints	Indicates if incompatibilities are allowed.
Print Together	Indicates if printing is run after the set completes.
Creation Information	
Created By	The application user who created the request set.
Created Date	The date the request set was created.
Last Updated By	The application user who last updated the request set.
Last Update Date	The date the request set was last updated.

Request Set - Request Set - Requests tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Requests tab lists all the request set runs for the selected request set.

Column Heading	Description
Request ID	The concurrent request id.
User Name	The user who submitted the request.
Description	The description of the user.
Req Start Date	The data and time the request was requested to run.
Actual Start Date	The date and time the request started processing.
Completed Date	The date and time the request completed processing.
Pending	The time (HH:MM:SS) the request spent with a status of Pending.
Running	The total run time (HH:MM:SS) for the request.
Completion Status	The completion status of the request.
Completion Text	Completion text for the request.

Request Set - Request Set Stage Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When a request set stage is selected the Details Panel (right hand side) displays the following tabs:

- [Info](#) – Shows the application information for the selected request set
- [Programs](#) - Lists all the concurrent programs that make up the request set stage

Request Set - Request Set Stage - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Info tab shows the general application information for the selected request set.

Property	Description
Display Seq	The request set display sequence number.
Request Set Application ID	
Request Set ID	The parent request set ID.
Request Set Stage ID	The request set stage ID.
Stage Name	The request set stage internal name.
User Stage Name	The full request set stage name.
Description	The full request set stage description.
Stage Information	
Critical	Indicates if this is a critical stage.
Allow Constraints	Indicates if incompatibilities are allowed.
Stage Links	
Success Stage ID	The request set stage ID to process on success.
Success Stage Name	The full request set stage name to process on success.
Warning Stage ID	The request set stage ID to process on warning.
Warning Stage Name	The full request set stage name to process on warning.
Error Stage ID	The request set stage ID to process on error.
Error Stage Name	The full request set stage name to process on error.
Creation Information	
Created By	The application user who created the request set stage.
Creation Date	The date the request set was created.
Last Updated By	The application user who last updated the request set stage.
Last Updated Date	The date the request set stage was last updated.

Request Set - Request Set Stage - Programs tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Programs tab lists all the concurrent programs that make up the request set stage.

Column Heading	Description
Display Seq	The program execution sequence number.
Appn ID	The internal program application ID.
Prog ID	The internal program ID.
Application	The program application short name.
Program Name	The program short name.

(Internal)	
Program Name	The program full name.
Status	Indicates if the concurrent program is enabled.
Critical	Indicates if this is a critical stage.
Printer	The printer assigned to the set stage.
Print Style	The print style assigned to the set stage.
Save Output	Indicates if the output is to be saved.

Request Set - Concurrent Program Details

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The RHS browser consists of the following tabs when a concurrent program is selected:

- [Info](#) – Shows the program information for the selected request set program
- [Parameters](#) - Lists all the run time parameters for the selected request set program where they exist

Request Set - Concurrent Program - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The info tab displays the program information for the selected request set program.

Property	Value
Set Application ID	The request set application ID.
Set Application	The request set application.
Set ID	The request set internal ID.
Set Stage ID	The parent request set ID.
Set Program ID	The request set stage ID.
Set Program Sequence	The sequence of the program within the set.
Program Information	
Program Application ID	The internal program application ID.
Program Application	The application short name.
Program ID	The internal program ID.
Program Name (Internal)	The program short name.
Program Name	The program full name.
Status	Indicates if the concurrent program is enabled.
Critical	Indicates if this is a critical program in the set.
Printer Information	
Printer	The printer assigned to the program.
Printer Style	Print style of the output.
Save Output	Indicates if the output is saved to a file .

Creation Information

Created by	The application user who created the request set program.
Creation Date	The date the request set program was created.
Last Updated By	The application user who last updated the request set program.
Last Updated Date	The date the request set program was last updated.

Request Set - Concurrent Program Details - Parameter tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Parameter tab lists all the run time parameters for the selected request set program where they exist.

Column Heading	Description
Appn ID	The internal application ID
Desc Flex Name	The descriptive flex name.
Desc Flex Context Code	The descriptive flex structure name.
Column Seq Number	The descriptive flex sequence number .
Appn Column Name	The descriptive flex segment name.
User Column Name	The full columns name.
Description	The description of the description of the column .
Enabled	Indicates if the flexfield is enabled.
Display	Indicates if the segment is displayed.
Max Description Len	The maximum size of the segment value description in the flexfield window.
Value Set ID	The flexfield value set ID.
Value Set Name	The flexfield value set name.
Default Type	The default type for the reference field.
Default Value	The default value for the reference field.

Specialization Rules

Specialization Rules

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

You can view specialization rules in several categories.

Click on a category in the Objects panel to view one of the following categories:

- [Program](#)
- [User](#)
- [Oracle ID](#)
- [Combined Rule](#)
- [Request Type](#)

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Beside each category is a number in parentheses. This number represents the number of items within that category.

The categories contain statistics in a grid with columns as described below.

Program

- Manager
- Program Application
- Program ID
- Program Name
- Status

User

- Manager
- User ID
- User Name
- Status

Oracle ID

- Manager
- Oracle ID
- Oracle User
- Status

Combined Rule

- Manager
- Rule Application Name
- Rule ID
- Rule Name
- Status

Request Type

Within the Request types details tab, you can select a request type in the top panel. Additional information for that rule will be displayed in a separate grid below the first.

Upper panel

- Request Type
- Description
- Request Type ID

- Request Type Application Name
- Manager
- Status

Lower Panel

The lower panel displays the programs assigned to the selected request type.

- Program Application
- Program ID
- Program Name
- Priority

Users

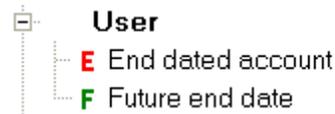
Users Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Objects information is displayed in the following format

Status Code - User name

Statuses are defined as follows:



In addition, there are several hidden columns that can be displayed. Columns available are:

Attribute	Column Status	Description
Status Code	Active	Null – Active Account F - Future end dated account E - End dated account
User Name	Active	The user account name.
User ID	Hidden	The unique internal identifier for each application user account.
Description	Hidden	The description of the user.
Email Address	Hidden	The users E-mail address.
End Date	Hidden	The date the account was or will be closed.
Last Logon	Hidden	The date and time the account was last accessed.
Days Since last Connect	Hidden	The number of days since the user last connected to the application. This value can be used to identify the users that no longer use the application.
User ID	Hidden	The unique internal identifier for the application users account.

To view hidden columns

- Right click in the column heading of the Objects panel and select the columns you want to view.
-

Users Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Users Details Panel consists of the following tabs:

- [Info](#) – Shows the account information for the selected user.
 - [Responsibilities](#) – Lists all the responsibilities that have been granted to the selected application user.
 - Menu for the Selected Responsibility - Displays the full menu structure for the selected responsibility.
 - [Profile Options](#) – Lists all the profile options set at the user level for the selected user.
 - [Reference Info](#) – Displays the users account Employee, Customer and supplier reference information .
 - [Usage CR](#) – Displays the selected users request activity.
 - [Usage FS](#) – Displays the full service sessions for the selected user.
 - Usage FS Audit - the full session activity for the selected full service session.
 - [Usage SS](#) - Displays the self service sessions for the selected user (Defaults to today's activity).
-

Updating eBiz Users

You can use the eBiz Browser to alter eBiz user information.

To alter an eBiz user

1. From the **eBiz Browser**, select **Users**.
2. On the left hand side, select the **user** you want to edit.
3. On the right hand side, click the **Info tab** and then the **Alter user**  button.

If you have not selected a user, Toad will display a dialog asking you to select one.

4. In the Alter User dialog:
 5. make changes to the **Description**
 6. make changes to the **Email Address**
 7. make changes to the **End Date**
 8. Reset the **password**.
 5. Click **OK**.
-

Users - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The info tab displays the account information for the selected user.

Column Heading	Description
User ID	The unique internal identifier for the application users account
User Name	The login name of the application user.
Description	The description of the user
E-mail Address	The users E-mail address
Start Date	The date the user account became active
End Date	The date the account was or will be closed
Last Connected	The date and time the account was last accessed
Days Since Last Connect	The number of days since the user last connected to the application. This value can be used to identify the users that no longer use the application
Account Information	
Account Created	The date the user account was created
Created By	The application user who created the user account
Last Updated	The date the user account was last updated
Last Updated By	The application user who last updated the user account
Account Reference Information	
Employee	Indicates if the users has been configured as an employee
Customer	Indicates if the users has been configured as an customer
Supplier	Indicates if the users has been configured as an Supplier
Account Password Information	
Password Last Changed	The date and time the password was last changed
Password Aging (Days)	The number of days allowed before the password must be changed
Days Remaining	The number of days remaining until the password must be changed
Password lifespan (Accesses)	The number of accesses allowed before the password must be changed
Accesses Remaining	The number of accesses remaining until the password must be changed

Users - Responsibilities

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The responsibilities tab lists all the responsibilities that have been granted for the selected application user.

Column Heading	Description
Appn ID	The responsibility application ID
Application Name	The application short description

Resp ID	The internal responsibility reference number
Responsibility Name	The full name of the responsibility
Status	The status of the responsibility, A status of Inactive indicates the users access to the responsibility has been end dated and the end date has expired
Start Date	The date the responsibility was assigned to the user
End Date	The date the users will no longer have access to the responsibility

Menu for the Selected Application

This area displays the full menu structure for the selected responsibility in tree form.

Users - Profile Options

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Profile Options tab lists all the profile options set at the user level for the selected user.

Column Heading	Description
App'n ID	The profile option application ID
Application Name	The application short description
Option ID	The profile option ID
Option Name (internal)	The internal profile option name
Option Name	The user profile option name
Option Value	The users profile option value
Site Level Value	The site level value

Users Reference Info

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The application often holds user information in a number of locations. As this information is generally entered by a number of functional teams it is often inconsistent. This grid allows a view a uses reference information in one location allowing ease of compare for consistence and quality.

The user's reference information can be found in the following application objects:

- User account information – APPLSYS.FND_USERS
- Employee Details – HR.PER_ALL_PEOPLE_F
- Customer Information - AR.HZ_PARTIES
- Supplier Details - PO.PO_VENDOR_CONTACTS

Parameter	Description
User Name	The free format user name. The name the user uses to logon to the application
Description	The user account description
E-mail Address	The users E-mail address
Employee Details	

(HR)

First Name	The employees first name
Last Name	The employees last name
E-mail Address	The employees E-mail address

Customer Details**(AR)**

First Name	The customers first name
Last Name	The customers last name
E-mail Address	The customers E-mail address

Supplier Details**(PO)**

First Name	The suppliers first name
Last Name	The suppliers last name

Users - Usage CR tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This grid lists concurrent request activity for the selected user.

By default the information is limited to the activity generated in the past 31 days. An additional filter allows you to extend the range of information displayed

Note: The amount of history available is dependant on the sites concurrent request purging policy

Column Heading	Description
Request ID	The concurrent request ID.
Concurrent Queue Name	Concurrent Manager that ran the request.
Requestor	The user that submitted the request.
Program Appn ID	The internal application ID for the concurrent program.
Program ID	The internal concurrent program Identifier.
Program Name	Full name of the concurrent program.
Argument Text	Run-time arguments for the request.
Priority	The request priority.
Status	The completion status of the request.
Req Start	The date and time the request was set to start.
Actual Start	The date and time the request started processing.
Completed	The date and time the request completed processing.
Pending Time	The time (HH:MM:SS) the request spent with a status of Pending.
Running Time	The total run time (HH:MM:SS) for the request.
Printer	The printer the request was sent to including the number of copies.
Completion	Text Completion text for the request.
Log File Node	The host machine where the log file is stored.
Log File Name	The log file location and name.
Out File Node	The host machine where the out file is stored.
Out File Name	The out file location and name.

Users - Usage FS

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Usage FS tab displays the selected user's full service session activity. The amount of history available is dependant on the sites sign-on audit purging policy.

Note: The sign-on Audit level will determine the amount of information available in this grid. The sign-on audit level can be found in the lower status bar of the right hand side grid.

Column Heading	Description
Login ID	The internal login ID for the users session
Session Start Date	The date and time the user sessions started
Session End Date	The date and time the users session completed ¹
Connect Time	The total session time (DD:HH:MM:SS)
Status	The current status of the users session: <ul style="list-style-type: none"> • Connected • Closed • Dead²
Resp Used	The number of responsibilities used during the session ³
Forms Used	The number of forms used during the session ⁴

¹ A null value indicates the session is either still active or it is a "dead" session.

² Any session that has a start time less than the last database start time will be marked as "Dead".

³ If you select responsibility A, switch to responsibility B and then back to responsibility A, responsibility A will be counted as two responsibilities used.

⁴ If you select form A, switch to form B and then back to form A, the form A will be counted as two forms used.

Usage FS – Sessions Audit

This sub grid displays the full session activity for the selected full service session.

For example, this information can be used to view a users work practices (Full Service Activity Only) within the application

Note: The sign-on Audit level will determine the amount of information available in this grid. The sign-on audit level can be found in the lower status bar of the right hand side grid.

Column Heading	Description
Activity	This column contains one of the following: <ul style="list-style-type: none"> • Connection – Indicating the session start • The session Responsibility Name • The session Form name
Session Start	The date and time the activity started
Session End	The date and time the activity ended
Session Time	The duration of the activity (HH:MM:SS) <ul style="list-style-type: none"> • Total session time • Time spent in the responsibility

- Time spent in the form

Users - Usage SS

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Usage SS tab displays the selected user's self service sessions (defaults to today's activity). The amount of history available is dependant on the sites self service (ICX) purging policy.

Note: The self service activity tables only store the last activity for the session as such a full activity audit is not possible

Column Heading	Description
Session ID	The internal session ID for the Self Service Web Apps session
Session Status	The sessions status: Active / Inactive ¹
Mode Code	The self service session mode
Responsibility ID	The internal application reference number for the Responsibility
Responsibility	The Application Responsibility associated with the users last activity
Org ID	The internal application reference number for the Organization
Org Name	The organization associated with the users last activity
Function ID	The internal application reference number for the function
Function Name	The function associated with the users last activity
First Connect	The date and time the session started
Last Connect	The date and time of the users last page request
Session Time	The total time for the session (HH:MM:SS)
Session Time Limit	The activity time limit for the session (set by profile options) (HH:MM:SS)
Session Pages	The number of page requests the user has made during the session
Limit Pages	The activity page request limit for the session (set by profile options)

¹ A session will be marked as "Inactive" if the session is closed or there has been no session activity for more than 30 minutes

Workflows

Workflow Objects Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When Workflow is selected, the Objects panel (left hand side of the browser) contains two levels.

For example:

```
ADSEMPMT : HR Employee Termination Workflow (1)
ADSJOBRO : HR Job Requisition Approval (1)
ADSNEWHR : HR New Hire Workflow (50)
ADSSALAP : Salary Change Workflow (4)
    5449 : 12-Feb-02 17:13
    5437 : 12-Feb-02 15:32
    5381 : 08-Feb-02 19:11
    4765 : 03-Aug-01 11:13
AHLGAPP  : ASO Generic Approval (48)
AMSAPPR  : Marketing Approvals (1)
```

Active Workflow Types

The first level displays a list of all currently active workflow types in the following format:

```
Workflow item Type: Display name (n)
```

Where *n* is the number of workflows of the type in the workflow table.

Note: For performance, the number of workflows of each workflow type is not displayed by default. Selecting the (...) option above the workflow list will populate these values.

Active Workflows by Item Key

The second level displays a list of all the active workflows by item key for the item type in the following format:

```
Item Key (The start date and time of the workflow)
```

Workflow Type Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you select a Workflow Type in the Objects panel, the left hand side Details panel displays the following tabs:

- [Info](#) – Shows the overall profile option information for the selected profile option
- [Activity 1](#) - Graphically shows the current workflow item activities by status for the selected workflow item (Active - Complete – Other)
- [Activity 2](#) - Graphically shows the current workflow item activities by status for the selected workflow item (Error. Suspended, deferred etc...)
- [Purgable \(Est\)](#) - List all the "Purgable" activities for the selected workflow item.
- [Deferred](#) - List all the "Deferred" activities for the selected workflow item
- [Stuck](#) - List all the "Stuck" activities for the selected workflow item
- [Waiting](#) - List all the "Waiting" activities for the selected workflow item
- [Suspended](#) - List all the "Suspended" activities for the selected workflow item
- [Error](#) - List all the "Error" activities for the selected workflow item
- [Notified](#) - List all the "Notified" activities for the selected workflow item
- [Notifications](#) - List all notifications for the selected workflow item.

Workflow Type - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The info tab shows the workflow type information for the selected workflow type.

Property	Description
Item Type	The item type name (internal).
Display Name	The item type display name.
Description	The item type description.
Persistence	
Persistence Type	The persistence type PERM / TEMP.
Persistence Days	The number of persistence days.
Levels	Protect Level Protection level of the item type.
Custom Level	The level of the user who last updated the item type.
Access	
Read Role	Not currently used.
Write Role	Not currently used.
Execute Role	Not currently used.

Workflow Type - Activity 1 tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Activity 1 tab graphically shows the current workflow item activities by status for the selected workflow item:

- Active
- Complete
- Other

Other refers to all other item statuses including Error. Suspended, deferred and so on. These can be seen by selecting the **Activity 2** tab.

Note: the work flow activities by status is split between two tabs Activity 1 and Activity 2 as the number of active and complete found under Active 1 would swamp the other status types.

Workflow Type - Activity 2 tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Activity 2 tab graphically shows the current workflow item activities by status for the selected workflow item:

- Error
- Suspended
- Deferred

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- and so on

Status counts for both Active and Completed are located on the Activity 1 tab.

Note: the work flow activities by status is split between two tabs Activity 1 and Activity 2 as the number of active and complete found under Active 1 would swamp the other status types.

Workflow Type - Purgable (Est) tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Purgable (Est) tab displays the workflow items that may be purgable for the selected workflow item, including the persistence type and days used in the purging program.

Column Heading	Description
Item Key	The Unique reference key for the workflow item.
Last Activity Date	The dat and time the last activity occurred on the workflow item.
Persistence Type	The persistence type PERM / TEMP.
Persistence Days	The number of persistence days.
Est Rows	The estimated number of rows that will be removed from the wf_item_activitiy_statuses table.

Workflow Type - Deferred tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The deferred tab lists all Deferred activities for the selected workflow item.

Column Heading	Description
Item Type	The item type name (internal).
Item Key	The Unique reference key for the workflow item.
Process Activity ID	The process activity number for the workflow.
Display Name	The item type display name.
Item Type Description	The item type description.
Activity Status	The current status of the workflow item.
Assigned User	The user assigned to complete the task.
Begin Date	The date and time the item activity started.
Age (Days)	The age of the activity in days.

Workflow Type - Stuck tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Stuck tab lists all the "Stuck" activities for the selected workflow item.

Column Heading	Description
Item Type	The item type name (internal).
Item Key	The Unique reference key for the workflow item.
Process Activity ID	The process activity number for the workflow.
Display Name	The item type display name.
Item Type Description	The item type description.
Activity Status	The current status of the workflow item.
Assigned User	The user assigned to complete the task.
Begin Date	The date and time the item activity started.
Age (Days)	The age of the activity in days.

Workflow Type - Waiting tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Waiting tab lists the waiting activities for the selected workflow item.

Column Heading	Description
Item Type	The item type name (internal).
Item Key	The Unique reference key for the workflow item.
Process Activity ID	The process activity number for the workflow.
Display Name	The item type display name.
Item Type Description	The item type description.
Activity Status	The current status of the workflow item.
Assigned User	The user assigned to complete the task.
Begin Date	The date and time the item activity started.
Age (Days)	The age of the activity in days.

Workflow Type - Suspended tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Suspended tab lists all suspended activities for the selected workflow item.

Column Heading	Description
Item Type	The item type name (internal).
Item Key	The Unique reference key for the workflow item.
Process Activity ID	The process activity number for the workflow.
Display Name	The item type display name.
Item Type Description	The item type description.

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Description	
Activity Status	The current status of the workflow item.
Assigned User	The user assigned to complete the task.
Begin Date	The date and time the item activity started.
Age (Days)	The age of the activity in days.

Workflow Type - Error tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Error tab displays all error activities for the selected workflow item.

Column Heading	Description
Item Type	The item type name (internal).
Item Key	The Unique reference key for the workflow item.
Process Activity ID	The process activity number for the workflow.
Display Name	The item type display name.
Item Type Description	The item type description.
Activity Status	The current status of the workflow item.
Assigned User	The user assigned to complete the task.
Begin Date	The date and time the item activity started.
Age (Days)	The age of the activity in days.
Error Name	The internal error name.
Error Message	The error message text.
Error Stack	The error message call stack.

Workflow Type - Notified tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Notified tab lists all the Notified activities for the selected workflow item. Full notification details can be found under the [Notifications](#) tab for the selected workflow.

Column Heading	Description
Item Type	The item type name (internal).
Item Key	The Unique reference key for the workflow item.
Process Activity ID	The process activity number for the workflow.
Display Name	The item type display name.
Item Type Description	The item type description.
Activity Status	The current status of the workflow item.
Assigned User	The user assigned to complete the task.
Begin Date	The date and time the item activity started.
Age (Days)	The age of the activity in days.

Notification ID	The workflow items notification ID.
-----------------	-------------------------------------

Workflow Type - Notifications tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Notifications tab displays **all** notifications sent for the selected workflow item.

You can use this grid to identify those workflow users who are continually late in acknowledging workflow tasks.

Column Heading	Description
ID	The notification ID.
Display Name	The notification display name.
Subject	The notification subject.
Recipient Role	The role/recipient of the notification.
Recipient	The recipient of the notification.
Responder	The role/user who responded to the notification.
Status	The current status of the notification.
Mail Status	The mail status of the notification.
Begin Date	The date the notification was created.
Due Date	The date the notification should be actioned by.
End Date	The date the notification process was completed.
Response Time (Days)	The time in days the responder took to action the notification.
Over Due (Days)	The number of days the notification was overdue.

Workflow Details Panel

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When you select an individual workflow, the details panel (right hand side) displays the following tabs:

- [Info](#) - The info tab shows the general information used to create the selected workflow
- [Activity](#) - Lists the activity for the selected workflow that has occurred to date
- [Notifications](#) - Shows the notifications for the selected workflow.

Workflow - Info tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The info tab shows the general information used to create the selected workflow.

Property	Description
Activity Name	The Activity name (Internal).
Display Name	The Activity display name.
Value	The Activity value for the workflow Item.

Workflow - Activity tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Activity tab lists activity for the selected workflow that has occurred to date.

Column Heading	Description
Activity ID	The internal Activity ID.
Activity Name	The Activity display name.
Execution Time (Internal)	Used to sequence the Activities whilst running.
Status	The status if the workflow activity.
Results	The result of the activity item when completed.
Notification ID	The notification ID.
Begin Date	The date the Activity was created.
End Date	The date the Activity completed.
Activity Time (Days)	The time in days the Activity took to complete.
Error Name	The internal error name.
Error Message	The error message text.
Error Stack	The error message call stack.

Workflow - Notifications tab

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

This tab displays the notifications for the selected workflow.

Column Heading	Description
ID	The notification ID.
Display Name	The notification display name.
Subject	The notification subject.
Recipient Role	The role / recipient of the notification.
Recipient	The recipient of the notification.
Responder	The role/user who responded to the notification.
Status	The current status of the notification.
Mail Status	The mail status of the notification.
Begin Date	The date the notification was created.
Due Date	The date the notification should be actioned by.
End Date	The date the notification process was completed.
Response Time (Days)	The time in days the responder took to action the notification.
Over Due (Days)	The number of days the notification was overdue.
Message	The notification message.

Workflow Activity

Workflow Activity

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

When Workflow Activity is selected, the Objects panel (left hand side of the browser) contains four nodes.

Mailer Configuration

The workflow mailer configuration is stored in the database and includes information about:

- mailer group
- parameter
- required
- and value

Mailer tags are also included, and these include information about:

- Tag name
- Tag ID
- Action
- Pattern
- Allow Reload
- Security group

Overdue Notifications

Overdue notifications are provided on the premise that not all workflow performance issues are related to technical issues: a number of activities users have to complete and which may be delayed.

The overdue notifications area provides a way to track these non-technical issues. The details panel for this selection displays two tabs: Overdue Notifications and Notification Response (Historical).

Overdue Notifications

The overdue notifications tab provides details for the

- assigned user
- number of overdue notifications
- the oldest notification
- average overdue days
- maximum overdue days

The lower panels also provide:

- Overdue notices for the selected user
- Activity for the selected workflow

Routing Rules

When a user goes on leave, they must assign their workflow responsibilities to another user or role while they are away. The routing rules details displays current routing entries. These entries include the following information:

- Role
- Role display name
- Message name
- Message display name
- Action
- Begin date
- End date
- Comments about the routing

WF Roles

One of the large issues in workflow management is finding users and roles that are expecting notification, but have been assigned a notification method of "don't send;" or have a mail preference of email and no email address listed.

The WF Roles tab makes it easy to track these issues down so that you can fix them.

Local Users tab

The local users tab displays the list of local users and the following information in grid format:

- User Name
- Display Name
- Description
- Notification preference
- Email Address
- Start Date
- End Date
- Status
- Fax Number
- Language
- Territory
- Originating System ID
- Originating System

Local Roles tab

The local roles tab displays the list of local users and the following information in grid format:

- Role Name
- Display Name

- Description
- Notification Preference
- Email Address
- Start Date
- End Date
- Status
- User Flag
- Originating System ID
- Originating System
- Fax
- Language
- Territory
- Partition ID
- Security Group ID

WF Runtimes

Select WF Runtimes to see how long each workflow has been taking to complete. Information provided in this grid includes statistics for Completed Workflows. Depending on the number of completed workflows, this tab may take some time to load.

The statistics provided include:

- Workflow
 - Display Name
 - Workflows
 - Minimum (Days)
 - Average (Days)
 - Maximum (Days)
 - Standard Deviation (Days)
-

eBiz Monitor

eBiz Monitor Overview

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest eBiz Module.

Application Administrators can use the Toad E-Business Monitor to activity in the application. The eBiz monitor lets you monitor activity in the application with nine charts each viewable by time of day. You can use these charts as follows:

- Running and pending concurrent requests – To identify peak periods of programs running in parallel or excessive pending jobs.

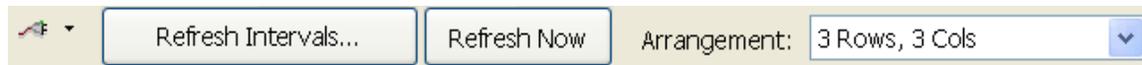
- Concurrent requests completed (today) – To see at a glance the amount of activity in the concurrent manager compared with average days.
- Concurrent requests completed with errors or warnings – To see if a large number of jobs are failing.
- Full service (forms) user connections – To display concurrent usage and volume of forms users.
- Self service (web) user connections – To display concurrent usage and volume of web or self-service application users.
- Self service page requests – to see the volume of requests being made for self service applications.
- Workflow mail items waiting to be sent – To identify if there are mail delivery problems for workflows.
- Workflows which are stuck, deferred or timed out – To identify the volume of workflows which are not completing.
- Workflow errors – To identify the volume of workflow transactions which have errored.

In addition, you can choose how you view these charts by using the [Monitor toolbar](#).

eBiz Monitor Toolbar

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

You can view the eBiz Monitor's charts in several different configurations. Use the toolbar to specify how you want to view them.



Button	Command
	Change active session.
	Change Refresh Intervals - displays a dialog that allows you to change the refresh interval for each chart. Click Done when you are finished.
	Refresh charts immediately.
	Choose the arrangement of Monitor charts. The default is three rows, three columns, but you can choose from several different options.

To zoom the chart view

- Double-click on a chart to see it in a full-screen view.

eBiz Reports

eBiz Reports Overview

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The Toad E-Business report builder allows developers and administrators to quickly design and format reports on critical application data which can be saved and rapidly executed.

Toad provides several pre-created reports for you to run and print from the reports manager page. You can also design your own report using the FastReports system.

Using Provided Reports

Reports functionality for the eBiz module is provided through Toad's Reports Manager. You can select a provided report from the Reports list on the left hand side of the window. The SELECT statement and the report definition file name will change on the right hand side.

For more information on using pre-generated reports, please see the [Reports Manager](#) topic.

To open eBiz reports

- From the **Database** menu, select **Report|Reports Manager**.
- Select one of the following categories of report:
 - Ora Apps - Concurrent Request Activity
 - Ora Apps - User Activity

Designing your own report

You can design your own report using the Fast Report tool in one of two ways.

Design from the Browser

In the eBiz Browser, you can use the information in the data grid to create a report.

To design from the Browser

1. In the browser navigation pane, browse to the eBiz object from which you want to create a report.
2. In the data grid (right hand side), right-click and select **Report** to open the Report Builder wizard.
3. See [Report Builder wizard](#) for information on completing the wizard.

To design a report manually

1. When connected to an eBiz database, select **Database|Report|Reports Manager**.
 2. See [Creating a Report](#) for detailed information about entering a query, creating a dataset and generating a report.
-

eBiz Lookup Finder

eBiz Lookup Finder Overview

Note: These eBiz features are only available in Toad for Oracle editions with the optional Quest Ebiz Module.

The lookup finder in the Quest eBiz Module offers a different approach to working with lookup. While the eBiz browser will show all lookups and their value, you need to know the name of the lookup to determine the possible values. The lookup finder allows developers to search lookups by the displayed meaning (or lookup code or lookup type). This can save you time in hunting down the appropriate lookup when developing a new form or when configuring concurrent program parameters.

eBiz Lookup Finder toolbar



Button	Command
	Change Active Session
	Search
	View/Edit Query
Lookup Type	Filter by Lookup type. <ul style="list-style-type: none"> • Choose if Case Sensitive. • Enter your filter in the box below.
Lookup Code	Filter by Lookup Code <ul style="list-style-type: none"> • Choose if Case Sensitive. • Enter your filter in the box below.
Meaning	Filter by Meaning. <ul style="list-style-type: none"> • Choose if Case Sensitive. • Enter your filter in the box below.
User Query	This checkbox becomes active if you use the view/edit query button and change the query. Once it's active and checked, if you click view/edit query again, the query you entered will still be there. When you uncheck it, the query will be repopulated according to what's in the edit boxes.

Getting Help

Check for Updates

If you have an internet connection, you can use the Check for Updates command to check for more recent versions of Toad for Oracle.

Toad

To check for updates

1. From the **Help** menu, select **Check for Updates**.
 2. Click **OK** to close the message box.
-

Download Toad Tips

Toad provides the ability to update the Tips for your Toad tips window. If you have an internet connection, Toad can check for new tips and download them at any point.

To download Toad Tips

- From the Help menu, select **Download Toad Tips**.
-

Frequently Asked Questions (FAQ)

If what you need to know is not in this help file, a user-driven database of FAQs is located on the web.

You can also search the Toad email lists from this site.

See the [Toad Support site](#) for more information.

Show Tips

Toad provides a tips window where you can both find tips to better get the most out of Toad, and also leave notes for yourself about how you best use Toad.

The Tips window is window-specific: a new tips window is displayed when you open a new window within Toad. Because of this, you can enter notes for a specific window and have it visible only when you are using that window.

The tips window consists of a small, resizable browser window containing two or three tabs. If there are tips for the window, the following tabs are displayed:

- **Tips** - displays tips for the selected Toad window.
- **Notes** - displays notes you can enter for the selected Toad window.

If there are no tips for the selected window, the Tips tab does not appear, but you can still enter your own Notes and view all the tips for the window.

Navigating the tips window

You can navigate through the tips for various windows by activating the tips list.

To navigate through tips

1. Click the **Show tips list** button beside the browse buttons.
2. Click a window name in the left hand list to display tips for it.

Notes tab

Use the notes tab to enter your own notes for the Toad window you have active. Toad saves these notes between sessions, so you can use the Notes tab as a type of scratch pad: bits of code, hints on processes you use, and so on can be stored in this box.

Hiding the tips window

You can turn tips off in two ways.

To hide the tips window

- On the tips window, select the **Do not Show Tips** check box and click **OK**.
Or
- From the Help menu, uncheck **Show Tips**.

To show the tips window

- On the main menu, click the **Show Tips**  button.
Or
- From the Help menu, check **Show Tips**.

Toad Advisor

Toad is self-diagnosing. If you are having difficulties with Toad that you can't iron out, the Toad Advisor may be able to help you. It offers Warnings, Alerts, Hints and more concerning the current state of your Toad installation. If you are in a managed environment, it will specify which features in Toad are managed, and to what extent.

You can find the Toad Advisor under the Help menu.

To use Toad Advisor

1. From the **Help** menu, select **Toad Advisor**.
2. Check the tree structure for information about how to tweak Toad to work better in your situation:
3. **Warnings** - describe things that should be fixed immediately.

4. **Alerts** - describe things that may have an impact upon Toad's functionality.
 5. **Hints** - provide information about your Toad installation that may affect how Toad works.
 6. **Performance suggestions** - describe settings that could be changed to improve speed of performance.
-

Registering Toad

The Product Authorization dialog box allows you to input the Quest software registration ID. This indicates to Toad that you are an authorized user.

To register Toad

1. Select **Help|Register Toad** menu item.



2. Click in the **Enter authorization key** field and type your key. Toad will automatically add the hyphens in the appropriate location.
 3. Click **OK** to complete the process.
-

About Toad

This dialog box displays some helpful contact information.

- Note the current version number of Toad. If you contact customer support, they will want to know what version you are using.
- Clicking on "www.quest.com" opens your default web browser and navigates directly to the Quest Software, Inc. site.
- Clicking on "info@quest.com" opens your default email client software to compose a new email to Quest for more information. Please note the version number of Toad in your email.

To access the Help About dialog box

- Select **Help|About** from the menu.
-

Help File

To access help

- Press **<F1>** anywhere in Toad for context-sensitive help.

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- From the **Help** menu, select **Contents** to access the main help page.

Troubleshooting Help

Due to a security patch from Microsoft, help may not be available from a network installation of Toad as the security patch deactivates ActiveX controls, which are used by the help file to enable navigation in the internal browser window.

Toad workaround

1. Install the help files on the client machine.
2. Create an entry in the TOAD.INI [Settings] as follows:

HelpFileDir = location of helpfile

If you wish to use the help file from the network, you will need to either contact Microsoft for a workaround.

Online Resources

There are several online resources available to help you enhance your experience with Toad. With an internet connection, you can easily access these resources from within Toad and also from your internet browser.

Toad Online

The Toad Online window includes a small web browser so you can access some of these resources directly from Toad.

To access Toad Online through Toad

- From the **Help** menu, select **Toad Online**.

Online resources available from Toad Online include:

What's New

The What's New page is located on the [Toadsoft](#) website. It provides an overview of new features in the current version of Toad for Oracle and some information on how you can use them to make working with Toad easier.

AskToad.com

AskToad is a user-driven knowledgebase, running on Wiki technology. It is designed to provide answers, tips and hints about using Toad for Oracle.

Join Mailing Lists

This tab lets you easily join the Toad and Toad beta mailing lists. Click one of the buttons and your email editor opens a new email with the appropriate boxes filled in. Simply send the message and you will be subscribed to the mailing lists.

Note: Accuracy of answers and solutions posted on the mailing lists are not monitored by Quest Support. These lists provide peer-to-peer support only.

Additional Resources

Toadsoft.com

Toadsoft.com is the website to search to find information about Toad:

- Toad downloads
- Frequently Asked Questions
- Links to Quest resources
- And more

To access Toadsoft, go to <http://toadsoft.com>

ToadWorld.com

Toad World is a site provides discussion forums, education opportunities, updates and announcements of new Toad products. Share code snippets with your fellow users, and learn valuable tips and tricks for using Toad.

To access ToadWorld, go to <http://toadworld.com>

Quest Support

Quest Support is available to customers who have a trial version of a Quest product or who have purchased a commercial version and have a valid maintenance contract. Quest Support provides around the clock coverage with SupportLink, our web self-service. Visit SupportLink at <http://support.quest.com>

From SupportLink, you can do the following:

- Quickly find thousands of solutions (Knowledgebase articles/documents).
- Download patches and upgrades.
- Seek help from a Support engineer.
- Log and update your case, and check its status.

View the Global Support Guide for a detailed explanation of support programs, online services, contact information, and policy and procedures. The guide is available at: http://support.quest.com/pdfs/Global_Support_Guide.pdf

Release Notes

You can easily access the release notes from the Help menu. The release notes detail the changes made to the current release of Toad for Oracle.

To read the release notes

- From the **Help** menu, select **Release Notes**.
-

Contacting Quest Support

Quest Support is available to customers who have a trial version of a Quest product or who have purchased a commercial version and have a valid maintenance contract. Quest Support provides around the clock coverage with SupportLink, our web self-service. Visit SupportLink at <http://support.quest.com>

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From SupportLink, you can do the following:

- Quickly find thousands of solutions (Knowledgebase articles/documents).
- Download patches and upgrades.
- Seek help from a Support engineer.
- Log and update your case, and check its status.

View the Global Support Guide for a detailed explanation of support programs, online services, contact information, and policy and procedures. The guide is available at: http://support.quest.com/pdfs/Global_Support_Guide.pdf

Support Bundle

Support Bundle Overview

If you haven't been able to find the answer to your question in the User's Manual, or the Help files, you can contact us directly. An easy way to do this is by choosing **Help|Support Bundle**.

The support bundle window provides information about several aspects of your Oracle and Toad setups. This information can be used to greatly improve troubleshooting of any problems. This information includes:

- Application Information
 - Toad Version
 - Toad Registration Information
 - Toad Editions Options (Debugger, DBA, Xpert, and so on.)
 - Installation Type (Network or Local)
 - EXE and Client Directories. Client directory only applies to network installations
 - Knowledge Xpert Version and Location
 - SPServer.dll Version and Location
- Team Coding Information
 - If Team Coding Installed or not
 - Team coding settings
- Oracle Client Information
 - Client Location
 - TNSNAMES.ORA Location
- Oracle Server Information
 - Server Version
 - Server NLS_CHARACTERSET
 - Server NLS_NCHAR_CHARACTERSET
 - Connected User and Connect As (Normal, SYSDBA, SYSOPER)
- System Information
 - Operating System Version

- Total and Available Memory (Physical, Virtual, and Swap)
- PATH Environment Variable
- TNS_ADMIN Environment Variable
- Oracle Homes Registry Data
- All registry information for each installed home is displayed. This information is found under HKEY_LOCAL_MACHINE\Software\Oracle

In addition, the Support Bundle lets you easily report problems to our peer-to-peer mailing lists or directly to Quest Support. See [Support Bundle Toolbar](#) for more information.

Support Bundle Toolbar

From the toolbar of the support bundle, you can accomplish several things.

Button	Command
	Copy support bundle to clipboard
	Save support bundle to file
	Refresh support bundle information
Toad Mailing List	This opens your email application with a pre-addressed email to the peer-to-peer Toad mailing list. See Join Mailing Lists for more information about the Toad lists.
Quest Support	This opens your email application with a pre-addressed email to our customer support department.
Attach TOAD.INI to email	If checked this attaches the TOAD.INI to any email sent through the support bundle, whether it is to the peer-to-peer Toad list or to Quest Support
Use this information in body of email	If checked, Toad will include the support bundle information in the body of the email sent to either the peer-to-peer Toad list or to Quest Support

Hints and Tips

Hints and Tips: Auto Commit and Transaction Processing

You can configure Toad to either Auto Commit or prompt to commit on exit when Auto Commit is disabled.

When enabled, Toad will check for the current user's access to DBMS_TRANSACTION. If the user has access, Toad can determine whether there are actual transactions pending and prompt on exit only when necessary. If the user does not have access, the other "Prompt on exit" options are followed.

Checking for system views is optional because of the additional time required at Login time to check for access. Some people prefer to commit manually when needed and not have software asking questions at every exit.

Hints and Tips: Connecting To Personal Oracle

If you are having trouble connecting to Personal Oracle or creating a SQL*Net alias for PO7 or PO8, try one of the following four entries for the database name on the Toad login window:

2:

BEQ-LOCAL

LOCAL

TCP-LOOPBACK

For Schema/Passwords try one of the following pairs:

DEMO/DEMO

SCOTT/TIGER

SYS/CHANGE_ON_INSTALL

SYSTEM/MANAGER

Hints and Tips: Explain Plan Tables

Toad expects to find an Explain Plan table with columns to match the most recent specification from Oracle.

If you get "Invalid Column" errors when executing Explain Plan, you can recreate the explain plan tables using the [Server Side Install](#) wizard.

The Plan Table can be set in the **View|Toad Options|Oracle** tab, **Explain Plan Table Name:** box.

Hints and Tips: Exporting Data

There are several ways to export data from within Toad. These include:

- [Create Insert Statements](#) - Data for tables can be exported as "INSERT INTO..." statements from the Schema Browser.
 - [Save as](#) - The contents of a SQL Edit grid can be saved to various formats using the Right-Click Menu when over an Editor Grid.
 - [Export Table Data](#) - export data by selecting **Database|Export|Table Data**.
 - [Export Wizard](#) - the Quest DBA Module has an interface to Oracle's export utility.
 - [Export to Flat file](#) - export data to a flat file format.
-

Hints and Tips: File Extension Associations

If you double-click a .TXT file in Explorer and Notepad loads, Notepad loads because an association exists between the extension TXT and the application NOTEPAD.EXE.

You can create similar associations between .SQL extensions (or .PKG, and so on) and Toad from the **View|Toad Options|Files** tab. (See [Options: Files](#) for more information.)

Note: If you want to create extensions AND execute Toad from a network path, you will have to manually alter the OPEN command of the file extension to include the PATH argument.

For example:

```
H:\toad\Toad.exe "%1" "PATH=C:\MYToadDIR"
```

Without the optional Path argument, the OPEN command appears as:

```
C:\toad\Toad.exe "%1"
```

Hints and Tips: OCI DLL Not Found

If you get this or a similar error when attempting to connect to Oracle, make sure that the Oracle BIN directory is in your system path. This directory will be ORAWIN\BIN or ORANT\BIN or something similar. If you do not know how to check your Path, go to a DOS prompt and type PATH and press ENTER.

Hints and Tips: Running Toad from a Network

You can run Toad from a network drive providing you also place an optional argument on the command line to provide a location for the User specific files written by Toad. This is necessary to avoid users overwriting INI files, SQL files, and so on.

For Windows NT Short-Cuts, **Right-Click** the Shortcut and select the **Properties** menu option, then select the **Shortcut Tab**. Following the name of the Toad executable, add the following:

```
PATH=C:\MYToadPATH
```

where C:\MYToadPATH refers to a path that contains most Toad files other than the executable and the Help file. This means that each user will also have a `toad_dir\TEMPS` directory with the required files in place.

The Toad Commercial installation script has the option to install full client, or the client and server pieces. See the printed *Getting Started Guide* for more information.

Hints and Tips: Tables and Columns

Oracle provides the facility to store comments of up to 2000 characters on Tables, Table Columns, Views, View Columns, Snapshots, and Snapshot Columns. This is an excellent but under-used means to document the DDL design not just for developers but also for Report Writers, QA, and others who must access the database.

Adding Comments in Schema Browser

The Schema Browser window provides an easy method for entering table and/or column comments for a selected table. Changes to comments are automatically posted to the database.

- Pick the table.
- Select the comments type from the dropdown list.
- Type in the comments area.
- After editing and before closing the Schema Browser window, be sure to select a different table for the comment editing to be sent to the database.

Viewing Comments in the Schema Browser

From the Tables page of the Schema Browser you can choose to display or hide table comments in the details panel.

To display or hide comments

1. Select the **table** you want to view.
2. Right-click and choose **Show column comments in list**. If this is checked, comments will display in a last column of the grid. If it is unchecked, the comments will not display.

Adding Comments in Editor

To add comments to tables, views, view columns, snapshots, or snapshot columns, you can perform these SQL statements in an Editor window:

```
comment on table schema.table_name is 'text'
comment on table schema.view_name is 'text'
comment on table schema.snapshot_name is 'text'
comment on column schema.view.column is 'text'
comment on column schema.snapshot.column is 'text'
```

To drop a comment, set 'text' to '' (in other words, delete all text between the quotation marks).

Hints and Tips: Table Does Not Exist Errors

Toad tables are required for recalling previous Explain Plan results, Profiler, Team Coding, and Toad Security. You do not have to create these tables in order to use Toad, but you will need them for the functions listed above. To create these tables, run the [Server Side Object Install Wizard](#).

In addition, many V\$ tables are required on other screens. For a list of tables required on a screen by screen basis, see [V\\$ Tables Required](#).

Hints and Tips: The Right Mouse Button

The right mouse button activates context specific menus, often providing access to functions that are not available on the main menu. The right-click mouse menus can also be accessed by pressing the <F10> key. Some items are shortcuts to commands or windows that can be found elsewhere. Other items are unique to the menu and cannot be found anywhere else in Toad.

Hints and Tips: Unable To Resolve TNS Name

You must have a full install of a 32 bit version of SQL*Net. Connecting by SQL*Plus is NOT verification that SQL*Net is installed. If you cannot connect to Oracle using Toad, your Oracle client software is not installed correctly. Re-install the SQL*Net client from the Oracle setup disks or CD ROMs. Or, if you have installed OEM, NetAssist, Oracle Lite, or any other Oracle software recently, remove that software and see if you can connect using Toad. Oracle's own software are the worst culprits for stomping on SQL*Net settings.

Also make sure that SQL*Net is attempting to use the correct TNSNames files by confirming that the registry setting:

```
HKEY_LOCAL_MACHINE\Software\Oracle\TNS_ADMIN
```

specifies the correct folder where your TNSNAMES.ORA file lives.

Related Topics

[Installation Notes: SQL Net and Net8](#)

[Oracle Home Editor](#)

[SQLNet Editor](#)

Importing and Exporting Data

Data Pump

Data Pump Overview

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The Oracle data pump is an import/export utility added in Oracle 10g. It is significantly faster and more efficient at loading large volumes of data than the standard import/export utilities.

Key differences between the two import/export engines are as follows:

Import/Export	Data Pump
Runs on the client machine	Runs on the database server
Accesses files on client machine	Access files on the database server
Transfers data across SQL*Net	No data transfers across network
Modal utilities (cannot initiate a process and then detach)	Non-modal utilities (can initiate a process and then detach)
Works with any version of Oracle client	Works only with Oracle clients version 10g and up

Because data pump client processes can detach from a session running on a server, you can close the import/export execution window without killing the job. The import/export will continue.

Note: The data pump engine generates files that are incompatible with the old import/export utilities. This also means that the [Toad Export File Browser](#) cannot be used to open or review data pump generated export files.

Data Pump Requirements

You must have read/write permissions to the export directory to use the data pump. Local directories must be shared, have read/write permissions and be indicated by the network path. By default, the Data Pump parameter file is stored in the Toad installation directory (C:\Program Files\Quest Software\Toad for Oracle).

In addition, you must have the import/export utilities in your client Oracle bin directory. Some 10g installations may not automatically install these utilities. The utilities required are:

- IMPDP.EXE is the Data Pump client import utility
- EXPDP.EXE is the Data Pump client utility

Note: These utilities are not the same as the old import/export utilities. If you need to import data from an older version of Oracle, you will need the old utilities. (See [Import Utility](#) wizard and [Export Utility](#) wizard.)

The paths for these utilities are stored in the Toad.ini file. You can view and change them from **View|Toad Options|Executables**. If the Import/Export Utility Wizard is opened and no path has been specified for the export utility, Toad will search for the path and enter it automatically, if it exists.

Related Topics

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Setting up an Import/Export Directory](#)

[Filtering Data with Queries](#)

[Remapping Schemas, Tablespaces, and Datafiles](#)

[Entering Table Names](#)

Data Pump Job Manager Overview

The Data Pump Job Manager provides a way of tracking your data pump jobs. Because the Data Pump is not limited to a connection, the windows can be closed after starting a job. The job manager gives you the ability to manage these jobs, and start, stop and kill them after the Data Pump wizard window has been closed.

Data Pump Job Manager Toolbar



Button	Command
	Change active session
	Start selected jobs
	Stop selected jobs
	Kill selected jobs
	Refresh grid

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

Setting up an Import/Export Directory

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You must have an import/export directory set up in order to use the Data Pump.

To use the Data Pump, you must have Read/Write permissions to the import/export directory. Local directories must be shared, have read/write permissions, and be indicated by the network path.

[Create a directory](#), on the network or locally, being sure that the users you want to use the data pump have read/write permissions, and that the directory is shared.

Related Topics

[Create Directory](#)

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

Remapping Schemas, Tablespaces, and Datafiles

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can remap schemas, tablespaces, and datafiles, depending on the mode and choices you have made. The tabs for these will usually all appear. However, if you choose one that is inappropriate to the choices made, it will fail when run by Oracle.

The remapping grid requires the following:

- A source can only appear once in each remapping grid.
- A row must contain both a source and a target.

To remap

1. From the remapping screen of the Data Pump Import wizard, click the tab of the type of object you want to remap (Remapped Schemas, Remapped Tablespaces, or Remapped Datafiles).
2. Click in the **Source** column and enter the name of the schema, tablespace or datafile you want to remap.
3. Press <Tab>

Or

Click in the **Target** column.

4. Enter the name of the schema, tablespace or datafile where you want the data in the Source column to be placed.
5. Click the + button to add additional remappings.

To remove a remap from the grid

- Select an item in the grid and then click the - button to remove it.

Related Topics

[Data Pump Overview](#)

[Filtering Data with Queries](#)

[Entering Table Names](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

Filtering Data with Queries

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

When importing or exporting data using the data pump, you can use queries to filter the data you import or export.

The format of these queries is important and will have an effect on the data you import or export.

The query statement must be in the following format:

```
[ [schema_name.]table_name: ] "query_clause"
```

The schema name and table name are optional. The query_clause is a WHERE statement.

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If the table name is not specified, the query will be applied to all tables.

Some sample query statements are as follows:

Statement	Definition
DEPT: "WHERE DName= ' ACCOUNTING ' "	Limits the import for the DEPT table to just those rows where the column DName='Accounting'.
SCOTT.EMP: "WHERE EName= ' SMITH ' "	Limits the SCOTT.EMP table.
"WHERE Col1=10 "	Limits ALL table sin the dump file. Each table will have to have a "Col1" for this query to work.

Effect of remapping on queries

Remapping a schema to a different schema (see [Remapping Schemas, Tablespaces, and Datafiles](#)) when importing can affect the results of queries.

For example, in the second query above, that limits the SCOTT table, if you remap the SCOTT schema to JSMITH, then the query will fail, and all data will be imported.

In this scenario, the first and third queries will still function.

Failure versus no Results

A query fails when it cannot be resolved.

For example:

- When you remap a schema to a new schema and then look for the old schema, all data will be imported.
- If, in the third query example above, some tables did not have a Col1, all data would be imported/exported.

If the query is valid, but results in no matches, no data will be imported/exported.

For example:

- In the first query example, there is a column DName, however there are no entries where DName=Accounting. No data will be imported/exported from the DEPT table.
- In the third query example above, all tables have a Col1, but none of them have an entry of 10. No data will be imported/exported from any table.

Related Topics

[Data Pump Overview](#)

[Remapping Schemas, Tablespaces, and Datafiles](#)

[Entering Table Names](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

Using the Metadata Filter Grid

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

One of the distinct advantages to the Data Pump is that you can filter data using a metadata filter: you can filter by object type.

Using the metadata filter page of the import/export wizards, you can choose to include or exclude entire categories of objects. You can further filter those categories by adding a name qualifier to the grid in the Clause box. (For more information, please see your Oracle documentation).

To use the metadata filter grid

1. Select the check boxes beside the types you want to filter.
2. In the Clause box, enter any further selection criteria you want to use. (See [Example.](#))
3. Select whether you want to:
4. Include - include only selected data types.
5. Exclude - exclude only selected data types.
6. No metadata filter (this is the default).

Example

Our user wants to import Table metadata from only tables that match a specific criteria.

He selects TABLE in the grid, by clicking in the check box. He then clicks INCLUDE. This limits the import to table metadata only.

If he clicked "EXCLUDE," then only table metadata would be excluded from the export, and all other types would be included.

He now wants to filter the metadata further. So he enters a filter criteria. This is optional, and is a further refinement of how you can control what gets put into the import or export.

The criteria must be a SQL expression, and operates on the metadata. In this example, our user enters "LIKE 'SCRIPT%'."

In the dumpfile, there are only two tables in the JSMITH schema whose names match this criteria and none in the SCOTT schema so Oracle returns only the metadata for the two JSMITH tables imported.

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Filtering Data with Queries](#)

[Remapping Schemas, Tablespaces, and Databases](#)

Entering Table Names

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

When importing tables, you must enter the table names into the grid. The format of these table names is very important to the import.

The format for table names is as follows:

```
[SCHEMA].TABLENAME:[partition name]
```

The schema and partition name is optional; however, if no schema is designated in the entry, the current *user* is assumed. Therefore, if you are logged in as JSMITH, and importing tables from the SCOTT schema, you must prefix the table name with SCOTT, as follows:

```
SCOTT.SCOTTSTABLE
```

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You can also import partitions using this feature. An example of a partition syntax is as follows:

```
SCOTT.SCOTTSTABLE:scotts_partition
```

Related Topics

[Data Pump Overview](#)

[Filtering Data with Queries](#)

[Remapping Schemas, Tablespaces, and Datafiles](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

Import Wizard

Data Pump Import Wizard

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The Data Pump Import wizard lets you use easily use Oracle's Data Pump to import data into the database on a large scale.

There are five import modes to the Data Pump:

- Full Import
- Schema
- Table
- Tablespace
- Transportable Tablespace

The Toad wizard supports all of these, and adds support for loading and running an existing parameter file.

To access the data pump import wizard

1. From the **Database** menu, select **Import**.
 2. Select **Data Pump Import Wizard**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Performing a Full Import](#)

[Importing Tables](#)

[Importing Users](#)

[Importing Tablespaces](#)

[Importing Transportable Tablespaces](#)

[Importing using an Existing Parameter File](#)

Performing a Full Import

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The default mode for importing is "Full." This means that Oracle will import the entire dumpfile in whatever export mode was used to create it. So if you have exported as "tablespaces" doing a full import will import it in its entirety, in "tablespace" mode.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To perform a full import

1. From the **Database** menu, select **Import|Data Pump Import Wizard**.
2. Select **Import**, and select **Entire Dumpfile** from the drop down menu.
3. Click **Next**.
4. Enter any queries you want to use to filter the data. (See [Filtering Data with Queries](#) for more detailed information about queries.)
5. Click **Next**.
6. Remap any schemas, tablespaces or datafiles that need to be imported into different areas. (See [Remapping schemas, tablespaces, and datafiles](#) for more information.)
7. Click **Next**.
8. Enter the Content parameters:
 9. All
 10. Data Only
 11. Metadata Only
9. Select the action to use if a table already exists (this is equivalent to the TABLE_EXISTS_ACTION parameter):
 10. Skip
 11. Append
 12. Truncate
 13. Replace
10. Select the value for the ESTIMATE parameter:
 11. Blocks
 12. Statistics
11. Select or clear the **Reuse Datafiles** parameter.
12. Enter the number of seconds you want between status reports. Status reports are displayed in the Data Pump watch window. Enter **0** to only update upon completion of each object type.
13. Click **Next**.
14. Select object types to include or exclude.
15. Click **Next**.
16. Select a directory, and enter the input file name, log file name and the SQL file name.

The input file name must exist in the selected Directory. The log file will be created in the selected directory. If a SQL file name is provided, the import will not occur: the DDL necessary to perform the import will be generated and stored in a file of the given name, and the file will be created in the directory specified by the Directory selection.

Note: The directory must be created as described in [Setting up an Import/Export Directory](#).

11. Toad automatically creates a parameter file name for you, but you can change it.
 12. Optionally, enter a Data Pump job name.
 13. Click **Next**.
 14. Select one of the following:
 15. Execute Now
 16. Schedule to run later
 17. Just build the parameter file
 18. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Importing Tables](#)

[Importing Users](#)

[Importing Tablespaces](#)

[Importing Transportable Tablespaces](#)

[Importing using an Existing Parameter File](#)

Importing Tables

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can use the Data Pump Import wizard to import tables. If you are importing all the tables from a dumpfile, you may prefer to do a "[full import](#)" and just specify Tables - Include at Step 14.

Using the Import tables mode gives you the opportunity to specify which tables you want to import.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To import tables

1. From the **Database** menu, select **Import|Data Pump Import Wizard**.
2. Select **Import**, and select **Tables** from the drop down menu.
3. Click **Next**.
4. Enter the names of the tables you want to include. (See [Entering Table Names](#).)
5. Click **Next**.
6. Enter any queries you want to use to filter the data. (See [Filtering Data with Queries](#) for more detailed information about queries.)
7. Click **Next**.
8. Remap any schemas, tablespaces or datafiles that need to be imported into different areas. (See [Remapping schemas, tablespaces, and datafiles](#) for more information.)

9. Click **Next**.
 10. Enter the Content parameters:
 11. All
 12. Data Only
 13. Metadata Only
 11. Select the action to use if a table already exists (this is equivalent to the TABLE_EXISTS_ACTION parameter):
 12. Skip
 13. Append
 14. Truncate
 15. Replace
 12. Select the value for the ESTIMATE parameter:
 13. Blocks
 14. Statistics
 13. Select or clear the **Reuse Datafiles** parameter.
 14. Enter the number of seconds you want between status reports. Status reports are displayed in the Data Pump watch window. Enter **0** to only update upon completion of each object type.
 15. Click **Next**.
 16. Select object types to include or exclude. (See [Using the Metafilter Grid](#) for more information.)
 17. Click **Next**.
 18. Select a directory, and enter the input file name, log file name and the SQL file name.

The input file name must exist in the selected Directory. The log file will be created in the selected directory. If a SQL file name is provided, the import will not occur: the DDL necessary to perform the import will be generated and stored in a file of the given name, and the file will be created in the directory specified by the Directory selection.
- Note:** The directory must be created as described in [Setting up an Import/Export Directory](#).
19. Toad automatically creates a parameter file name for you, but you can change it.
 20. Optionally, enter a Data Pump job name.
 21. Click **Next**.
 22. Select one of the following:
 23. Execute Now
 24. Schedule to run later
 25. Just build the parameter file
 23. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Performing a Full Import](#)

[Importing Users](#)

[Importing Tablespace](#)

[Importing Transportable Tablespaces](#)

[Importing from an Existing Parameter File](#)

Importing Users

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can use the Data Pump Import wizard to import users. If you are importing all the users from a dumpfile, you may prefer to do a "[full import](#)" and just specify Users - Include at Step 14.

Using the Import Users mode gives you the opportunity to specify which users you want to import.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To import users

1. From the **Database** menu, select **Import|Data Pump Import Wizard**.
2. Select **Import**, and select **Users** from the drop down menu.
3. Click **Next**.
4. Select **Users** you want to import. (Users not currently in the database can be manually entered by typing the user name and pressing <Enter>).
5. Click **Next**.
6. Enter any queries you want to use to filter the data. (See [Filtering Data with Queries](#) for more detailed information about queries.)
7. Click **Next**.
8. Remap any schemas, tablespaces or datafiles that need to be imported into different areas. (See [Remapping schemas, tablespaces, and datafiles](#) for more information.)
9. Click **Next**.
10. Enter the Content parameters:
 11. All
 12. Data Only
 13. Metadata Only
11. Select the action to use if a table already exists (this is equivalent to the TABLE_EXISTS_ACTION parameter):
 12. Skip
 13. Append
 14. Truncate
 15. Replace
12. Select the value for the ESTIMATE parameter:
 13. Blocks
 14. Statistics
13. Select or clear the **Reuse Datafiles** parameter.
14. Enter the number of seconds you want between status reports. Status reports are displayed in the Data Pump watch window. Enter **0** to only update upon completion of each object type.
15. Click **Next**.
16. Select object types to include or exclude. (See [Using the Metafilter Grid](#) for more information.)

17. Click **Next**.
 18. Select a directory, and enter the input file name, log file name and the SQL file name.

The input file name must exist in the selected Directory. The log file will be created in the selected directory. If a SQL file name is provided, the import will not occur: the DDL necessary to perform the import will be generated and stored in a file of the given name, and the file will be created in the directory specified by the Directory selection.
 - Note:** The directory must be created as described in [Setting up an Import/Export Directory](#).
 19. Toad automatically creates a parameter file name for you, but you can change it.
 20. Optionally, enter a Data Pump job name.
 21. Click **Next**.
 22. Select one of the following:
 23. Execute Now
 24. Schedule to run later
 25. Just build the parameter file
 23. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Performing a Full Import](#)

[Importing Tables](#)

[Importing Tablespaces](#)

[Importing Transportable Tablespaces](#)

[Importing using an Existing Parameter File](#)

Importing Tablespaces

You can use the Data Pump Import wizard to import tablespaces. If you are importing all the tablespaces from a dumpfile, you may prefer to do a "[full import](#)" and just specify Tablespaces - Include at Step 14.

Using the Import Tablespaces mode gives you the opportunity to specify which tablespaces you want to import.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To import tablespaces

1. From the **Database** menu, select **Import|Data Pump Import Wizard**.
2. Select **Import**, and select **Tablespaces** from the drop down menu.
3. Click **Next**.
4. Select **Tablespaces** you want to import.
5. Click **Next**.

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6. Enter any queries you want to use to filter the data. (See [Filtering Data with Queries](#) for more detailed information about queries.)
 7. Click **Next**.
 8. Remap any schemas, tablespaces or datafiles that need to be imported into different areas. (See [Remapping schemas, tablespaces, and datafiles](#) for more information.)
 9. Click **Next**.
 10. Enter the Content parameters:
 11. All
 12. Data Only
 13. Metadata Only
 11. Select the action to use if a table already exists (this is equivalent to the TABLE_EXISTS_ACTION parameter):
 12. Skip
 13. Append
 14. Truncate
 15. Replace
 12. Select the value for the ESTIMATE parameter:
 13. Blocks
 14. Statistics
 13. Select or clear the **Reuse Datafiles** parameter.
 14. Enter the number of seconds you want between status reports. Status reports are displayed in the Data Pump watch window. Enter **0** to only update upon completion of each object type.
 15. Click **Next**.
 16. Select object types to include or exclude. (See [Using the Metafilter Grid](#) for more information.)
 17. Click **Next**.
 18. Select a directory, and enter the input file name, log file name and the SQL file name.

The input file name must exist in the selected Directory. The log file will be created in the selected directory. If a SQL file name is provided, the import will not occur: the DDL necessary to perform the import will be generated and stored in a file of the given name, and the file will be created in the directory specified by the Directory selection.
- Note:** The directory must be created as described in [Setting up an Import/Export Directory](#).
19. Toad automatically creates a parameter file name for you, but you can change it.
 20. Optionally, enter a Data Pump job name.
 21. Click **Next**.
 22. Select one of the following:
 23. Execute Now
 24. Schedule to run later
 25. Just build the parameter file
 23. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Performing a Full Import](#)

[Importing Tables](#)

[Importing Users](#)

[Importing Transportable Tablespaces](#)

[Importing using an Existing Parameter File](#)

Importing Transportable Tablespaces

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The transportable tablespace allows you to quickly move a subset of an Oracle database from one Oracle database to another.

You can create a transportable tablespace through the Data Pump Import wizard.

To import a transportable tablespace

1. From the **Database** menu, select **Import | Data Pump Import Wizard**.
2. Select **Import a transportable tablespace**.
3. Click **Next**.
4. Enter a fully qualified directory path and filename for each datafile.
Note: An Oracle DIRECTORY object cannot be used for this step.
5. Select the **Check for dependencies** checkbox if you want to verify during the import that the specified tablespace set has no dependencies.
6. Click **Next**.
7. Enter any queries you want to use to filter the data. (See [Filtering Data with Queries](#) for more detailed information about queries.)
8. Click **Next**.
9. Remap any schemas, tablespaces or datafiles that need to be imported into different areas. (See [Remapping schemas, tablespaces, and datafiles](#) for more information.)
10. Click **Next**.
11. Select a directory, and enter the input file name, log file name and the SQL file name.
The input file name must exist in the selected Directory. The log file will be created in the selected directory. If a SQL file name is provided, the import will not occur: the DDL necessary to perform the import will be generated and stored in a file of the given name, and the file will be created in the directory specified by the Directory selection.

Note: The directory must be created as described in [Setting up an Import/Export Directory](#).
12. Toad automatically creates a parameter file name for you, but you can change it.
13. Optionally, enter a Data Pump job name.
14. Click **Next**.
15. Select one of the following:
 16. Execute Now
 17. Schedule to run later
 18. Just build the parameter file

16. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Performing a Full Import](#)

[Importing Tables](#)

[Importing Users](#)

[Importing Tablespaces](#)

[Importing using an Existing Parameter File](#)

Importing from an Existing Parameter File

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can load any existing parameter file that you have created from a previous import. This lets you prepare your import in advance, load the parameter file later and import your data.

To load an existing parameter file

1. From the **Database** menu, select **Import | Data Pump Import Wizard**.
2. Select **Load Existing Parameter File**.
3. Click **Next**.
4. Enter the path and name of the parameter file you want to use,
Or

Click the **drill down**  button and select the parameter file.

5. Click **Next**.
 6. Select one of the following:
 7. Execute Now
 8. Schedule to run later
 7. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

[Performing a Full Import](#)

[Importing Tables](#)

[Importing Users](#)

[Importing Tablespaces](#)

[Importing Transportable Tablespaces](#)

Export Wizard

Data Pump Export Wizard

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The Data Pump Export wizard lets you easily use Oracle's Data Pump to export data from the database on a large scale.

There are five export modes to the Data Pump:

- Full Export
- Schema
- Table
- Tablespaces
- Transportable Tablespaces

To open the data pump export wizard

- From the **Database** menu, select **Export** and then **Data Pump Export Wizard**.
-

Related Topics

[Data Pump Overview](#)

[Exporting Tables](#)

[Exporting Users](#)

[Exporting Databases](#)

[Exporting Tablespaces](#)

[Generating a Transportable Database](#)

[Loading an Existing Parameter File](#)

Exporting Tables

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily export tables from the Data Pump Export wizard.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To export tables

1. From the **Database** menu, select **Export|Data Pump Export Wizard**.
2. Select **Export**, and select **Tables** from the drop down menu.
3. Click **Next**.

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4. Select a **Schema** from the Schema drop down, and select the tables within that schema that you want to export. You can click the **Selections** tab to see the tables you have selected.
 5. Click **Next**.
 6. Enter any queries you want to use to limit the data exported. (See [Filtering Data with Queries](#) for more detailed information about queries.)
 7. Click **Next**.
 8. Select the content to export:
 9. All
 10. Data
 11. Metadata
 9. Specify any additional parameters for the export file:
 10. Estimate space
 11. Estimate in blocks or statistics
 12. Provide status every *n* minutes
 10. Click **Next**.
 11. Select any object types to include or exclude in the report. (See [Using the Metafilter Grid](#) for more information.)
 12. Click **Next**.
 13. Select a directory, and enter the output file name and log file name.

Note: The directory must be created as described in [Setting up an Import/Export Directory](#).
 14. Toad automatically creates a parameter file name for you, but you can change it.
 15. Optionally, enter a Data Pump job name and a Max File size.
 16. Click **Next**.
 17. Select one of the following:
 18. Execute Now
 19. Schedule to run later
 20. Just build the parameter file
 18. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Exporting Users](#)

[Exporting Databases](#)

[Exporting Tablespaces](#)

[Generating a Transportable Database](#)

[Loading an Existing Parameter File](#)

Exporting Users

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily export users with the Data Pump Export wizard.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To export users

1. From the **Database** menu, select **Export | Data Pump Export Wizard**.
2. Select **Export**, and select **Users** from the drop down menu.

You can choose to display in the available users panel only those users that own objects.

3. Select or multi-select users from the available users panel and move them to the selected users panel.
4. Click **Next**.
5. Enter any queries you want to use to limit the data exported. (See [Filtering Data with Queries](#) for more detailed information about queries.)
6. Click **Next**.
7. Select the content to export:
 8. All
 9. Data
 10. Metadata
8. Specify any additional parameters for the export file:
 9. Estimate space
 10. Estimate in blocks or statistics
 11. Provide status every *n* minutes
9. Click **Next**.
10. Select any object types to include or exclude in the dumpfile. (See [Using the Metafilter Grid](#) for more information.)
11. Click **Next**.
12. Select a directory, and enter the output file name and log file name.

Note: The directory must be created as described in [Setting up an Import/Export Directory](#).
13. Toad automatically creates a parameter file name for you, but you can change it.
14. Optionally, enter a Data Pump job name and a Max File size.
15. Click **Next**.
16. Select one of the following:
 17. Execute Now
 18. Schedule to run later
 19. Just build the parameter file
17. Click **Finish**.

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Exporting Tables](#)

[Exporting Databases](#)

[Exporting Tablespaces](#)

[Generating a Transportable Database](#)

[Loading an Existing Parameter File](#)

Exporting Databases

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily export the entire database with the Data Pump Export wizard.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To export the current database

1. From the **Database** menu, select **Export|Data Pump Export Wizard**.
 2. Select **Export**, and select **Database** from the drop down menu.
 3. Enter any queries you want to use to limit the data exported. (See [Filtering Data with Queries](#) for more detailed information about queries.)
 4. Click **Next**.
 5. Select the content to export:
 6. All
 7. Data
 8. Metadata
 6. Specify any additional parameters for the export file:
 7. Estimate space
 8. Estimate in blocks or statistics
 9. Provide status every *n* minutes
 7. Click **Next**.
 8. Select any object types to include or exclude in the dumpfile. (See [Using the Metafilter Grid](#) for more information.)
 9. Click **Next**.
 10. Select a directory, and enter the output file name and log file name.

Note: The directory must be created as described in [Setting up an Import/Export Directory](#).
 11. Toad automatically creates a parameter file name for you, but you can change it.
 12. Optionally, enter a Data Pump job name and a Max File size.
 13. Click **Next**.
 14. Select one of the following:
 15. Execute Now
 16. Schedule to run later
 17. Just build the parameter file
 15. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Exporting Tables](#)

[Exporting Users](#)

[Exporting Tablespaces](#)

[Generating a Transportable Database](#)

[Loading an Existing Parameter File](#)

Exporting Tablespaces

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily export tablespaces with the Data Pump Export wizard.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To export tablespaces

1. From the **Database** menu, select **Export | Data Pump Export Wizard**.
2. Select **Export**, and select **Tablespaces** from the drop down menu.

You can choose to display in the available users panel only those users that own objects.

3. Select or multi-select tablespaces from the available tablespaces panel and move them to the selected tablespaces panel.
4. Click **Next**.
5. Enter any queries you want to use to limit the data exported. (See [Filtering Data with Queries](#) for more detailed information about queries.)
6. Click **Next**.
7. Select the content to export:
 8. All
 9. Data
 10. Metadata
8. Specify any additional parameters for the export file:
 9. Estimate space
 10. Estimate in blocks or statistics
 11. Provide status every *n* minutes
9. Click **Next**.
10. Select any object types to include or exclude in the dumpfile. (See [Using the Metafilter Grid](#) for more information.)
11. Click **Next**.
12. Select a directory, and enter the output file name and log file name.

Note: The directory must be created as described in [Setting up an Import/Export Directory](#).
13. Toad automatically creates a parameter file name for you, but you can change it.
14. Optionally, enter a Data Pump job name and a Max File size.
15. Click **Next**.

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16. Select one of the following:
 17. Execute Now
 18. Schedule to run later
 19. Just build the parameter file
 17. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Exporting Tables](#)

[Exporting Users](#)

[Exporting Databases](#)

[Generating a Transportable Database](#)

[Loading an Existing Parameter File](#)

Generating a Transportable Database

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The transportable tablespace allows you to quickly move a subset of an Oracle database from one Oracle database to another.

You can generate a transportable tablespace through the Data Pump Export wizard.

Note: Most parameters in the following procedure are defined by Oracle. Please see your Oracle documentation for more detailed information about them.

To generate a transportable database

1. From the **Database** menu, select **Export|Data Pump Export Wizard**.
2. Select **Generate Transportable Database**.
3. Click **Next**.
4. Enter any queries you want to use to limit the data exported. (See [Filtering Data with Queries](#) for more detailed information about queries.)
5. Click **Next**.
6. Select tablespaces to include in the transportable set. You can also choose to check for dependencies between those objects inside the transportable set and those outside it.
7. Select a directory, and enter the output file name and log file name.
Note: The directory must be created as described in [Setting up an Import/Export Directory](#).
5. Toad automatically creates a parameter file name for you, but you can change it.
6. Optionally, enter a Data Pump job name and a Max File size.
7. Click **Next**.
8. Select one of the following:
9. Execute Now
10. Schedule to run later
11. Just build the parameter file

9. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Exporting Tables](#)

[Exporting Users](#)

[Exporting Databases](#)

[Exporting Tablespaces](#)

[Loading an Existing Parameter File](#)

Loading an Existing Parameter File

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can load any existing parameter file that you have created from a previous export. This lets you prepare your export in advance, load the parameter file later and export your data.

To load an existing parameter file

1. From the **Database** menu, select **Export | Data Pump Export Wizard**.
2. Select **Load Existing Parameter File**.
3. Click **Next**.
4. Enter the path of the parameter file you want to use,
Or

Click the **drill down**  button and select the parameter file.

5. Click **Next**.
 6. Select one of the following:
 7. Execute Now
 8. Schedule to run later
 7. Click **Finish**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Exporting Tables](#)

[Exporting Users](#)

[Exporting Databases](#)

[Exporting Tablespaces](#)

[Generating a Transportable Database](#)

Import

Data Pump Import Wizard

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The Data Pump Import wizard lets you use easily use Oracle's Data Pump to import data into the database on a large scale.

There are five import modes to the Data Pump:

- Full Import
- Schema
- Table
- Tablespace
- Transportable Tablespace

The Toad wizard supports all of these, and adds support for loading and running an existing parameter file.

To access the data pump import wizard

1. From the **Database** menu, select **Import**.
 2. Select **Data Pump Import Wizard**.
-

Related Topics

[Data Pump Overview](#)

[Data Pump Export Wizard](#)

[Performing a Full Import](#)

[Importing Tables](#)

[Importing Users](#)

[Importing Tablespaces](#)

[Importing Transportable Tablespaces](#)

[Importing using an Existing Parameter File](#)

Source Import

Use this function to import source code for procedures, functions, packages, triggers, and views from files into the database.

You get to this dialog box from the **Database|Import|Source Files** menu item.

To select files to import

- Click the **Add** button, multi-select the files to bring into the list, click **Open**. The complete path and file names will be listed.

To see what is inside each file (there should be only one object per file), click the **Parse Files** button. Each file will be parsed, and the object type, object name, and its status will be displayed.

You can click the grid headers to sort the list in ascending or descending order.

Clicking the **Remove** button only removes the file from the current list. It does NOT delete the file from your hard drive.

If you want to edit one of the files, select a file, then click the **Load in Editor** button. A Procedure Edit/Compile window will be created, and will read the contents from the file, for you to edit.

Click the **Execute** button to import the list of files. The results of the import will be displayed in the Status column, and you can scroll from error to error, viewing the error text in the box below.

See [Source Code Export](#) window to create the source code files.

Data Pump Job Manager Overview

The Data Pump Job Manager provides a way of tracking your data pump jobs. Because the Data Pump is not limited to a connection, the windows can be closed after starting a job. The job manager gives you the ability to manage these jobs, and start, stop and kill them after the Data Pump wizard window has been closed.

Data Pump Job Manager Toolbar



Button	Command
	Change active session
	Start selected jobs
	Stop selected jobs
	Kill selected jobs
	Refresh grid

Related Topics

[Data Pump Overview](#)

[Data Pump Import Wizard](#)

[Data Pump Export Wizard](#)

Import Table Data

Import Table Data

You can import table data without importing table structure. This must be imported into an existing table, although you can use the [Create Table](#) feature to create a new table for the import.

Note: Datasets to be loaded must be small enough to fit in memory. For large datasets, convert your data to a text file (if it is not already a text file) and use the [SQL Loader wizard](#).

In addition, you can import table data directly into a data grid from the clipboard. To do this the datagrid must be [editable](#).

To import table data

1. From the **Database menu**, select **Import** and then **Table Data**. The Data Importer window appears.

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2. Select the **Schema** and **Table** where you want the data imported.
3. Choose between:
 - One commit after all records
 - Commit after each record
 - Don't commit
4. Select the action you want to apply to the data:
5. Apply changes to the database Object - performs an INSERT on the table with the new data.
6. Save SQL statements to file - saves the INSERT statements to a file you will specify in the last step of the wizard.
7. Click **Show data** to display the data the table contains. If there is no data in the table, just the column headings will appear in the grid.
Note: If you know there is a large amount of data, you may select the unidirectional grid option. This lowers memory requirements, but you can only scroll down in the grids, not back up.
5. At this point you can choose from the following, or go on to step 6.



Truncate the table



Enable/Disable Constraints



Enable/Disable Triggers

6. Click **Execute Wizard** to begin loading data. The Import wizard appears.

To import table data from the clipboard to a data grid

1. From an editable datagrid, right-click and select **Import from Clipboard**.
2. Continue from the [Import Wizard](#).

Note: At the Text Settings window, if the clipboard contains cells from an MS Excel spreadsheet, choose tab-delimited. Otherwise, select the appropriate delimiter as described in the Import Wizard help topics.

Import Wizard

With the Import Wizard, you can import data from several different formats, including:

- DBase files
- Text files
- Excel files
- MS Access databases
- MS Windows clipboard

into an Oracle table. The wizard does not do any error trapping. Data is loaded as follows:

- If the columns are mapped incorrectly, nothing will be loaded.
- If there are a few bad rows in the data, but otherwise everything is correct, then the good rows will be loaded.

- If the data is bad, rows can be loaded but not every column (one example of this is date boxes, if the format does not match, in this case, a warning message will appear for dates that could not be converted).

Errors can create strange results in your table. For example:

- A table with a Number column and you import a character-based column such as "Name" into it, the data will not be loaded.
- A table with a VarChar column, with a size of 10, and you try to import data that says "supercalifragilistic" into it, the data will be truncated to the first ten characters, or "supercalif".

At the end of the wizard, an error message appears, stating how many rows were successfully loaded, and how many errors there were. If there are errors, you will have to look at the data in the table and compare it to your original source file.

Load and Save Settings

At any time during the wizard execution, you can save your settings to a file, or load a file with your settings in it. This can make importing data from many similar files much easier, because you do not have to enter all the settings manually.

Import Wizard - File Format

Choose the format of your source data.

To select file format

1. Choose to import data from one of the following sources:
 2. Text files
 3. Excel files
 4. MS Access databases
 5. MS Windows clipboard
 2. Click **Next**.
-

Import Wizard - File Name

Choose the file name and origin of your source data.

To select file name and origin

1. Either enter the entire path in the File name box.
- Or

Choose the drilldown  button and browse to the file.

2. Select whether the file origin is of ANSI (Windows) or ASCII (DOS) type.
 3. Click **Next**.
-

Import Wizard - Text Settings

This step is available for .txt file import only. Choose the text settings for your source data.

To select text settings

1. Select how your fields are separated:
 2. Delimited
 3. Fixed Width
 2. If you have chosen delimited fields, select the **field delimiter** your file uses.
 3. Choose a **record separator**:
 4. CRLF Carriage return or line feed
 5. CR Carriage return only
 6. LF Line feed only
 4. Choose a **text qualifier**. This is the character you place around text to specify that it should stay in the same field. Choose between double, single quotes, or none.
 5. If you want to trim spaces, choose from the Trim Spaces drop down:
 6. No
 7. Right
 8. Left
 9. Both
 6. Click **Next**.
-

Import Wizard - Data Formats

Enter any additional options you want to use to define your source data. These selections are not required.

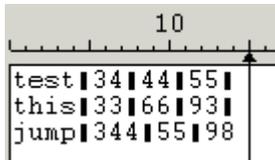
To enter additional options

1. Enter the first row of the data you want to import, if you do not want to start importing at the beginning of the data.
 2. Enter the last row you want to import. If you want to import your entire file, leave this blank.
 3. Set any special formatting characters you want to use for these data types.
 4. Click **Next**.
-

Import Wizard - File Preview

Using this step, you can visually set the fixed width of your columns.

If you are loading a text file, data is displayed in grid format, with a ruler in numbers of characters.



	34	44	55	
test	34	44	55	
this	33	66	93	
jump	344	55	98	

- Vertical arrows mark column breaks.
- Move these arrows by dragging them to the location you want.
- Create new break lines by clicking.
- Remove break lines by double-clicking on them.

Mapping data columns to table columns

Map your data columns to the table columns by clicking **automap**. Data is displayed in the grid, as it will be entered in the Oracle table.

If you are importing an xml file, and have elected to begin on row 2 in the previous screen, then Toad will display the Field Mapping dialog. Select one of the following options:

- Map fields by matching field names - The default. Toad looks in the first row of the spreadsheet to find the column names, and uses those for the field names.
- Map fields sequentially - The columns of the spreadsheet are imported into the table in the same order as they appear. Column 1 maps to the first table column and so on.

Sizing the grid columns

You can size the grid columns so that you can more easily see the data you are importing.

- Click **Size Cols to Names** to size the columns to their headings.
- Click **Size Cols to Data** to size the columns to the data in them.
- Manually resize the columns by clicking between the headers and dragging them to the size you want.

Automatically

You can map each column in the source data to a column in your table automatically.

To map each column automatically

- Click **AutoMap** to map the columns of your source file in order to the columns in your table.

If this does not map them in the way you want, you can map them manually as described below.

Manually

You can map each column in the source data to a column in your table manually.

To map columns manually

1. Click on a column header. A list of Column names, taken from the destination table appears. Select the column where you want to map the column of data to go. The header for the destination table appears above the column of data.
2. Continue in this way until all the columns are mapped.

3. When you have the column breaks set where you want them, click **Next**.
-

Import Wizard - Mappings

Map the correspondence between fields from the source and destination.

To set correspondences

1. Set field mappings.
 2. Select **key fields** if you want to perform update/delete actions. The key fields are the fields that uniquely define the data. The selected fields will be used to identify rows for update and delete operations.
 3. When you have finished setting mappings and key fields, click **Next**.
-

Import Wizard - Data Preview

Preview your data and check it for accuracy. Toad lists the column names for the destination table and fills the data in where it will be inserted. If this is not accurate, you will need to go back and check your column or field mappings. Remember you can always save your settings so as to get back to this location easily.

To preview data

1. Check your data.
 2. If everything is how you want it, click **Next**.
-

Import Wizard - Import Mode

Choose how you want your data included in your table. You can choose to:

- **Append** - This is the default option. It simply adds records to the end of the destination table.
- **Update** - Updates any records in the destination table with the matching record from the source file.
- **Append/Update** - Updates any existing records and appends new records.
- **Delete** - Deletes records in destination table that match records in the source file.
- **Copy** - Deletes all records in the destination, and then repopulates the table from the source file.

Note: Update, append/update/delete are only available if key fields are specified.

To finish importing data

- Click **Finish**. The data is imported.

As the data is imported, you can minimize the window and allow it to run in the background while you work on other things.

Import Utility Wizard

Import Utility Wizard

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You get to this window from the **Database|Import|Import Utility Wizard** menu item.

This window design is similar to the [Export Utility Wizard](#). This wizard easily allows you to transfer data objects between Oracle databases using Oracle's Import utility. You can configure this wizard from View|Toad Options|[Executables](#).

You can also automatically unzip files before importing them.

In the first step radio buttons let you choose what you want to export. The choices are:

- Tables - Imports tables and their associated objects
- Users - Imports schemas
- Database - Imports the entire export file
- Import Tablespaces – Imports transportable tablespace metadata. If you select this option, the next step will ask for a user name and password for a SYSDBA account.
- Use Parameter file – Performs import with an existing parameter file such as the one created by the Export Utility Wizard.

After you make your selection click **Next**.

Tables

If you select tables from the first wizard window, the next window will be a table selection window. A check box lets you **Show only users who own objects**. Select the Schema from the dropdown and tables from the schema display in the left panel. You then choose the tables you want to import by double-clicking, or single-click and click the appropriate single arrow. Double arrows move the entire list from one panel to another.

In the next window, check boxes let you select the objects you want to import. You can check multiple boxes. The check boxes are: Grants, Indexes, Table rows, and Constraints (enabled for Oracle 8.1 or later).

You can specify the file Record length, or leave it blank (if blank it will default to use the platform's BUFSIZ value).

You can also select additional options in this window. After you have selected your options click **Next** to continue.

The next window is where you enter the file names. Drilldown buttons let you search through your files.

The next window lets you select your import action from a radio button list of actions. The choices are

- Import Now
- Schedule to run later
- Just build the parameter file

After you make your selection, click **Finish**.

Users

If you select the Users import radio button in the first wizard window then your next window will be a users selection window.

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A check box lets you **Show only user who own objects**. Select the users you are importing from and to from the **From** and **To** dropdowns. You can remove users from the selection list by clicking on the name and clicking on the name and clicking the **Remove** button.

The next windows are the same as the last three windows in the Database Option where you select your parameters, specify file names, and choose your import action.

Database

If you select the Database radio button in the first wizard window, the next window contains radio buttons for you to select a schema. You can also select the type of incremental import. Note that you can choose not to have an incremental import.

If you select this option, the next step will ask for a user name and password for a SYSDBA account, and the location of the datafiles on the destination server.

The next three windows are the same as the last three windows in the Tables Option where you select parameters, specify the file name, and choose your import action.

Finishing

If you select Watch Progress (Feedback = 1000) on the last screen of the wizard, the Import Watch window displays and you can immediately view the results of the import. In addition, the Log tab on the Watches window, will let you send the log directly to the printer.

Import/Export Watch Window

If you select Watch Progress (Feedback = 1000) on the last screen of the import or export wizard, the Export Watch window displays the results of the operation.

The Watches window displays three tabs: Output, Log and Parameter file.

Output

This screen displays information about the import or export. The progress of the operation is displayed, as is the outcome, such as "Export terminated successfully without warnings."

Log

The Log screen logs the steps taken to run the import or export.

To print the log

- Click **Print**.

Parameter File

The parameter file records the parameters used to perform the operation. This is the file that is created if you clicked "Create Parameter file only" in the last step of the Import/Export Utility wizard.

To send parameter file to the Editor

- Click **Editor**.
-

SQL Loader Wizard

SQL *Loader Wizard Overview

You get to this window from the **Database|Import|SQL*Loader Wizard** menu item.

Note: If you have difficulty running SQL*Loader, make sure that you have the correct version installed. You can do this by running the executable with no parameters in a command prompt window. Note that the executable on the server can only be run from the server.

With the Toad SQL *Loader wizard you can:

- graphically build a control file for use with the SQL *Loader, a database server application
- schedule the SQL *Loader execution as a Windows job for later execution
- run the SQL *Loader with the control file running in either the foreground or the background.

You can configure the location of the utility from **View|Options|Executables**.

The best way to learn to use the SQL*Loader wizard is to actually use it. The [SQL*Loader Wizard tutorial](#) lets you do this in a step by step method, starting with the most common uses and moving into the more advanced features.

At any time during the process you can load settings from a file or save the current settings.

*To open the SQL *Loader wizard*

- From the **Database** menu, select **Import|SQL*Loader Wizard**.

SQL*Loader Steps

- **What do you want to do?**
You can either generate a new control file or use an existing control file. If you choose to use an existing control file, the wizard will go straight to Specify the control and log files.
- **Specify the input files**
This dialog box lets you add, edit or delete the input file information.
- **Delimited**
Set the delimiter for your data.
- **Select destination table and columns**
From this dialog box, you can select destination tables and columns and specify load parameters for each. You must add a destination table before you set parameters. You also can map the fields to columns.;
- **Specify global options and default values**
In this dialog box you can specify the various options you want to apply to all of the files you load. Leaving the options blank will use the standard SQL *Loader defaults.
- **Specify the control and log files**
Enter the name of the control and log files in this dialog box. By default, the log file will be the same as the control file, with the .log extension added. You can change this if desired.
- **Schedule or execute your load**
This dialog box lets you choose to execute the entire load now, schedule as a Windows NT job, or just build the control file. Click **Finish** to run your choice.

Note: Using "Watch Progress" with an 8.0.x version of SQL*Loader on Windows 2000 causes a 100% CPU usage. It is recommended that you uncheck "Watch Progress" on the last screen of the SQL*Loader Wizard, so that the SQL*Loader is launched outside of Toad.

Save Settings for SQL * Loader

At any time during your use of the SQL*Loader Wizard you can save your settings or load previously saved settings.

To save settings

1. Click the **Save settings** button at the bottom of the window to save your settings.
2. You are prompted for a **name** for your settings file. You can either add a new name or select one from the dropdown menu. If you select one from the dropdown menu, the new file will overwrite the old one.

The SQL*Loader wizard will keep track of your settings files for you.

To load settings

1. Click the **Load settings** button at the bottom of the SQL*Loader wizard to Load a set of previously saved settings.
2. Select the settings file you want to load.
3. If the file is complete, leave **Proceed to finish after loading** checked and click **OK**. You will be taken directly to the last screen of the [SQL*Loader wizard](#).
4. If the file is not complete, uncheck **Proceed to finish after Loading** and click **OK**. You will remain on current screen of the [SQL*Loader wizard](#) and Toad will let you make changes to your settings.

Note: When you load settings, input file and destination table files are cumulative. Rather than overwriting previous settings, Toad appends the new information to the wizard settings.

Scheduling SQL * Loader Tasks

Included in SQL*Loader is a scheduler that provides the ability to schedule the load as a Windows task.

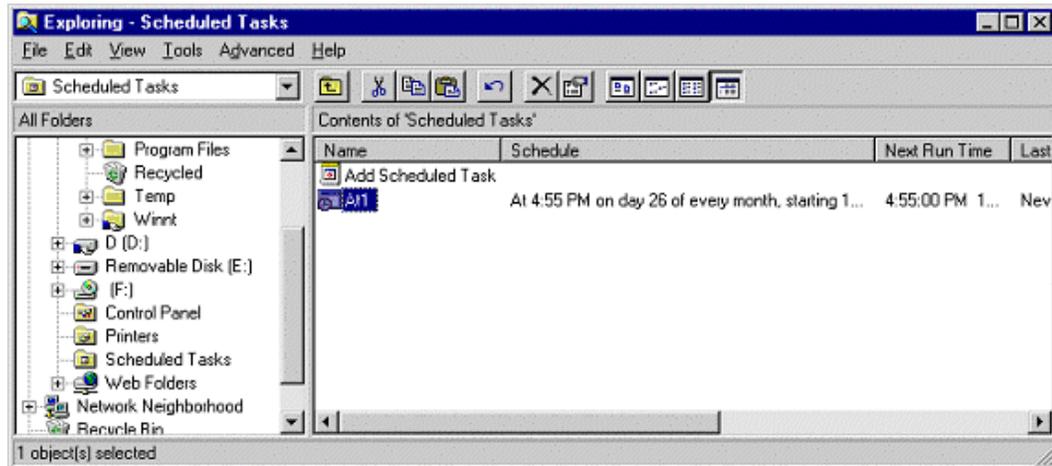
*To schedule a SQL *Loader task*

1. From the last step of the **SQL *Loader wizard**, select **Schedule** and then click **Finish**. This opens the Scheduler wizard.
2. Select the time and frequency you want **SQL *Loader** to run.
3. Click **OK** and you are informed that a job has been added.

To see that the task has been added

1. Open **Windows Explorer**. On the left side, after your hard drive and CD ROM letters, you will see Control Panel, Printers and Scheduled Tasks (and maybe other things, depending on your system). The screenshot below shows NT 4.0. In Windows 2000, "Scheduled Tasks" appears under "Control Panel" in the tree view.

- Click **Scheduled Tasks**. On the right side you will see the newly added job, as in the image below.



- Right-click** and then select **Properties** and look in the **Run field** to see just what is going to happen at that time. It should contain something similar to the following:

```
D:\ORACLE\ORA81\BIN\SQLldr.EXE userid=MLERCH/MLERCH@ORA8I
control=d:\confile.ct1 log=d:\confile.log
```

SQLLoader Global Options

The Global options and default values screen of the SQL*Loader wizard lets you enter command line options and some default values. These will be overridden by anything you enter in the Destination Table or Columns fields.

All of these options may be left blank. Oracle will then use the default values for them.

"Command Line" options

Skip

Enter the number of logical records to skip at the beginning of your input file, or leave blank to load all of them.

Load

Enter the number of logical records to load. Any records beyond this point will not be entered.

Errors

Enter the number of errors to allow. The default is 50. If there are more than this number of errors when loading your data, the SQL*Loader will stop.

Rows

Enter the number of rows in conventional path bind array or between direct path data saves.

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Read size

Enter the size (in bytes) you want to use for the read buffer.

Bind size

Enter the size of conventional path bind array in bytes. The default is dependent on your system. This size, if specified, overrides the default size and any size determined by ROWS.

Resumable timeout

If this load will be designated Resumable, enter the wait time (in seconds). The default is 7200.

Resumable name

Enter a text string to help identify a resumable statement.

Column array rows

Enter the number of rows for direct path column array. The default is 5000.

Silent

Use the silent options to suppress error messages in the output and log tabs of the Watch dialog as follows:

Header

Hide the SQL*Loader header message that displays in the Output tab. Header messages will still appear in the Log file and on the Log tab.

Discards

Hide the message in the log file that corresponds to each record written in the discard file.

Feedback

Hide the messages relating to "commit point reached".

Partitions

Disable writing the per-partition statistics to the log file. This is an Oracle 8i option.

Errors

Hide the data error messages in the log file. These occur when a record generates an Oracle error that writes it to the bad file. Rejected record count still displays, even if the individual error messages are suppressed.

All

Implements all of the keywords.

Direct

Check this box to assign this load as a direct path load.

Parallel

Check this box to assign this load as a parallel direct path load. This is more restrictive than a direct path load.

Resumable

Check this box to enable resumable for this load.

Multithreading

Check this box to use multithreading in direct path.

Skip index maintenance

Check this box to specify: do not maintain indexes, and to mark affected indexes as unusable.

Skip unusable indexes

Check this box to disallow unusable indexes or index partitions. Unchecked (the default) unusable indexes will be allowed.

Load Statement

Database redo Log

Specify whether the load is recorded or not recorded.

Load Type

Select LOAD or CONTINUE_LOAD.

Load Method

Select INSERT, APPEND, REPLACE or TRUNCATE as your load method.

Length

Specify the length type: CHAR, BYTE, CHARACTER.

Byte order

Specify the byte order: Little Endian or Big Endian.

Byte order mark

Specify the byte order mark: check or nocheck.

Character set

Specify a datafile character set other than the default: for example, AL16UTF16 or JA16EUCFIXED.

Read buffers

Specify the number of buffers to be used during a direct path load.

Preserve blanks

Select this checkbox to preserve leading and trailing whitespace if necessary.

Combine Physical Records

Use this option to combine physical records. Fill in the various boxes to create the option statement.

Concatenate every ____ records to form logical record

Continue if (check box)

this record = ____ in cols ____

next record = ____ in cols ____

last non-blank character = _____

SQL Loader Field Mapping

You can automatically map your fields as you specify your destination tables.

This provides a graphic display of how your data will map to the columns in your table.

Field Delimiters

Field mapping is done based on the delimiters you set in the field delimiter screen.

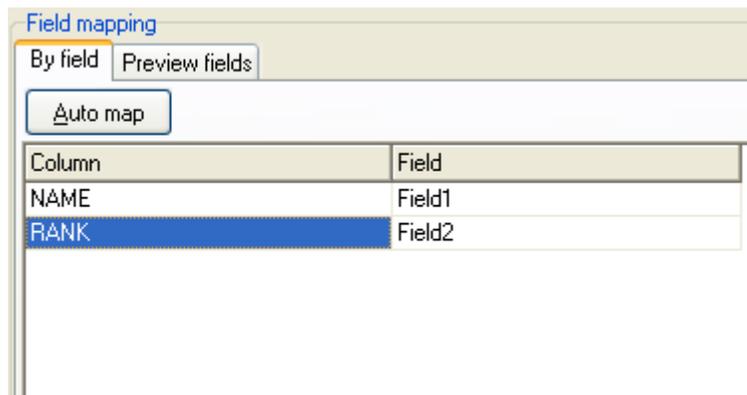
To set up field mapping

1. From the first screen of the wizard, select **Build Control File**, and make sure that **Specify Fields** is checked. Click **Next**.
2. Select the method of delimiting you want to use.
3. At the bottom of the window, specify how many rows of data you want to display in the **Number of lines displayed** box. This number also defines the number of lines displayed in the [Preview Fields](#) tab.

By Field

On the table destination screen, the Field Mapping grid defines the columns in the table, and includes a column for Field. The field column begins without entries. Click **Auto Map** to fill this column.

When filled, the Field mapping grid appears as follows:



Note that the Field column says "field1" and "field2" rather than defining any data.

Preview Fields

To preview the data and see how it will be included in the columns you have selected, click the **Preview fields** tab. The results displayed will be similar to the following:

Field mapping

By field Preview fields

NAME	RANK
Salmon	2
Broccoli	3
Asparagus	4
Bell peppers	5
Chicken	6
Yogurt	7
Brown rice	8
Carrots	9
Lean ground beef	10

Of course, you may have more columns or more data. The amount of data displayed in the Preview fields screen is set in the Field Delimiters screen as described above.

Filler Columns

When mapping columns to your datafile, there may be reasons not to include all of the data available in the load.

You can use Filler columns to skip some of the data in the input file; you also can use a filler column to read data from the input file without mapping it to an actual column in the table (to "hold" a file name).

To use a filler column to skip data

1. From the **Columns** area of the **Select the destination columns and specify the load parameters for each screen**, click **Filler**.
2. Select the appropriate filler type:
3. Filler
4. Bound Filler
3. Enter a column name.
4. Set any properties or position.
5. Click **OK**.

The filler column is added to the columns grid and designated as FILLER

Related Topics

[Field Mapping](#)

[SQL*Loader Wizard Overview](#)

[SQL*Loader Global Options](#)

Basic SQL*Loader Tutorial

Create Input File

For this tutorial we will need to create a file containing the data we'll insert into a table, and the table where it will be inserted.

1. Create and populate a sample table. Copy and paste the following script into Toad's editor:

```
create table MarksFavoriteFoods (Name varchar2(30), Rank number);
insert into MarksFavoriteFoods values ('Tuna', 1);
insert into MarksFavoriteFoods values ('Salmon', 2);
insert into MarksFavoriteFoods values ('Broccoli', 3);
insert into MarksFavoriteFoods values ('Asparagus', 4);
insert into MarksFavoriteFoods values ('Bell peppers', 5);
insert into MarksFavoriteFoods values ('Chicken', 6);
insert into MarksFavoriteFoods values ('Yogurt', 7);
insert into MarksFavoriteFoods values ('Brown rice', 8);
insert into MarksFavoriteFoods values ('Carrots', 9);
insert into MarksFavoriteFoods values ('Lean ground beef',
10);
```

2. Save the new table as an ASCII file.
3. Open the **Schema Browser**. Click the **Tables** tab and then **MARKSFAVORITEFOODS**.
4. In the right panel, select the **Data tab**.
5. Right-click, select **Save As**, choose **ASCII, Comma delimited**, select **Save To File** on the bottom, and then choose C:\MarksDiet.Dat or any other filename you want to use.
6. Click **OK**.

You have now created the data, or input, file.

3. Empty the table with these lines:

```
delete from MarksFavoriteFoods;
commit;
```

You can verify in Schema Browser that it is empty.

4. From your **Start** menu, Open the **Notepad** application and load the data file you just created. You are going to edit the first line to intentionally create "bad" data.

Here is how the first two lines from the data file appear:

```
Tuna,1
Salmon,2
```

In the first line replace the comma with a tab. The first line should now appear as follows:

```
Tuna 1
```

5. Save the **file** and close **Notepad**.
-

Add Input File

You must add an input file. The input file is the actual data file that is loaded using the SQL*Loader Wizard.

To add an input file

1. From the **Database menu**, select **Import|SQL*Loader Wizard**. The first window lets you select, "What would you like to do?" Select **Build Control File**. Leave the Specify Fields box selected and then click **Next**.
2. The second window is where you enter the list of the data files you want to load into one or more tables. At least one input file is required. Click **Add** to add a file.
3. In the Add input file dialog, enter the information for the datafile as follows:

- **Input file name** – This is the name of the actual data file. It can be in three different formats:
Stream -- This is the default format. Lines are read until an end-of-record marker is found (end of line character, by default).

Fixed -- each record must be a fixed number of bytes in length.

Variable -- each record may be a different length, as specified by a special field – the first field in each record. The user must specify the length of this field.

Examples:

Stream record format, end-of-line character - the default: Tuna,1

Stream record format, '|' character specified: Tuna,1|

Fixed record format - all data records must be same length

Variable record format, specifier field is 3 bytes long: 006Tuna,1

- **Bad file name** – This file will contain rejected records. By default, it gets named the same as the input file, with a .BAD extension. In our example, this file should contain our bad Tuna record because it does not conform to the parameters you will specify.
- **Discard file name** – The discard file contains records that were not inserted during the load because they did not match any of the selection criteria. You will see in a later example that you can actually tell SQL*Loader WHEN you want a record inserted – it must match criteria you specify.

Note: When the pointer passes over each field in the Add Input dialog box, "MicroHelp" is displayed in the status bar.

Click the drilldown button next to Input filename and choose the data file:

- The Bad file and Discard file are automatically entered with their default extensions.
 - Stream is chosen by default. Leave the "end of record string" field empty, taking the end of line character as the default.
 - The "Discard" field indicates the maximum number of records to put into the discard file. Leave this empty also, indicating that you want all discarded records.
5. Click **OK**.

At this point you could choose as many different input files as you want – as long as they all had the same record layout (i.e. they all contained the same fields, in the same order). This is not to say they couldn't each have a different record *format*, as you will see in a later example.

6. Click **Next**. The wizard moves to [Set Delimiters](#).
-

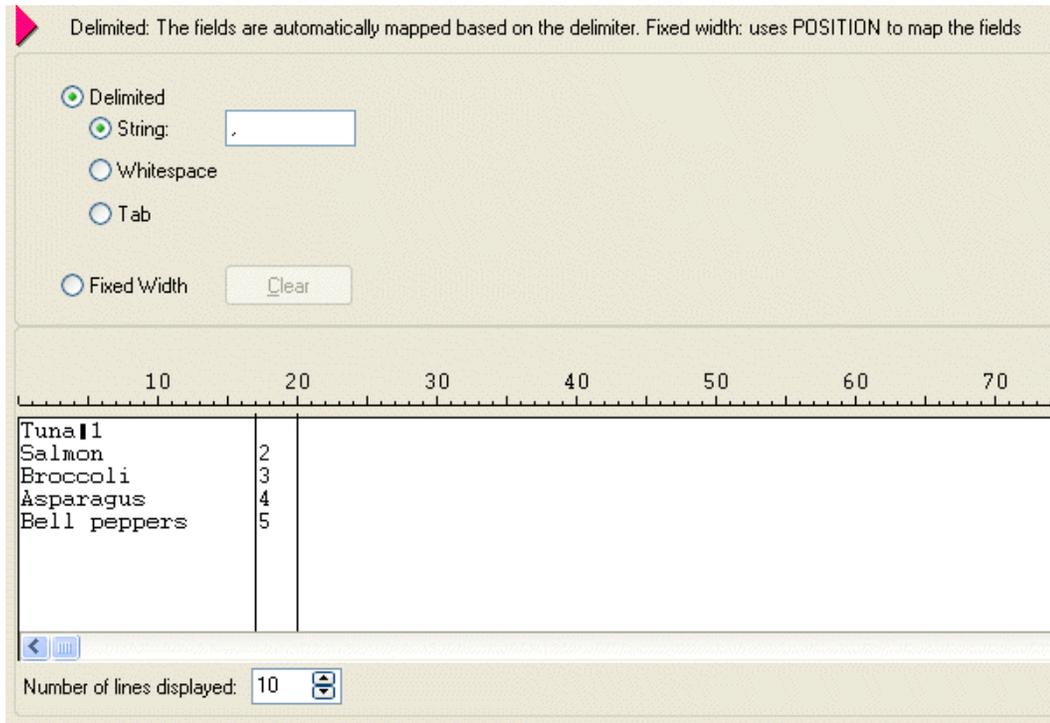
SQL*Loader Tutorial Set Delimiters for Field Mapping

The third window of the SQL*Loader Wizard lets you set the delimiter for the data file.

Note: If you have cleared the Specify Fields box on the Add Input File page, this will not display.

1. Select **String** and enter a comma as the delimiter (this is the default).
2. The grid below lists the data and separates it by the selected delimiter. You can change the number of lines displayed in this grid.

Note that where we replaced the comma with a tab, the data does not fit the selection.

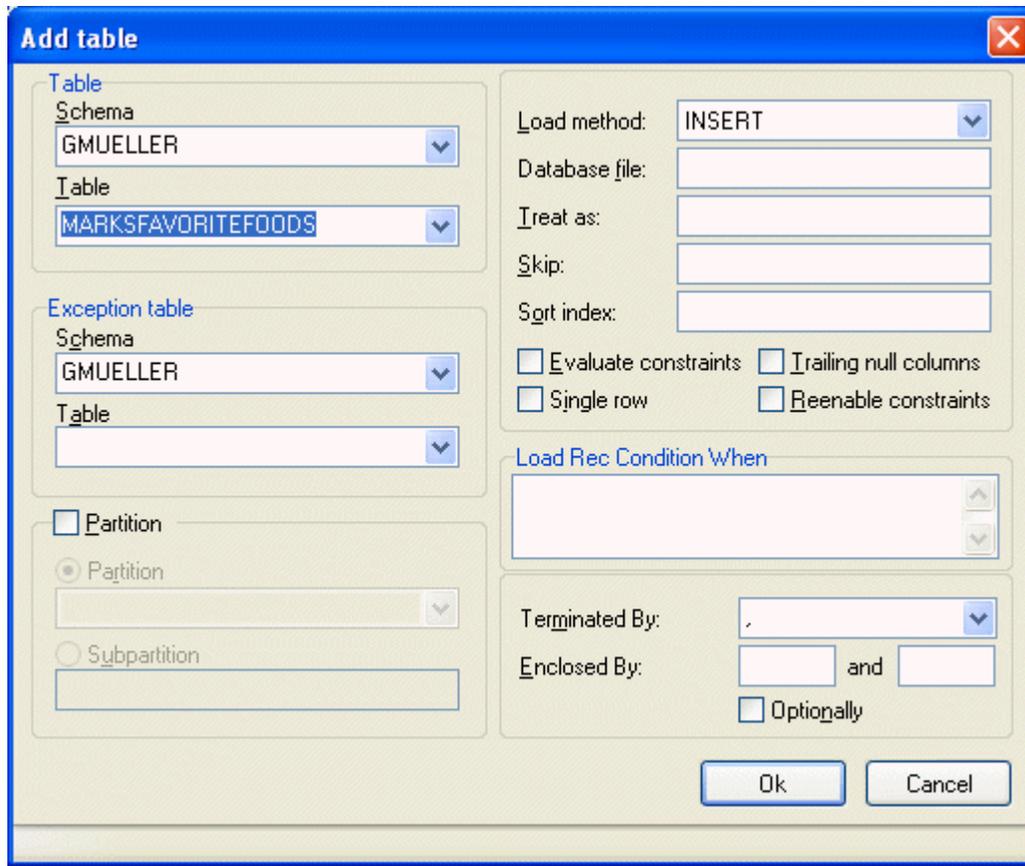


3. Click **Next**. The wizard moves to [Select Destination tables and columns](#).

Choose Destination Table

The fourth window of the SQL*Loader Wizard lets you choose your destination tables. If you have selected Specify Fields on the first screen, you can also map fields to columns. These settings are displayed in the upper and lower grids in this window.

1. In the upper area, add a destination table. Click **Add**.



2. Select **MarksFavoriteFoods** from the table list. Click **OK**.
3. In the lower area, click the **Auto Map** button. The field numbers are mapped to the columns from the tables.
4. Click the **Preview tab** to see how the data maps to the columns. Notice that the error we included when creating the input file is reflected in the preview data. You may have to scroll to the top of the data to see this.
5. Click **Next** to move to the Global options window and [set parameters](#).

Set Parameters

The next window of the Wizard lets you Specify global options and default values.

- For this tutorial, you are going to use the defaults. Click **Next** to [specify control file and log file names](#).

Control File

At the bottom of all of the previous windows (and this one) is a preview of your control file.

It should appear similar to the following:

```
LOAD DATA
INFILE 'C:\marksdiet.dat'
BADFILE 'C:\marksdiet.bad'
```

```
DISCARDFILE 'C:\marksdiet.dsc'  
INTO TABLE "MARKSFAVORITEFOODS"  
FIELDS TERMINATED BY ','  
(NAME,  
RANK)
```

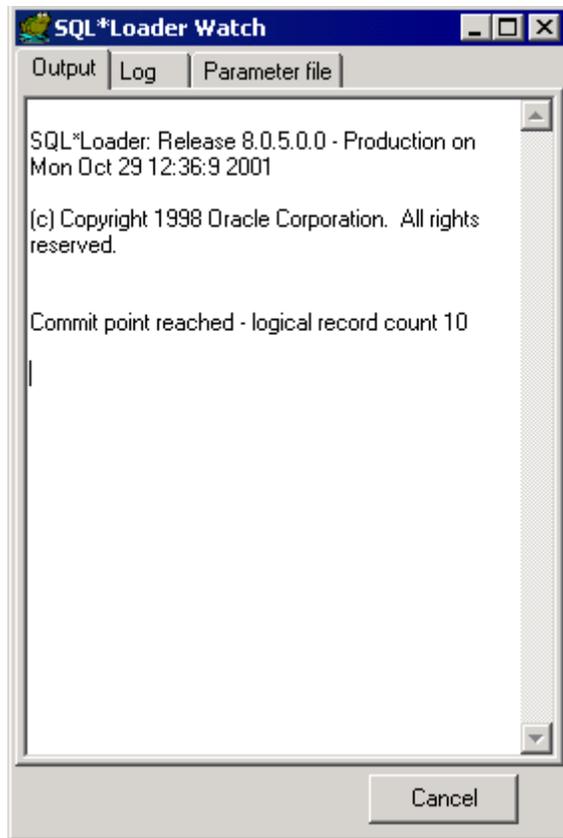
SQL*Loader Specify Control and Log Files

This window lets you enter a name for a control file.

1. Enter a name that you want to use as a control file in the Control file name box. We used D:\confile.ctl; you can name it whatever you want. Press **<Tab>**.
 2. The control file name is entered into the log file box with the extension .log. If you want to use a different name for your log file, you can change this now.
 3. Click **Save Settings**. Save these settings as MarksFood. You can now Load them at any time.
 4. Click **Next** to go to the next step and [execute SQL*Loader](#).
-

Execute SQL*Loader

1. The last window of the wizard lets you choose how to execute your load. Select **Execute Now**. Be sure the Watch progress option is selected.
2. Click **Finish**. The SQL*Loader Watch dialog box appears as follows:



The first tab is the output tab, and provides the standard output from running the loader. If any errors occurred when running the loader itself, they would be displayed here.

- The first thing you discover on the Output tab is some information about SQL*Loader itself – its version and the date and time it was executed.
 - The last line states that 10 rows were inserted into the table. You can verify this with the Schema Browser.
3. Click the **Log tab**.

*The log tab contains the text of the log file and presents detailed information about what occurred. The log file contents are loaded into this tab after the SQL*Loader is finished running.*

*The log file contains a lot of great data about what happened as the data was loaded. Scroll down a bit in the window. You'll see the notation **1 record was rejected**.*

4. From your **Windows Start menu**, open **Windows Explorer**. You will see that the file named "**MarksDiet.bad**" was created in the same directory as your data file. Open it. It contains one row:

Tuna 1

This row did not match the criteria you specified for the load, namely, that each record is comma delimited.

Execute SQL*Loader on a Populated table

Executing the SQL*Loader when the table is populated will generate errors, unless you choose a "load method" of Replace, Append, or Truncate in the global options screen of the wizard. To see this in action, do the following procedure after you have run the SQL*Loader tutorial:

To Load data into a Populated Table

1. Close the **SQL Loader Watch** window.
2. From the **Database** menu, select **Import | SQL*Loader Wizard**. In the first window, click **Load Settings**.
3. Open **MarksFood** from the dropdown menu. Click **OK**. The wizard moves to the final stage.
4. Select **Execute Now** and click **Finish**. The watch window reopens, containing the line:
SQL*Loader-601: For INSERT option, table must be empty. Error on table "MARKSFAVORITEFOODS"

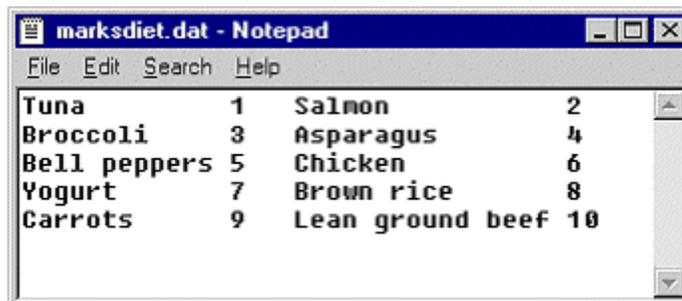
Unless otherwise specified, the SQL*Loader performs the load in INSERT mode and does not load data into a table that already contains rows.
5. You can solve this problem by changing the load method. Open the SQL*Loader again and open **MarksFood** as described above, but this time uncheck **Proceed to Finish after loading**.
6. Click **Next** twice to get to the Destination table and columns screen. INSERT is entered in the load method field of the grid. Select the row and click **Edit**.
7. In the **Load method** box, select **Append** from the dropdown list. Click **OK**.
8. Click **Next | Next | Next**, **Execute Now** and **Finish**.
9. You can read the **Messages** and **Log file** (or simply look in **Schema Browser**) to see that all 9 records (1 is still bad, remember) were successfully appended into the table.

Intermediate SQL*Loader Tutorials

Load Logical Records into Multiple Tables

This tutorial will demonstrate how you can load data from one data file into multiple tables by using *logical records*. What is different about this data is that each line of the data file corresponds to more than one physical record (row of a table). There are two logical records in each line.

1. Create an **input file** identical to the one described in [Create Input File](#). Create another table identical to the **MarksFavoriteFoods** table. Name it **TESTTHIS**. Make sure both tables are empty.
2. Edit the input file to make it look like this:



It is important that the data be lined up exactly. Use spaces – no tabs. The first column of numbers should line up as the 14th character. The second column of foods should line up at the 18th character. The second column of numbers should be located at the 35th character.

3. Open the SQL*Loader Wizard, and then select **Build control file**. Uncheck the **Specify Files** box. Click **Next**.
4. Add the **new data file** as your input file. Click **Next**.
5. From the **Destination Tables grid**, add both the **MarksFavoriteFoods**, and **TestThis** tables.
6. Select **MARKSFAVORITEFOODS** in the tables grid and select the **Name column** in the columns grid below it.
7. Click **Edit** in the columns area.
8. In the grid, in the **From/To column fields**, enter **1** and **12** respectively.

This tells the table to read the first 12 columns in our data file to extract the Name field.

8. Click the **Rank column** and enter **14** and **14** for the **From/To**. That is where the Rank data resides in our input file for that field.
9. Select **TESTTHIS** in the tables grid and select its **Name column**. The **From/To** values for this are **18** and **33**.
10. Finally, select the last **Rank column** and enter **34** and **36** for the **From/To**. Click **Next** twice.
11. Click  and select a control file from the Open dialog box, or enter a new name for your control file. Click **OK**.
12. Click **Next**.
13. Select **Execute Now** and **Watch Progress** and click **Finish**. If you open the Schema Browser and check the tables, you will see that the foods ranked 1, 3, 5, 7 and 9 went into the first table, while those ranked 2, 4, 6, 8 and 10 went into the second table.

Conditional Loads into Partitions

This tutorial demonstrates loading into a partition with conditions.

Note: At this time when you select a table the subpartitions field does not get populated with the available subpartitions (as the partitions field does with the tables' partitions); you must enter the name directly.

1. Drop and recreate your first table with range partitions. Run the following code:

```
DROP TABLE MARKSFAVORITEFOODS;
```

```
CREATE TABLE MARKSFAVORITEFOODS (
  NAME VARCHAR2 (30),
  RANK NUMBER)
PARTITION BY RANGE (RANK)
(PARTITION FoodRank1 VALUES LESS THAN (5),
 PARTITION FoodRank2 VALUES LESS THAN (MAXVALUE));
```

If you were to re-run the first tutorial on this table, foods with a ranking up through and including four would go into the partition named FoodRank1, and all the rest would go into the partition named FoodRank2. Try it, and verify the contents through the following SQL:

```
SELECT * from MarksFavoriteFoods partition (FoodRank1)
SELECT * from MarksFavoriteFoods partition (FoodRank2)
```

For this example, however, you will attempt to load all our data into partition FoodRank1. If you ran the first tutorial again to try out the Note above, empty the table now.

2. Open the **SQL*Loader wizard**.
3. Select **Build control file**; click **Next**.
4. Select the original, comma delimited file from the beginning of example 1 and add it to the input file list. Click **Next**.
5. For the Destination Table choose **MarksFavoriteFoods** again.
6. From the Table Parameters tab, select the Partition radio button. Click the drop down list and you will see the two partitions listed that you created. Choose FOODRANK1. Remember to enter a comma in the All fields delimited by field below it.

NOTE: If the data were tab delimited, you would choose TAB from the dropdown.

7. On the right side of the Table Parameters tab is a field called Load rec when. This means "load the record into the table when the following conditions are present". In this field, enter the following:

```
RANK != "1"
```

This says that you only want records whose RANK field is not equal to the character "1".

NOTE: All character data is interpreted automatically by Oracle. If you wanted to enforce certain data types for special conditions you could do so under the Column Parameters data type field.

8. Click **Next**. Leave global options and defaults blank. Click **Next**.
9. Enter a control file name to create. Click **Next**.
10. Select **Execute Now** and **Watch progress** and then click **Finish**. The status window opens.
11. Click the **Log File** tab. Scroll down and you should come to these lines:

```
Record 1: Discarded - failed all WHEN clauses.
```

```
Record 5: Rejected - Error on table "MARKSFAVORITEFOODS",  
partition FOODRANK1.
```

```
ORA-14401: inserted partition key is outside specified  
partition
```

[and so on for the rest of the records]

This says that the first record failed the WHEN clause. It certainly did – it had a rank of 1 and you didn't want to load any records with that rank. The rest of the rejection lines state that the inserted partition key is outside the partition bounds. This is because records with a rank of 5 and above exceed the partition bounds you chose for FOODRANK1. Look in Schema Browser and you should find my foods ranked 2 through 4 in the data.

Load from Several Files of Different Formats

This example will use three different data files and demonstrate the three supported format types: stream, fixed and variable.

1. Use the **MarksDiet.dat** data file from the previous tutorial. Use **Notepad** (this is important) as an editor.
2. Split the original file, creating three files, **MarksDiet1.dat**, **MarksDiet2.dat** and **MarksDiet3.dat**.
3. Edit the first file (MarksDiet1.dat). It should look as follows:

```
Tuna,1*Salmon,2*Broccoli,3*
```

Note: There are no extra spaces or new line characters at the end of that line. This sample demonstrates using an asterisk as an end of record marker. Up until now, you have been using the carriage return/new line character combo to designate physical records.

4. Edit MarksDiet2.dat as follows:

```
Asparagus, 4,Bell peppers,5,Chicken, 6,
```

Once again, use no spaces or new line characters at the end of the line. This is going to be our fixed record length file. Each record is fixed at precisely 15 characters.

5. The third file should be named MarksDiet3.dat and look like this:

```
0009Yogurt,7,0015Brown rice,8,
0010Carrots,9,0019Lean ground beef,10
```

Note: On SQL*Loader versions prior to 8 (7.3, for example), a space is required after the record length field

This is the variable format file. At the beginning of each record is a field that designates how long that record is. Notice Brown Rice on the first line. You may count 13 characters. But Notepad also adds two more characters – a carriage return/line feed pair, so they have to be added into the total.

Note: Other editors may only add one line feed character.

Once again, make sure there are no extra spaces or carriage returns at the end of the second line.

6. Open the SQL*Loader Wizard and select **Build control file**. Uncheck the **Specify Files** check box. Click **Next**.
7. Add files as follows:
8. MarksDiet1.dat - Select Stream format, and enter an asterisk into the end of record string field.
9. MarksDiet2.dat - Select Fixed format, with a length of 15.
10. MarksDiet3.dat - Select Variable format, with a length of 4 bytes long (enter a 4 in the length field).

After adding these, your Source Files tab should look like:

Input file	Bad file	Discard file	Format	Length	Terminator	Discard Type	Discard r
C:\Documents and Settings\gm C:\Documents and Settings\gm C:\Documents and Settings\gm			Stream		*		
C:\Documents and Settings\gm C:\Documents and Settings\gm C:\Documents and Settings\gm			Fixed	15			
C:\Documents and Settings\gm C:\Documents and Settings\gm C:\Documents and Settings\gm			Variable	4			

8. Click **Next**. Select the same **Destination table**.

Note: Remember that the table must be empty before you attempt to Execute the command. If your table is not empty, save the settings, empty it and load the settings back into the wizard.

9. Click **Next**. Leave the global options blank.
10. Click **Next**. Add a control file.
11. Click **Next**. Select Execute Now and click **Finish**.

If your table is still partitioned, as mine was, you can use these lines to see the data in each one:

```
select * from MarksFavoriteFoods partition (FoodRank1)
select * from MarksFavoriteFoods partition (FoodRank2)
```

Advanced SQL*Loader Tutorial

Advanced Features

This final tutorial will demonstrate specifying input data delimiters at the column level, capturing constraint errors and some of the command line options available.

For this example, you are going to create a foreign key to a table containing all of our food ranks.

1. In the Editor, execute the following as script (Don't forget to remove the copyright notice if you copy and paste):

```
CREATE TABLE FOODRANK (  
  
    RANK NUMBER PRIMARY KEY);  
  
DECLARE  
  
I INTEGER;  
  
BEGIN  
  
I := 1;  
  
LOOP  
  
INSERT INTO FOODRANK  
VALUES (I);  
  
I := I  
+ 1;  
  
IF I > 10  
THEN  
EXIT;  
END IF;  
END LOOP;  
END;  
  
/  
  
CREATE TABLE MARKSFAVORITEFOODS (  
    NAME VARCHAR2(20),  
    RANK NUMBER  
);  
  
CREATE TABLE LOADEREXCEPTIONS(
```

```
ROW_ID UROWID,
OWNER VARCHAR2(30),
TABLE_NAME VARCHAR2(30),
CONSTRAINT VARCHAR2(30)
);
```

```
ALTER TABLE MARKSFAVORITEFOODS ADD CONSTRAINT CHECK_RANK FOREIGN
KEY (RANK) REFERENCES FOODRANK(RANK)
```

```
EXCEPTIONS INTO LOADEREXCEPTIONS;
```

2. Create the input data file as follows. Be very careful about copying and pasting into an editor. Make sure you don't get an empty line at the end.

```
"Grease^#1
"Tuna^#1
"Salmon^#02
"Broccoli^#3
"Asparagus^#4
"Bell peppers^#5
"Chicken^#6
"Yogurt^7
"Brown rice^#8
"Carrots^#9
Lean ground beef#10
"Egg whites^#11
"Congealed Fat^#99
```

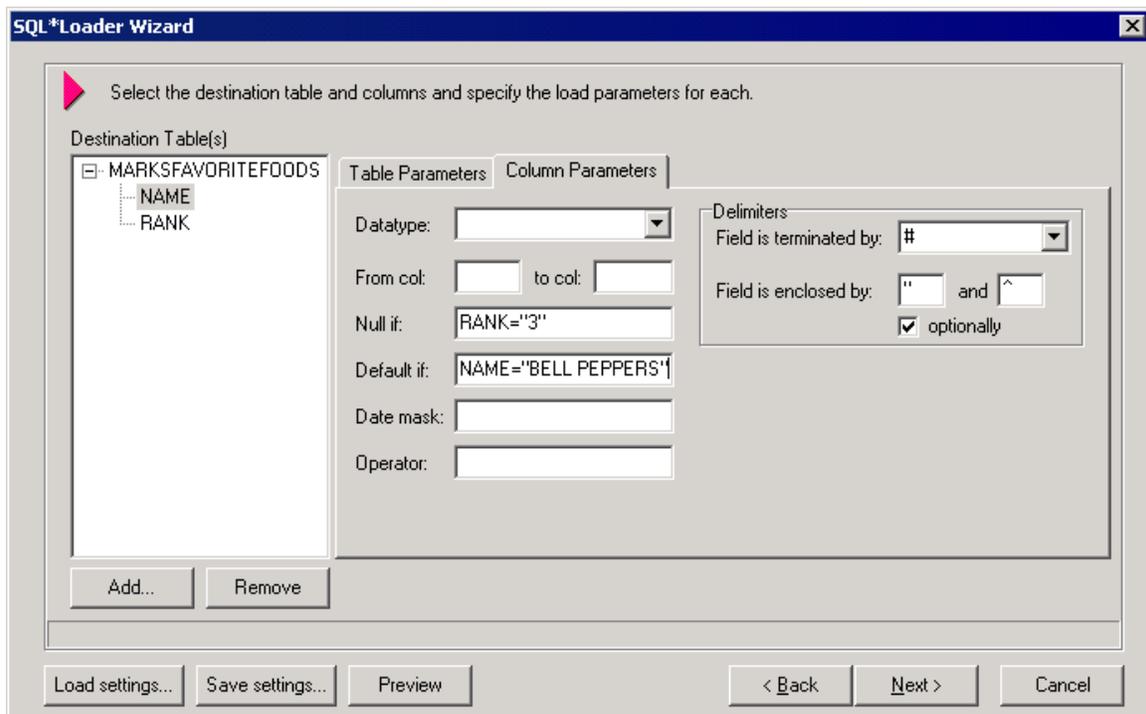
Look at this input file briefly. It is clear that the first field, **Food Name**, has a **double-quote** as its first delimiter. Its closing delimiter is a **caret**. And its ending field specifier is a **#** character. The Rank field is not delimited. Or is it? Copy and paste that data into an editor and again, make sure there are no hidden characters anywhere. (Incidentally, how did Grease and Congealed Fat make it into the list? You will fix that later.)

3. Save the **data file** and run the SQL*Loader Wizard, choosing **Build control file** on the first screen. Select the datafile as the **input file**. Click **Next**.
4. Add **MarksFavoriteFoods** as the destination table.
5. From the **Table Parameters tab**, enter or pick **LOADEREXCEPTIONS** as the Exceptions table. This will indicate that you want any constraint exceptions to go into LOADEREXCEPTIONS. The exceptions table must be in the format as shown above. The RowID of the rows that violate the constraint go into this table.
6. When you entered the name for the exceptions table, **Reenable Constraints** was automatically checked. This tells the SQL*Loader to reenable constraints when the load is finished. When the constraints are reenabled, the referential integrity checks fire, causing some of the data to fail and the row to be marked in our exceptions table.

Look back at the data. It is pretty clear that **Congealed Fat** with a food rank of **99**, will violate our referential integrity constraint. You only have ten ranks in our FOODRANK table - 1 through 10, so anything else will not be allowed.

7. Display the columns for **MarksFavoriteFoods** by clicking the + beside the tablename in the tree view.
8. Select the **Name column** and, in the **Column Parameters tab**, enter # in the **Field is terminated by:** field. The Field is enclosed by " and ^, so enter those characters in the appropriate fields as well. Not all of the food name fields are delimited, so you will check the **optionally check box**.
9. Move to the **Null If field**. Null If tells the SQL*Loader: "set character columns to null, and number columns to zero, upon this condition". Enter **RANK="3"** in the Null If field. This will blank out the Food Name column when Rank is 3. The food for that rank is Broccoli, so it will never appear.
10. Move to the **Default if field**. Enter **NAME="Bell peppers"**. This will set the Food Name column to null whenever the Name is "Bell peppers".

The screen should look like this:



11. Click **NEXT**. The command line options are options that can be specified on the executable command line. Enter a **1** into **Skip**. This tells Toad to skip 1 record. The Grease field will be skipped.
12. Enter **11** into the **Load field**. This tells Toad to load 11 records from our data file. So the first line will be skipped and the next 11 loaded. The Congealed Fat record will not be loaded. Even if it was, it has a Rank of 99, so it would fail the constraint check.
13. Select the **Direct** check box, since you want to do a **Direct Path Load** (a very different style of loading, and does not perform standard SQL Inserts but rather uses buffers. This will permit the constraint to be turned off).
14. Finally, under **Silent**, check the **All** check box. This tells loader to suppress all output messages (the log file will still be created).
Note: These options are not mutually exclusive – you can disable Feedback and Errors, but not Discards, and so on.
15. Click **Next**. Enter a **control file name** (we used D:\confile.ctl, but you can name it anything). Click **Next**.
16. Click **Save Settings** and save these settings. We'll want them again later.
17. Select **Execute now** and **Watch progress**. Click **Finish**.

Since you suppressed all messages, the **Messages** tab shows only these lines:

```
SQL*Loader: Release 8.1.6.0.0 - Production on Fri Oct 27 13:57:14
2000
```

```
(c) Copyright 1999 Oracle Corporation. All rights reserved.
```

18. The Log file states that 10 rows were loaded; 1 row was not, due to data errors. Which row was that? Open MarksDiet.bad (or whatever you named the data file, plus the .bad extension). You will find this line:

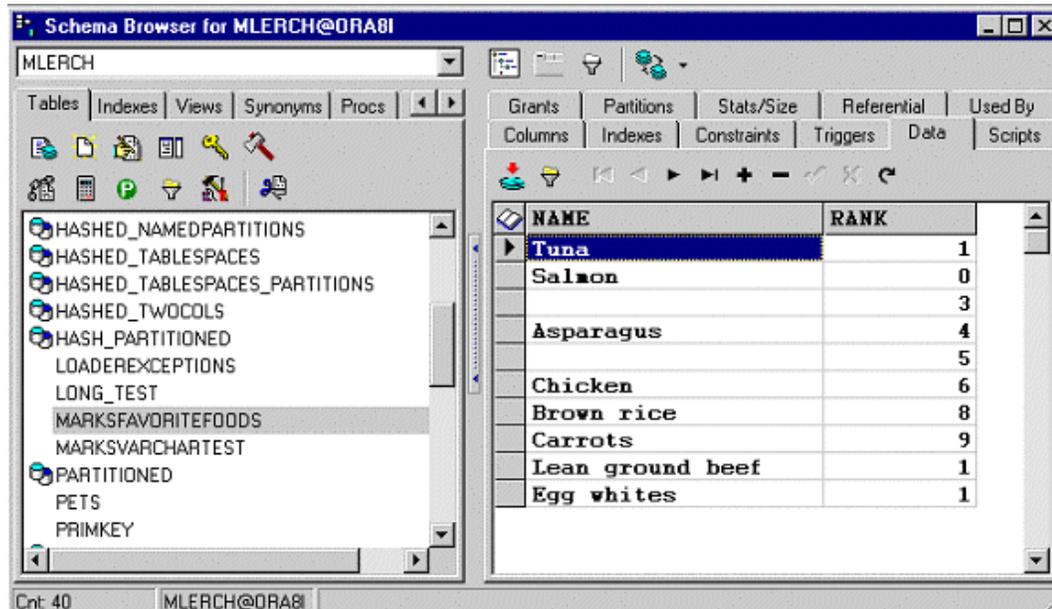
```
"Yogurt^7
```

What's wrong with that line? It has no field termination character - #. Notice that the lean ground beef line:

```
Lean ground beef#10
```

made it in, even though it doesn't have delimiters. That's because you said they were optional.

19. Now, open **Schema Browser** and look at the Data tab for **MarksFavoriteFoods**. It looks like this:



Broccoli and Bell Peppers were blanked out, as you requested. Grease was skipped and Congealed Fat was not loaded because it was beyond our "Loaded" limit. Yogurt wasn't loaded due to bad data. But Egg Whites had a Rank of 11. Why didn't the constraint fail? And what's up with the Rank of 0 for Salmon? It had a rank of 2.

20. Open the **log file** to find out. Whatever you named the control file, but with a .LOG extension, and in the same directory as the control file is your log file. Near the bottom you will find the following:

```
Column Name Position Len Term Encl Datatype
```

```
-----
NAME FIRST * # O(")
CHARACTER
O(^)
NULL if RANK = 0X33(character '3')
```

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```
DEFAULT if NAME = 0X42656c6c2070657070657273(character 'Bell  
peppers')
```

```
RANK NEXT 1
```

```
CHARACTER
```

Len means length. You see a length of * for Name, meaning – read to the end of field marker, (# - the Terminator character). But Rank has a length of 1. That's why only 1 character was loaded. But why? Well, you never specified a field terminator for Rank. You did for Name, but not Rank.

21. Open a SQL Edit window and remove the records from **MarksFavoriteFoods** by entering:

```
delete from marksfavoritefoods
```
 22. Open the SQL*Loader Wizard. Load the settings you saved previously (uncheck the Proceed to finish box). Click next until you get to the **Destination Tables**.
 23. Select **Rank** and go to the **Column Parameters** tab. In the **Field is terminated by field**, select **WHITESPACE** from the dropdown.
 24. Execute the **SQL*Loader wizard** once more. Notice in Schema Browser that all the numeric data is entered properly. In examining the log file, you see that our constraint was disabled, the records loaded, and an attempt was made to reenble the constraint. But the particular constraint you used – a foreign key constraint – could not be reenbled because there were orphaned records – the **Egg White**. Look in the **LOADEREXCEPTIONS** table and you will find the **RowID** of the offending record.
-

Export

Data Pump Export Wizard

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The Data Pump Export wizard lets you easily use Oracle's Data Pump to export data from the database on a large scale.

There are five export modes to the Data Pump:

- Full Export
- Schema
- Table
- Tablespaces
- Transportable Tablespaces

To open the data pump export wizard

- From the **Database** menu, select **Export** and then **Data Pump Export Wizard**.
-

Related Topics

[Data Pump Overview](#)

[Exporting Tables](#)

[Exporting Users](#)

[Exporting Databases](#)

[Exporting Tablespaces](#)

[Generating a Transportable Database](#)

[Loading an Existing Parameter File](#)

Export Grants

You can export grants using the Export DDL dialog. This can be accessed in multiple ways.

Schema Browser

You can use the schema browser to select the grants you want to export before opening the Export DDL window.

To export grants from the Schema Browser

1. In the **Schema Browser**, select the Users page and then the user that contains the grants.
2. In the right hand side, select the **grants** you want to export.
3. Right-click and select **Create Script**. The Export DDL dialog appears with the appropriate options selected.
4. Click **OK**.

Export DDL

See the Database|[Export DDL](#) dialog topic for more information on this window. Grants are located on the Script Options|Users tab.

Related Topics

[Export DDL](#)

Export Sequences

You can export sequences from the Schema Browser or directly from the [Export DDL](#) window.

To export sequences from the Schema Browser

1. In the **Schema Browser**, select the **Sequences** page.
 2. In the left hand side, select the **Sequences** you want to export.
 3. Right-click and select **Create Script**.
 4. The Export DDL dialog appears with the basic options set and the objects selected. Make any changes you desire.
 5. Click **OK**.
-

Related Topics

[Sequences](#)

[Create Sequence](#)

[Alter Sequence](#)

[Export DDL](#)

Export Source Code

You can export source code from the main menu - Export DDL dialog, or directly from the Schema Browser. Using the Schema Browser lets you easily choose which you want to export.

To export source code from the main menu

- Select the **Database|Export|Export DDL** menu item.

See the [Export DDL](#) topic for more information.

To export source code from the Schema Browser

1. In the **Schema Browser**, select the page of the objects you want to export source code. These can include procedures, functions, triggers, and so on.
 2. In the left hand side, select the **objects** you want to export.
 3. Right-click and select **Create Script**.
 4. The Export DDL dialog appears with the basic options set and the objects selected. Make any changes you desire.
 5. Click **OK**.
-

Related Topics

[Export DDL](#)

Export Synonyms

You can export synonyms from the main menu - Export DDL dialog, or directly from the Schema Browser. Using the Schema Browser lets you easily choose which synonyms you want to export.

To export synonyms from the main menu

- Select the **Database|Export|Export DDL** menu item.

See the [Export DDL](#) topic for more information.

To export synonyms from the Schema Browser

1. In the **Schema Browser**, select the **Synonyms** page.
 2. In the left hand side, select the **Synonyms** you want to export.
 3. Right-click and select **Create Script**.
 4. The Export DDL dialog appears with the basic options set and the objects selected. Make any changes you desire.
 5. Click **OK**.
-

Related Topics

[Export DDL](#)

Export Table as Flat File

Use this function to create a flat file, which is a file that does not contain <TAB> characters or "," comma characters between values.

You get to this dialog box from the **Database|Export|Table as Flat File** menu item.

On the options tab, select the table to export.

You have to set up the Specifications File, which will define the table name, table owner, how many lines in the output file will be covered by a single record of data, the columns of data, what line they will appear on, the starting column, and the length of each column of data.

Example Specifications File

```

TABLENAME=EMPLOYEE
TABLEOWNER=DEMO
LINESPERRECORD=1
COL1=EMPLOYEE_ID,1,1,5
COL2=LAST_NAME,1,6,15
COL3=FIRST_NAME,1,21,15
COL4=MIDDLE_INITIAL,1,36,1
COL5=JOB_ID,1,37,4
COL6=MANAGER_ID,1,41,5
COL7=HIRE_DATE,1,46,22
COL8=SALARY,1,68,10
COL9=COMMISSION,1,78,10
COL10=DEPARTMENT_ID,1,88,3

```

Sample flat file as exported

```

7369 SMITH JOHN Q667 7902 12/17/1984 800 20
7499 ALLEN KEVIN J670 7698 2/20/1985 1600 300 30
7505 DOYLE JEAN K671 7839 4/4/1985 2850 13
7506 DENNIS LYNN S671 7839 5/15/1985 2750 23
7507 BAKER LESLIE D671 7839 6/10/1985 2200 14

```

Table Data Export

You can export table data from the main menu - Export DDL dialog, or directly from the Schema Browser. Using the Schema Browser lets you easily choose which tables contain the data you want exported.

To export table data from the main menu

- Select the **Database|Export|Export DDL** menu item.

See the [Export DDL](#) topic for more information.

To export table data from the Schema Browser

1. In the **Schema Browser**, select the **Table** page.

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2. In the left hand side, select the **tables** you want to export.
 3. Right-click and select **Create Script**.
 4. The Export DDL dialog appears with the basic options set and the objects selected. Make any changes you desire.
 5. Click **OK**.
-

Related Topics

[Export DDL](#)

Create Table Script

You can export table scripts from the main menu - Export DDL dialog, or directly from the Schema Browser. Using the Schema Browser lets you easily choose which tables you want to export.

To export table scripts from the main menu

- Select the **Database|Export|Export DDL** menu item.

See the [Export DDL](#) topic for more information.

To export table scripts from the Schema Browser

1. In the **Schema Browser**, select the **Tables** page.
 2. In the left hand side, select the **tables** you want to export.
 3. Right-click and select **Create Script**.
 4. The Export DDL dialog appears with the basic options set and the objects selected. Make any changes you desire.
 5. Click **OK**.
-

Related Topics

[Export DDL](#)

Export DDL

Export DDL

Use this dialog box to export selected DDL to a file, the clipboard, or the editor.

To export DDL

1. Select the **Database|Export|DDL** menu item.
 2. Click the **Objects & Output** tab and [select objects](#) to export.
 3. Set your [Output](#) choices.
 4. Click the [Options](#) tab and set your options.
 5. Click the **Export DDL Object**  button to export.
-

Select Objects to Export

You can easily find and select objects to export as DDL.

To select objects to export

1. From the **Export DDL** window, **Objects and Output** panel, click **Add**.
 2. Use the [Object Search](#) window to search for the objects you want to export.
 3. From the Results tab on the Object search window, multi-select the objects you want to export.
 4. Click **OK**.
-

Related Topics

[Object Search](#)

[Export DDL](#)

Export as DDL Output

- Select how you want to output your DDL in the Output area. You can output your DDL in several different ways:
 - Single file
 - One file per schema
 - One file per object type
 - One file per object
 - To screen
 - To clipboard
 - To Editor - as a script
 - To Editor - one object per tab
 - 2. If you are sending the output to a file, enter the directory where you want the files saved in the **Directory** box.
 - Include "Build All" script
 - Use relative paths
-

Related Topics

[Export DDL](#)

[Select Objects to Export](#)

Export DDL Script Options

Export DDL Script Options

You can select from many options when exporting DDL.

These are organized on tabs, including:

Toad 9.5

- Common
 - Storage Objects
 - Clusters
 - Indexes
 - Jobs
 - Materialized Views
 - Packages
 - Queue Tables
 - Roles
 - Sequences
 - Tables
 - Triggers
 - Users
 - Views
-

Export DDL Script Options

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 - Roles
 - Sequences
 - Tables
 - Triggers
 - Users
 - Views
-

DDL - Options - Common tab

The options on the common tab are those that are common to any DDL created.

Create and Drop

Schema name

When selected, Toad will include the schema name in the DDL.

Drop statement

When selected, Toad will include a drop statement as well as the create statement.

Use purge option for tables

When checked, Toad will include the Oracle purge option when dropping tables in Oracle version 10g and newer.

Related Objects

Select the related objects you want to include:

- Audit statements
- Grants
- Public synonyms
- Private synonyms

Formatting

Use the formatting area to specify special formatting options for the DDL to include.

- Script comments
 - List dependencies
 - Row counts for tables
 - Always use "/" to end SQL statements
 - One line per statment
 - SQL*Plus "Prompt" comments
 - Format PL/SQL objects
 - "Show Errors" commands
-

DDL - Options - Storage Objects

Storage objects options include:

Storage clauses

When you have chosen to include storage clauses, you can also choose to limit them to:

- Tablespace only

Always exclude these parameters

Options include

- LOB storage
 - Monitoring/No monitoring
 - Cache/No cache
 - Parallel/No parallel
 - Logging/No logging
 - Compress/No compress
-

DDL - Options - Clusters tab

Tables

Selected, Toad will include associated Tables.

Indexes

Selected, Toad will include associated Indexes.

DDL - Options - Indexes tab

Online

When selected, Toad includes the ONLINE Option in the index statement.

Compute Statistics

When selected, Toad includes the COMPUTE STATISTICS in the index statement.

DDL - Options - Jobs tab

No parse

When selected, Toad includes the NO PARSE option in the call to dbms_job.

Force

When selected, Toad includes the FORCE Option in the call to dbms_job (RAC only).

Use interval expression for next date

When selected, Toad uses the value for INTERVAL as the parameter for NEXT_DATE in the call to dbms_job (otherwise, uses the literal date value in dba_jobs.next_date).

DDL - Options - Materialized Views tab

Indexes

When selected, Toad includes indexes.

Format

When selected, Toad formats the SQL statement part of the materialized view statement.

Materialized view comments

When selected, Toad includes object level comments.

Column Comments

When selected, Toad includes column level comments.

DDL - Options - Packages tab

Extract both spec and body when only one is selected in objects grid

If the objects grid has only a package spec or package body listed, and the option is checked, then Toad extracts DDL for both spec and body.

Always keep spec and body in the same file or editor tab

When checked, the package spec and package body will never be separated into different files or editor tabs.

DDL - Options - Queue Tables tab

Queues

When selected, Toad creates the queues relating to the selected queue table.

DDL - Options - Roles tab

Grants to the role

When selected, Toad includes grants made to the role. To include grants of the role to other users or roles, use the Grants checkbox on the "Common" tab.

DDL - Options - Sequences tab

Start with minval

When selected, Toad uses the MINVAL value as for START WITH in the CREATE SEQUENCE statement. When unchecked, the value for START WITH will be the value in dba_sequences.last_value.

DDL - Options - Tables tab

General options

Explicitly specify NULL in table DDL

When selected, Toad will explicitly specify NULL for columns that can have nulled values.

Rebuild FK's referencing selected tables

When selected, foreign keys that reference the selected tables will be rebuilt.

Insert statements

When selected, Toad includes table data in the form of insert statements.

Table comments

When selected, Toad includes comments on the table.

Column comments

When selected, Toad includes comments on the columns of the table.

Constraints

The constraints area contains options that specifically relate to constraints on the objects selected.

Choose to include any or all of the following:

- Check constraints
- Foreign key constraints
- Primary key constraints
- Unique key constraints

List constraints after columns

When selected, constraints will be listed immediately after columns in the DDLs.

Individual "Alter Table" commands

When selected, each constraint will be created by an individual ALTER TABLE command.

Single "Alter Table" command

When selected all constraints will be created by a single ALTER TABLE COMMAND.

Other Related Objects

When any of these are selected, the object in question will be included in the DDL. Additional options limit these selections.

- Policies
 - Policy Groups
 - Indexes
 - No constraint indexes
 - Triggers
 - Don't parse triggers for schema name
-

DDL - Options - Triggers tab

The triggers tab provides options related to creating DDL from a selected trigger.

Don't parse triggers for schema name

When selected, Toad will not parse selected triggers for the associated schema name. When unchecked, Toad will include the schema name in the DDL for the selected triggers.

DDL - Options - Users tab

The users tab provides options related to creating DDL from a selected user. Select options to include the listed parameters, uncheck to exclude.

- Grants on the user's objects to other users/roles
 - Limited to grants by the user
 - Grants to the user
 - System privileges Tablespace quotas
 - Roles
 - Proxies
-

DDL - Options - Views tab

The views tab provides options related to creating DDL from a selected view. Select the parameters to include, clear the parameters to exclude.

- Query only - extracts only the view's query. When this option is checked, Format is the only other option.
- Format - Format the query or "create view" statement.

Select the parameters to include, clear the parameters to exclude.

- Force
 - Columns
 - Comments
 - Triggers
 - Constraints
 - Policies
 - Policy groups
-

[Export File Browser](#)

Export File Browser Overview

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

Using Toad's Export File Browser, you can browse easily through export files and view file information contained within, such as:

- Schemas
- DDL
- Data
- Code
- Functions
- Object type bodies
- Packages
- Package bodies
- Procedures
- Triggers
- Tuning and Configuration
- Refresh Groups

Export File Browser Window

The left hand side of the Export File Browser contains a tree view of the contents of the file. The right hand side contains details of the item selected on the left.

Related Topics

[Export File Browser Toolbar](#)

[Viewing an Export File](#)

[DDL Operations](#)

[Dataset Operations](#)

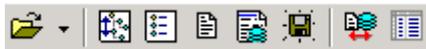
[DB Compare Mode Overview](#)

Export File Browser Toolbar

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

The Export File browser toolbar lets you work with the tree structure of the left hand side.

Caution: While the scripts produced by the Export File Browser are very good for giving you a glimpse into the objects contained in the export file, Oracle meant for these scripts to run only in the context of Oracle's IMP utility. Many extracted DDLs will run as standard SQL, and some will not. Please examine scripts produced by the Export File Browser very carefully before running them.



Button	Command
	Open Export File
	Expand all nodes
	Collapse all nodes
	Create script from entire export file
	Extract DDL for selected nodes and subnodes
	Save tree info as XML
	Toggle database compare mode
	Adjust dataset row limit

Related Topics

[Export File Browser Overview](#)

[Export File Browser Toolbar](#)

[Viewing an Export File](#)

[DDL Operations](#)

[Dataset Operations](#)

[DB Compare Mode Overview](#)

[Reading the compare grid](#)

Viewing an Export File

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

Use the Export File Browser to view the contents of an export file before you import it.

To open an export file

1. From the **Database** menu, select **Export** and then select **Export File Browser**.
2. On the Export File Browser toolbar, click the **Open Export File**  button.
3. Select a file to open from the [Open Export File](#) window.
4. Click **OK**.

Note: If the file has not been parsed before, it may take a few minutes to process it. Processing progress will be displayed in the status area at the bottom of the window.

Related Topics

[Export File Browser Overview](#)

[Export File Browser Toolbar](#)

[Viewing an Export File](#)

[DDL Operations](#)

[Dataset Operations](#)

Finding Information in an Export File

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

Use the right hand side tree view to select a portion of the export file to view. Nodes are organized by:

- Schema
- Storage
- Security
- Code
- Tuning and Configuration

Object nodes are displayed with the number of objects of that type in parentheses beside it. For example, Schemas (6). If you expand the Schemas node, you will find six schemas beneath it.

In the left hand side, you can click the DDL tab to view the code. If the selected object has data, such as a table, click the Data tab to view the data within that object.

Filtering Data

You can use the Quickfilter in the same way as it works in the Schema Browser (see the [Using the Quickfilter Box](#) topic). However, it will display results in the tree view slightly differently.

Reading the Treeview

With NO filter applied (* in the Quickfilter box), you will see a node like Tables (42) if there are 42 tables in a certain schema, for example.

If a filter is applied that only makes 10 of these tables visible, that node will say either Tables (? of 42) or Tables (10 of 42).

? indicates that the you have not expanded the node yet, so how many pass the filter is not known.

(10 of 42) indicates that the node has been expanded (or is currently expanded)

You will never see Tables (0 of 42) because if all tables are filtered out, then the Tables node is hidden too. Schema-level nodes are never hidden, even if everything under them is hidden.

To find something quickly

1. Open the export file in the export file browser.
2. Type its name or an appropriate filter in the Quickedit box.
3. Click the **Expand All**  button.

Related Topics

[Export File Browser Overview](#)

[Export File Browser Toolbar](#)

[Viewing an Export File](#)

[DDL Operations](#)

[Dataset Operations](#)

[Using the Quickfilter Box](#)

Open Export File Window

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

The Open Export File window is more than just a file selection screen. It provides you with information about the export files, including basic file information, who created them, and whether or not they have been parsed.

Window Layout

The right hand side of the Open Export File window is the directory tree. Use this to find the file you want to open. It works in the same manner as the Windows Explorer.

When you have selected a directory the files are listed on the right hand side. By default Toad displays only the .dmp files in a directory.

To see all files in a directory

- Select **All Files** from the File Type box.

If you have selected all files, the info grid will be more sparsely populated for the files that are not export (extension .dmp) files. Non export files display only File Name, File Size, and File Date.

Parsed File color

Toad keeps track of files you have previously parsed by changing their color.

By default, all unparsed files are displayed in black. Parsed files are displayed in Green.

To change the color of parsed files

1. Click the **Settings** button in the lower left of the screen.
2. Select **Set pre-parsed color**.
3. Select the color you want to use and click **OK**.

To remove parsing information for the selected file

1. Click the **Settings** button in the lower left of the screen.
2. Select **Remove pre-parsed information**.

To remove parsing information entirely

- In the **Toad Directory|ParsedExportFiles** directory, remove all files.
-

Related Topics

[Export File Browser Overview](#)

[Export File Browser Toolbar](#)

[Viewing an Export File](#)

DB Compare Mode

DB Compare Mode Overview

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

You can use the Export File Browser to compare an export file with the objects in a database. This is a cursory compare and will not indicated deep, data-level differences.

For any selected nodes and database, check boxes will indicate whether the object is in the file or the database, or both.

To compare a file to a database

1. Open a data export file in the browser.
2. Click the **DB Compare Mode**  button.
3. In the right hand side compare screen, select a connection from the connection drop down to compare to the file.

Note: If the connection you want to use is not listed in the dropdown, you can either:

- Click the connection drill down and then click **New** and open a new connection.
-

-
- From the **Session menu|New Connection**, open a new connection.
-
4. In the left hand side, select one or more nodes to compare to the selected database.
-

Related Topics

[Export File Browser Overview](#)

[Export File Browser Toolbar](#)

[Reading the compare grid](#)

Reading the Compare Grid

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

The compare mode grid provides basic information for both the database and the selected nodes.

You can print or export the compare grid from the [Grid|Save As](#) menu item.

Columns include:

- Type - lists the type of object selected
- Owner - lists the owner of the selected object
- Name - lists the name of the selected object
- Parent - if the selected object has a parent object, such as a constraint, or an index, the parent object is listed here.
- Obj in File? - If the object is in the file, this box will be checked.
- Obj in Database? - If the object is in the database, this box will be checked.

Troubleshooting

Because of the way Toad parses .dmp files, some items will be listed as in the database but not in the file. These include:

- Constraints that were created inline with the table DDL, as follows:

```
CREATE TABLE WK$DOC_RELEVANCE
(
  URL_ID NUMBER NOT NULL ENABLE,
  TERM VARCHAR2(500) NOT NULL ENABLE,
  SCORE NUMBER NOT NULL ENABLE,
  CONSTRAINT WK$DOC_RELEVANCE_PK PRIMARY KEY ("TERM", "URL_ID") ENABLE
);
```

- System named constraints.
- Indexes created by Oracle when a user created a constraint.
- Many objects in the SYS, MDSYS, etc, schemas. Certain objects are created automatically when you create a database do not go into export files even when you do a "full database export."
- System named hash partitions and subpartitions.

Related Topics

[Export File Browser Overview](#)

[Export File Browser Toolbar](#)

[DB Compare Mode Overview](#)

[Reading the compare grid](#)

Freezing the Compare Grid

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

You can freeze the compare grid so that you can view other items without losing the data from the compare you are doing.

This will hold the Compare Grid steady while you toggle Compare mode off, and view DDL or data in Browser mode. When you return to Compare DB mode, the last compare you did will be active in the grid regardless of what is selected in the left hand side.

To freeze the compare grid

1. In the Export File Browser, compare a node or nodes to a database connection (See [DB Compare Mode Overview](#) for procedure).
 2. Select the Freeze Grid checkbox to freeze the grid.
-

Related topics

[Export File Browser Overview](#)

[DB Compare Mode Overview](#)

[Reading the Compare Grid](#)

DDL Operations

DDL Operations

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

From the [Export File Browser](#) you can copy and paste DDL in many ways.

You can:

- [Copy DDL to clipboard](#)
 - [Save DDL as a file](#)
 - [Extract DDL from multiple nodes](#)
-

Related Topics

[Copying DDL to Clipboard](#)

[Saving DDL as a File](#)

[Extracting DDL from Multiple Nodes](#)

[Export File Browser Overview](#)

Copying DDL to Clipboard

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

You can copy DDL from the right hand side to the clipboard and then paste it wherever you need it, including other editors.

To copy DDL from the right hand side to the clipboard

1. Select an object from the left hand tree view and click the DDL tab on the right hand side.
2. Select any or all of the DDL.
3. Press **<CTRL><C>**

Or

Right-click and select **Copy to clipboard**.

Note: Scripts for a few objects will look wrong. The reason for this is that the export files we are browsing were meant only to be used by Oracle's IMP utility. Things that may look wrong in script form because of this include:

- Materialized views and materialized view logs.
 - Queue tables
 - Any object that has storage (tables, indexes, etc) when the export was done in "Transportable tablespace" mode.
-

Related Topics

[DDL Operations](#)

[Saving DDL as a File](#)

[Extracting DDL from Multiple Nodes](#)

[Export File Browser Overview](#)

Saving DDL as a File

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

To save DDL from the right hand side to a file

1. Select an object from the left hand tree view and click the DDL tab on the right hand side.
2. Right-click and select "**Save to File**."
3. Name the file and click **Save**.

Note: this method saves all of the DDL for an object to a file. You cannot be selective as you can with the copy method.

Related Topics

[DDL Operations](#)

[Copying DDL to Clipboard](#)

[Extracting DDL from Multiple Nodes](#)

[Export File Browser Overview](#)

Extracting DDL from Multiple Nodes

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

You can extract DDL from multiple nodes to the clipboard and then paste it wherever you need it, including other editors.

To extract DDL from multiple nodes

1. Select one or more nodes from the left hand tree view. These can be objects, or groups of objects.
 2. Right click on the tree and select "**Extract DDL For Selected Nodes and SubNodes.**"
 3. In the confirmation dialog, click **OK**.
-

Related Topics

[DDL Operations](#)

[Copying DDL to Clipboard](#)

[Saving DDL as a File](#)

[Export File Browser Overview](#)

Dataset Operations

Dataset Operations

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

You can work with the dataset on a selected object, such as a table.

To view the dataset

1. From the left hand side treeview, select the object whose dataset you want to view.
 2. In the right-hand side, click the **Data** tab.
-

Related Topics

[Dataset Toolbar](#)

[Go to Row Number](#)

[Get Row Count](#)

[Save As](#)

[Print Grid](#)

Dataset Toolbar

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

You can manipulate how you see data via the dataset toolbar at the top of the Data tab.



Button	Command
	Filter grid
	Find first record
	Find previous record
	Find next record
	Find last record
	View in grid format
	View in single record format

Related Topics

[Dataset Operations](#)

[Go to Row Number](#)

[Get Row Count](#)

[Save As](#)

[Print Grid](#)

Go to Row Number

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

When you are working with a large dataset, sometimes it is advantageous to jump directly to a specific row number within the data.

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To go to a row number

1. Right-click over the data grid and select **Go to Row #**.
2. Enter the row number in the box.
3. Click **OK**.

Note: If you have not performed a row count before you go to a row number, it will be performed now.

Related Topics

[Dataset Operations](#)

[Dataset Toolbar](#)

[Get Row Count](#)

[Save As](#)

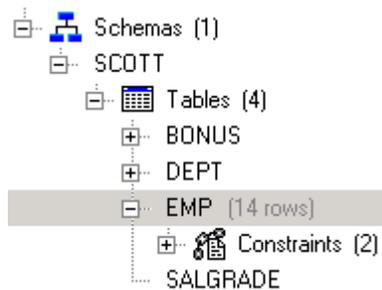
[Print Grid](#)

Get Row Count

Note: This Toad feature is only available in the Toad for Oracle Professional, or with the optional Quest DBA Module.

Toad can count the rows in a table for you. This can be useful when you want to know just how big the dataset contained in the table is.

When you first open a node that includes a dataset, there is nothing listed beside it. When you perform a Get Row Count on it, the number of rows in the dataset are listed in parentheses beside the node. For example:



To get the rowcount for a dataset

- Right click over the data grid and select **Get Rowcount**.
-

Related Topics

[Dataset Operations](#)

[Dataset Toolbar](#)

[Go to Row Number](#)

[Save As](#)

[Print Grid](#)

Save As (Export Dataset)

Use this dialog box to export the current SQL results panel to the clipboard or a file. In addition, you can set your choices here and then run the actual export of the results from the [command line](#) later.

To save grid contents

- From the **Grid menu**, select **Save As**.

Or

Right-click over a data grid and select **Save As**.

Note: Save As includes CLOBs and BLOBs automatically. LONG columns are not saved using this method. For more information, see the [Support For LONG and LONG RAW](#) topic.

When you have opened the Save As window, you can customize how you save your data. You can customize the [Format](#), and the file path.

To customize the file path

- Enter the correct file path in the **Save to file** box at the bottom of the **Save Grid Contents** window.

Sorted Grids

If you have chosen to sort a grid dataset (by clicking the column header, rearranging column order, and so on), the exported data remains in the same order as shown in the grid.

Related Topics

[Save File](#)

[Saving Formats](#)

Legacy Print Grid

Any database grid in Toad can be printed. If you are using the Legacy Print grid (see [Toad Options|Data Grid|Data|Use Legacy Print Grid](#)), then prior to printing, the Print Grid feature allows extensive formatting including:

- deletion of columns
- font changes to data
- font changes to headers
- alignment of individual columns or headers
- totaling (SUM) of numeric columns
- optional headers and footers
- resizing of columns
- reordering of columns

Toad 9.5

To print the grid contents

1. From the **Grid|Print Grid** menu, or the Right-Click Menu over the SQL results grid select the **Print Grid** menu item.
2. Click **Print** from the Print dialog or select **File|Print** from the Preview page.

Headers/Footers

You can select a top line and second line header and a one-line footer.

You can also check the Print page numbers box and the page numbers will be printed.

Page Setup

A dropdown button lets you select the printer.

Default orientation in the page setup is Landscape. Because the width of the screen is greater than the width of Portrait orientation, you should print using Landscape orientation. (Toad does not have a print preview.)

Columns

Because the screen fonts are slightly different than the printer fonts, it is a good idea to leave space between columns so that the printed version has sufficient space between columns.

- A check box lets you print column titles in bold.
- A dropdown list lets you choose text alignment.
- The Remove Column button lets you remove columns.
- A dropdown list lets you choose date alignment.
- If you want to total a column, select the column in the Report will print as shown display and then check the Total this column check box.

You can also use the Report Link Designer to set up your print options. See [Report Link Designer](#) for more information.

Related Topics

[Print Grid](#)

[Print Grid Contents](#)

[Report Link Designer](#)

[Reports Manager](#)

[Export Utility Wizard](#)

Export Utility Wizard

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You get to this window from the **Database|Export|Export Utility Wizard** menu item.

This wizard lets you easily transfer data objects between Oracle databases using Oracle's export utility. The path to this utility is configured under View|Toad Options|[Executables](#).

In the first step radio buttons let you choose what you want to export. The choices are:

- [Tables](#) - Exports selected tables and all dependent objects
- [Users](#) - Exports all objects from the users that you select
- [Database](#) - Exports an entire database
- [Export Tablespaces](#) – Generates a transportable tablespace set. If you select this option, the next step will ask for a user name and password for a SYSDBA account.
- [Use Parameter File](#) – Performs export with an existing parameter file. If you export a table, all partitions are exported. Exporting a partition exports subpartitions.

After you make your selection click **Next** and follow the instructions in the windows.

If you select Watch Progress (Feedback = 1000) on the last screen of the wizard, the Export Watch window displays and you can immediately view the results of the export. In addition, the Log tab on the Watches window, will let you send the log directly to the printer.

Import/Export Watch Window

If you select Watch Progress (Feedback = 1000) on the last screen of the import or export wizard, the Export Watch window displays the results of the operation.

The Watches window displays three tabs: Output, Log and Parameter file.

Output

This screen displays information about the import or export. The progress of the operation is displayed, as is the outcome, such as "Export terminated successfully without warnings."

Log

The Log screen logs the steps taken to run the import or export.

To print the log

- Click **Print**.

Parameter File

The parameter file records the parameters used to perform the operation. This is the file that is created if you clicked "Create Parameter file only" in the last step of the Import/Export Utility wizard.

To send parameter file to the Editor

- Click **Editor**.
-

Export Database

If you select the Database export radio button in the first wizard window then your next window will be a Object and Parameters selection window.

To export a database

1. Select the **objects** you want to export. These can include Table rows, Constraints, Grants, Indexes, and Triggers.
Note: Triggers are only available if you have Oracle 8.1 or above.
 2. Specify any additional parameters you want to include in the export file.
 3. Click **Next**. The Select Parameters dialog box appears.
 4. Enter a name for the **output file** and **log file** in the appropriate boxes. By default, the log file name is the same as the name you specify for the output file, with a .log extension.
 5. Enter a name for the **Parameter file** in the appropriate box. By default, the parameter file name is the same as the name you specify for the output file, with a .dat extension.
 6. Select your export action from a radio button list of actions. The choices are
 - **Execute Now** – saves the parameter file, launches export utility
 - Select **Compress export file (.zip)** to compress the exported file automatically.
 - Select **Watch Progress (Feedback=1000)** to show line by line live execution (Output tab) as well as the log file (Log tab) and parameter file (Parameter tab). An Editor button on the Parameter File page opens the Editor and pastes in the Parameter File text.
 - **Schedule to run later** – sets up a Windows scheduled task
 - **Just build the parameter file** - Toad builds only the parameter file and then closes the wizard.
-

Export Parameters

When you select Use parameter file from the [Export Utility Wizard](#), the parameter selection window appears.

To export parameters

Note: The **output file** and **log file** boxes are disabled.

1. Select a **Parameter file** by clicking the **drilldown button** and selecting the **file** from the Save As dialog box. Parameter files name have a .dat extension.
2. Select your export action from a radio button list of actions as described below.

Export Actions

You can choose from several export actions.

- **Execute Now** – saves the parameter file, launches export utility
 - Select **Compress export file (.zip)** to compress the exported file automatically.
 - Select **Watch Progress (Feedback=1000)** to show line by line live execution (Output tab) as well as the log file (Log tab) and parameter file (Parameter tab). An Editor button on the Parameter File page opens the Editor and pastes in the Parameter File text.
 - **Schedule to run later** – sets up a Windows scheduled task
 - **Just build the parameter file** - Because you have only selected exporting the parameter file, this option is disabled.
-

Export Tables

If you select tables from the first [Export Utility Wizard](#) window, the next window will be a table selection window.

To specify tables to export

1. On the **Tables to Export** tab, select the **Schema** from the dropdown and check the **tables** you want to export on the schema display. The **Selections** tab lists the tables you have selected for export.
 2. Click **Next**.
 3. Select the **objects** you want to export. These can include Table rows, Constraints, Grants, Indexes, and Triggers.

Note: Triggers are only available if you have Oracle 8.1 or above. LONG or LONG RAW columns will not be exported. See the [Support For LONG and LONG RAW](#) topic.
 4. Specify any additional parameters you want to include in the export file.
 5. Click **Next**.
 6. Enter a name for the output file and log file in the appropriate boxes. By default, the log file name is the same as the name you specify for the output file, with a .log extension.
 7. Enter a name for the Parameter file in the appropriate box. By default, the parameter file name is the same as the name you specify for the output file, with a .dat extension.
 8. Select your export action from a radio button list of actions. The choices are
 - **Execute Now** – saves the parameter file, launches export utility
 - Select **Compress export file (.zip)** to compress the exported file automatically.
 - Select **Watch Progress (Feedback=1000)** to show line by line live execution (Output tab) as well as the log file (Log tab) and parameter file (Parameter tab). An Editor button on the Parameter File page opens the Editor and pastes in the Parameter File text.
 - **Schedule to run later** – sets up a Windows scheduled task
 - **Just build the parameter file** - Toad builds only the parameter file and then closes the wizard.
-

Export Tablespaces

If you select Tablespaces export in the first wizard window then the tablespace selection window appears.

To export tablespaces

1. Select the **tablespaces** you want to export by checking the boxes to the left of the tablespace name. If you want to include Triggers, Grants or Constraints, make sure the appropriate check boxes are selected. (The default is to include all of these.)
2. Enter the **Username** for the SYSDBA account you will use to export the tablespaces.
3. Enter the **Password** for the SYSDBA account. For security reasons, this appears as asterisks.
4. Click **Next**.
5. Enter a name for the **output file** and **log file** in the appropriate boxes. By default, the log file name is the same as the name you specify for the output file, with a .log extension.
6. Enter a name for the **Parameter file** in the appropriate box. By default, the parameter file name is the same as the name you specify for the output file, with a .dat extension.
7. Select your export action from a radio button list of actions. The choices are

- **Execute Now** – saves the parameter file, launches export utility
 - Select **Compress export file (.zip)** to compress the exported file automatically.
 - Select **Watch Progress (Feedback=1000)** to show line by line live execution (Output tab) as well as the log file (Log tab) and parameter file (Parameter tab). An Editor button on the Parameter File page opens the Editor and pastes in the Parameter File text.
 - **Schedule to run later** – sets up a Windows scheduled task
 - **Just build the parameter file** - Toad builds only the parameter file and then closes the wizard.
-

Export Users

If you select the Users export radio button in the first wizard window then your next window will be a users selection window.

To export users

1. In the left panel, select the user you want to export (which will move to the **Selected Users** list).
 2. Double-click a **user name** to move a single user,
 3. Select **users** and then click the appropriate single arrow. You can select multiple users by holding down the **CTRL** key while you click.
 4. Click a **double arrow** to move the entire list from one panel to another.
 2. Select the **objects** you want to export. These can include Table rows, Constraints, Grants, Indexes, and Triggers.
Note: Triggers are only available if you have Oracle 8.1 or above.
 3. Specify any additional parameters you want to include in the export file.
 4. Click **Next**.
 5. Enter a name for the **output file** and **log file** in the appropriate boxes. By default, the log file name is the same as the name you specify for the output file, with a .log extension.
 6. Enter a name for the **Parameter file** in the appropriate box. By default, the parameter file name is the same as the name you specify for the output file, with a .dat extension.
 7. Select your export action from a radio button list of actions. The choices are
 - **Execute Now** – saves the parameter file, launches export utility
 - Select **Compress export file (.zip)** to compress the exported file automatically.
 - Select **Watch Progress (Feedback=1000)** to show line by line live execution (Output tab) as well as the log file (Log tab) and parameter file (Parameter tab). An Editor button on the Parameter File page opens the Editor and pastes in the Parameter File text.
 - **Schedule to run later** – sets up a Windows scheduled task
 - **Just build the parameter file** - Toad builds only the parameter file and then closes the wizard.
-

Troubleshooting the Export Utility Wizard

The Export Utility wizard is an interface to Oracle's utility, usually named Exp.exe, Exp73.exe, or Exp80.exe and located in your Oracle home's bin folder.

If Toad cannot find this executable, the error "The Oracle Export Utility executable must be specified" appears.

To specify the location of the Oracle Export Utility

1. Select **View|Toad Options|Executables**.
2. Enter the path in the **Export** box.

Note: If you do not know where this executable resides, or it is not on your computer, you may need to install the **Database Utilities** from the Oracle CD.

Data Subset Wizard

Data Subset Wizard

This window lets you copy a portion of data from one schema to another while maintaining referential integrity, so that you can work with a smaller set of data.

The wizard creates a script that will copy a specified percentage of data beginning with all parent tables or from all tables with no constraints. You can specify a minimum number of rows. The wizard then continues with tables that have foreign key constraints, the rows copied are those whose parent rows have been copied into the parent tables.

The data is then inserted into the destination tables with INSERT SELECT statements. Because of this, tables containing columns of datatype LONG will not be inserted.

Note: For Oracle 7.3, an Oracle bug sometimes prevents the INSERT SELECT statement from inserting rows.

If the destination schema is in a different database, the script is designed to run in the destination database. A database link must exist to the source schema, and there must be select privileges on the source data through that link.

To access the Data Subset wizard

- Access the Data Subset wizard from **Tools|Data Subset Wizard** on the main menu.

The wizard consists of four screens which allow you to set options as follows:

- [Screen 1](#): Select source and target connections/schemas and specify where to save the script.
 - [Screen 2](#): Select Objects to create in the script.
 - [Screen 3](#): Set up the commands in and around the insert statements.
 - [Screen 4](#): Set up any extents or tablespaces when the wizard is set to create objects.
-

Data Subset: Screen 1

The first screen of the Data Subset wizard lets you **Define Source and Target Databases**.

To define source and target databases

1. Select the **Source** connection/schema
2. Select the **Target** connection/schema. This cannot be the same as the source schema, but it must have SELECT privileges on the source schema.

The target schema name will be included in the object DDL and data inserts. The target connection will add a connection string at the beginning of the script if the **Include a Connect Command** option is checked on the [third screen](#).

3. Specify the **Output** location. This is the location where Toad should save the script.

You can check/uncheck options to **View DDL when complete** or **Load DDL into Editor**.

Note: If the source and target databases differ, a DB link must be present in the target schema that points to the source schema.

Data Subset: Screen 2

The second screen consists of two panels, **Select Objects to Create in the Script**, and **How much data do you want to copy?**

Select Objects to Create in the Script.

Radio buttons provide two choices.

[Do Not Create any objects, just truncate tables and copy data](#)

If you select this option, the wizard assumes that the objects are already in the target schema. Use this option to refresh data.

[Create these objects and copy the data](#)

Note: This Data Subset option is only available in the commercial version of Toad with the optional Quest DBA Module. The DBA module is required because this creates a schema script with embedded insert statements. See [Generate Schema Script](#) for alternate methods of generating a schema script.

This option assumes the objects are not in the target schema, and the script will create the selected objects and insert data.

Note: In the Create Objects mode, clusters are excluded. If you want to subset a schema containing clusters, you will have to create the objects first, and then run the wizard with the **Do not create any objects, Just truncate tables and copy data** option selected.

In addition, any tables or indexes belonging to the cluster will not be extracted.

How much data do you want to copy?

This lower panel lets you specify the **Percentage of data** to be inserted from the source schema into the target schema.

You can specify this by

- using the slide bar to set the percentage
- typing the percentage in the percentage field
- using the spinner to raise or lower the percentage with the mouse.

An algorithm is used to create the insert statements for the data based on the percentage specified.

The **Minimum number of rows in lookup tables** box/spinner lets you determine the minimum number of rows that you want moved to your target in case the percentage selected yields a lower number than the minimum desired.

The percentage or minimum number of rows will be accurate on the parent tables and tables with no foreign key relationships (except for situations with long columns and for the Oracle 7.3 bug mentioned in the [Overview](#)). Data integrity is preserved in the child tables of foreign key relationships based on the

rows which were inserted in the parent tables. So, the percentage of rows copied in the child tables will vary based on the data distribution of the individual tables.

Data Subset: Screen 3

The third screen in the Data Subset wizard lets you set control options and script options.

Control Options

The control options set up the commands in and around the insert statements.

No Logging

If checked, this option adds an ALTER TABLE statement before the data inserts for each object, to specify No Logging.

When checked, the wizard will run faster, but the actions of the script (the insert statements) will be unrecoverable.

Use Parallel DML

If checked, this option adds optimizer hints to the insert statements. It also adds an ALTER SESSION statement before the data inserts for each object to enable Parallel DML.

When checked, the script produced by the wizard will run faster, but you may end up with a few more extents.

Use Rollback Segments

If checked, this option adds a SET TRANSACTION statement before the data inserts for each object to use the specified rollback segment. If you check this box, a dropdown lets you select which rollback segment to use.

Script Options

Include a Spool command

If checked, the script includes a SPOOL command. A SET ECHO ON command is issued after the SPOOL command. At the end of the script a SPOOL OFF command is included.

Include a Connect command

If checked, adds a CONNECT command to the beginning of the script and uses a connection string that is based on the target connection specified on the first wizard screen.

Make individual Constraint commands

This option appears only if you have chosen to create Constraints on the **Create Objects** page. If checked, constraints are created as individual alter table commands. This serves to circumvent an Oracle bug that can create the following error when constraints are not created individually: "ORA-01948 Identifiers name length exceeds max."

Data Subset: Screen 4

This screen lets you select any adjustments to create extents and tablespaces in the script. All selections on this screen are optional.

Extents/Tablespaces

The options in the Extents/Tablespaces tabs are enabled when the wizard is set to create objects (when you select the **Create these objects and copy the data** option in the [second screen](#) of the wizard).

Extents tab

The Extents tab lets you specify extents for objects created by the generated script. You can specify PCTINCREASE parameters, make Next Extent=Initial Extent, and scale extent sizes to apply to all objects created that allow storage parameters. The lower part of the screen lets you change extent sizes using IF-THEN statements.

Tablespaces tab

The Tablespaces tab lets you specify the tablespaces to create indexes, tables, and their partitions. You can place all of an object type (tables, table partitions, indexes, index partitions) into one tablespace or distribute them across different tablespaces based on their size.

Build Script

The **Build Script** button will build your script.

- If you have selected View DDL when complete, you copy the script to **Clipboard** or **Save** to file.
- If you have chosen **Load in Editor** when complete, a new Editor window opens with the script loaded.

Note: For Oracle 7.3, an Oracle bug sometimes prevents the INSERT SELECT statement from inserting rows.

Generate Database Script

Generate Database Script

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Generate Database Script window lets you create a script to easily create a new database similar to an original. You can create the script by extracting the definition information from the original database or from a database definition file that you have previously saved.

Note: This script simply reverse-engineers the DDL for individual objects in the database. This lets you add pieces of this DDL to your own database script. This window does not create a full script to reproduce the selected database, and should NOT be used for backup purposes.

To generate a database script

1. From the **Database** menu, select **Export | Generate Database Script**.
2. Select the **options** and **settings** you want to use to generate the database script. These are described below.
3. Click **Execute** to create the script.

Source and Output

The Source and Output tab defines where Toad will get the information to build the script and what it does with the completed script.

Source:

- Choose to extract from database and then select the database from open connections using the dropdown.
- Choose to extract from a database definition file and then select the file from the Open window that appears when you select this option.

Output

- View DDL when complete - default checked.
- View Object Tree when complete - default unchecked.
- Enter the filename you want to use for the DDL.
- Enter the Definition filename, if you want to create a database definition file. This option lets you store the information for later extraction as a script, or for use with the Compare Databases window.
- Create Individual Object DDL Files - the default is unchecked. If you choose this option, you must enter the top-level directory for your new files. This is not a filename. Toad will create an individual DDL file for each object in the database.

Objects and Options

Use this tab to define the objects you want to create and special options.

Objects Include:

- | | |
|-----------------------------|---------------------------|
| • Specify Object set | • Roles |
| • Directories | • Rollback Segs (Public) |
| • Database triggers | • Rollback Segs (Private) |
| • Initialization Parameters | • Scheduler Job Classes |
| • Profiles | • Scheduler Windows |
| • Redo Logs | • Scheduler Window Groups |
| • Resource Consumer Groups | • Tablespaces |
| • Resource Plans | • Users |

Note: Inc Undoc Parms under "Initialization Parameters" stands for "Include Undocumented Initialization Parameters". These are the parameters whose names start with "_" and do not appear in Oracle's documentation. You must be connected as SYS in order to retrieve these parameters. It is not advisable to alter these parameters unless directed to do so by Oracle support.

Options Include:

- Sort for Creation

Note: Sort for creation on this tab will ensure that objects are created in an order that avoids problems with dependencies.

- Use a '/' to end SQL statements
 - Include Comments in script
 - List Dependencies
-

Run Generate Database Script from a Command Prompt

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To build the file to run Generate Database Script

1. Start **Toad**.
2. From the **Database** menu, select **Export|Generate Database Script**.
3. Make all settings on all tabs (see [Generate Database Script](#)), but do not click Execute.
4. Instead, on the toolbar, click the **Save All Settings to File** button. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- CloseToad - Closes Toad after the script finishes
- CloseGDBS - Closes the Generate Database Script window after generate database script has finished.
- # - This line is a comment and will be ignored.

Run from the Command Prompt

Generate one script only

Once your file is ready, you can run the generate database script from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@myOraDB COMP=c:\myfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple scripts

If you want Toad to generate more than one script, you can call Toad with this command line:

```
Toad.exe -c system/manager@myOraDB CmdFile c:\commandfile.txt
```

In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\script1.txt  
COMP=c:\ script2.txt  
COMP=c:\ script3.txt  
CloseToad
```

Here, Script1.txt, Script2.txt, and Script3.txt are three separate generate database script settings files, and when Toad is called it will generate the three database scripts defined by these files. Toad will close itself when the command is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all schema scripts are generated.

Generate Schema Script

Generate Schema Script

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you select one or more schemas and builds DDL for all objects you select.

To generate a schema script

- From the **Database** menu, select **Export|Generate Schema Script**.
- Select the appropriate options from the following tabs:
 - Source and Output
 - Object Types
 - Filters
 - Script Options
3. Click **Create Script**.
4. Click either **Copy to Clipboard** or **Save to File**.

This is useful, for example, if your database crashes because you will have a script to recreate all your objects.

Related Topics

[Generate Schema Script](#)

[Run Generate Schema Script from Command Line](#)

[Source and Output](#)

Toad 9.5

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

Source and Output

Click the Source and Output tab to select the source and output options for your schema script.

Extract from Schema

Select the schema to use to produce a schema script.

Extract from Schema Definition File

Select a schema definition file to produce a .def file.

View DDL when complete

Select this option to view the Data Description Language (DDL) when it has been created.

View Object Tree when complete

When complete, this option opens a new tab so that you can view an object tree of your script when it is complete.

DDL Filename box

Enter the name of the DDL Filename, or select it using the drilldown  button.

[Make one file named after each schema, in this directory](#)

To use this option, specify a directory in the DDL Filename box and check this box. Toad will create a separate file for each schema, and save them to the specified directory.

Definition Filename box

Enter the name of the Definition Filename, or select it using the drilldown  button.

Def file will be used for HTML schema doc generation

Note: Def files are not compatible between versions of Toad.

If this check box is selected, the .def file that is produced will include the queries necessary to create a complete HTML schema document.

If this check box is clear, on large databases the generation may go faster, and the .def file can still be used to generate the HTML schema document; however, the resulting HTML file will leave the following items blank:

- **Size** and **Number of Extents** columns in the Table summary, Index summary, and Snapshot summary
- **# of Objects** in the Package Summary
- **# of Arguments** in the Procedure Summary and Function Summary

Create Individual Object DDL Files

If this option is selected, Toad will create individual DDL files for each object. You will need to set the following options as well:

- Use SQL extension for all files - if selected, .sql will be used as the extension for all created files.
 - Use extension as configured in TOAD options - if selected, Toad will check [Toad Options|Files|General](#) and use the extension specified for SQL.
 - Use relative path in "build all" script - when selected, Toad will use the relative path. When this option is not selected, Toad will hard code the path names into the script.
 - Top Level Directory box - Specify the top level directory for the saved files.
-

Related Topics

[Generate Schema Script](#)

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

Object Types

Use the Object Types tab to select the object types you want included in your schema script.

Types relating directly to the user (for example, User, User's roles, All tablespaces containing user's objects) are included in the upper portion of this window.

All other available datatypes are included in the lower area, including options to specify your own object set (this adds an Objects tab), and an option to exclude objects in the Recycle Bin.

Related Topics

[Generate Schema Script](#)

[Source and Output](#)

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

GSS Objects

The Objects tab appears when you select [Object Types|Specify Object Set](#).

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To create an object set

1. Click the Add objects to grid  button.
2. Select the Object type from the dropdown.
3. Select from the following options:
 - If you want to filter the objects, select the Like check box. and enter the filter in the box below it.
 - If you want to autocheck selected rows, select the Auto-Check Loaded Rows check box.
 - To view or edit the query before you load the rows it selects, select view/edit query before executing.
4. Click **Load Rows**.
5. Add additional Object Types if desired.
6. Click **Close**.
7. Select the Objects that you want to include in the object set by clicking in the leftmost column.

To save object sets

1. Create an object set.
2. Click the **Save to Text** file  button.
3. Name your file and click **OK**.

To load an object set from text file

4. Click the Load Object Set from Text File button.
Or

Select a file from the recently used files dropdown on the Load Object Set from Text File button.

2. Select the Objects that you want to include in the object set by clicking in the leftmost column.
-

Related Topics

[Generate Schema Script](#)

[Source and Output](#)

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

Generate Schema Script Filters

You can choose to filter the objects types you use to create your schema script in three ways.

All Objects

Use the Only Extract Object Names like... filter to filter on object names for all objects.

Tables

Use the tablespace dropdown box to select tables from only one tablespace. You can also choose to include any tables where the tablespace is set to Null.

Indexes

Use the tablespace dropdown box to select indexes from only one tablespace. You can also choose to include any indexes where the tablespace is set to Null.

Related Topics

[Generate Schema Script](#)

[Source and Output](#)

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

Script Options

Select from the following options to customize your schema script.

Sort for Creation

Selecting this option will ensure that objects are created in an order that avoids problems with dependencies.

Include "Set Define Off"

This option puts a "set define off" command at the beginning of the script. This means that you won't be prompted for substitution variables if your source code contains a '&' character.

Include Drop Statements

Selecting this option will put a command to drop each object immediately before creating it, avoiding the "object already exists" error.

[Drop Tables with Purge option](#)

This option causes the table to bypass the recycle bin (in Oracle 10g) so it cannot be recovered.

Include "Show Errors" after procs and triggers

SQL*Plus "Prompt" comments in script.

Always use '/' to end SQL statements

When selected, Toad will end all SQL statements with '/'.

One line per statement

When selected Toad will remove all line breaks from the SQL statement, causing the whole thing to be on one long line.

Comments in Script

When selected, comments will be included in the generated schema script.

List Dependencies

This option will list dependencies in the comments included in the schema script.

Include Counts

This option includes all counts in comments in the generated script.

Include Schema Name Prefix for Objects

Select this option to include the schema name prefix for all objects.

Substitute this for the Schema Name box

This option is only available if the Include Schema Name Prefix for Objects option is selected. Select this option and enter a string to substitute for the schema name prefix in the generated script.

Related Topics

[Generate Schema Script](#)

[Source and Output](#)

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

Run Generate Schema Script from Command Line

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To build the file to run Generate Schema Script

1. Start **Toad**.
2. From the **Database** menu, select **Export|Generate Schema Script**.
3. Make all settings on all tabs (see [Generate Schema Script](#)), but do not click Execute.
4. Instead, on the toolbar, click the **Save All Settings to File** button. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- CloseToad - Closes Toad after the script finishes
- CloseGSS - Closes the Generate Schema Script window after generate schema script has finished.
- # - This line is a comment and will be ignored.

Run from the Command Prompt

Generate one schema script only

Once your file is ready, you can run the generate schema script from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@myOraDB GSS c:\myfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple schema scripts

If you want Toad to generate more than one script, you can call Toad with this command line:

```
Toad.exe -c system/manager@myOraDB CmdFile=c:\commandfile.txt
```

In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\script1.txt
COMP=c:\ script2.txt
COMP=c:\ script3.txt
CloseToad
```

Here, Script1.txt, Script2.txt, and Script3.txt are three separate generate schema script settings files, and when Toad is called it will generate the three schema scripts defined by these files. Toad will close itself when the generate is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all schema scripts are generated.

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Related Topics

[Generate Schema Script](#)

[Source and Output](#)

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

Managing Projects

Action Recall

Action Recall

You can use Actions within Toad to automate and control processes you perform regularly. Connection information, window settings, and queries can be saved, shared, scheduled and run from the command line or batch files to simplify repetitive tasks.

Actions can be saved from various locations within Toad. If the window is not maximized, look for the lightning-bolt button on the window caption. If you keep the windows maximized, the lightning bolt may not appear in the window caption. In this case, you can access it from the "Window menu."

To access the action recall button from the window menu

1. Click the window menu icon in the upper left corner of the window.
2. Select **Create/Load Toad Action**.

In addition, as with SQL Recall, actions are saved automatically when you perform a task that is action-enabled. (See [Using the Vault Set](#).)

Recalling an action is the ability to perform a distinct operation or sequence of operations in Toad on demand. For example:

- Transfer a file via [FTP](#)
- [Export DDL](#)
- [Export datasets](#)
- [Archive](#) (zip or unzip files)
- [Send email](#)
- Many more

Action Palette

The action palette is the central location for running and creating Actions. While actions can be created from and loaded to many of the other windows within Toad, the power of actions is located in the Action Palette.

Within the Action palette, you can:

- Create new actions
 - Organize actions into sets
 - Run actions
 - Store actions
 - Schedule actions
 - Copy actions to and from the clipboard
-

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Creating New Actions

You can create new actions from many locations within Toad. You can create them directly from the feature you are using, or from the action palette.

Creating a new action from a Toad window

Toad windows that support actions include a lightning-bolt button in the upper right of the window caption. Simply using these features will create an action automatically for you and store it in the action vault (See [Using the Vault set](#)).

To create or load an action

1. Click on the lightning-bolt  button.
2. Choose what you want to do:
 - Create action
 - Load action
 - Copy action to clipboard
 - Load action from clipboard

Creating a new action from the Action Palette

You can also create a new action directly from the Action Palette. At the right of the Action Palette toolbar are tabs containing icons for the various actions you can create.

To create a new action from the palette

1. Click the **Action Set** tab where you want to create the action.
 2. Click the icon of the action you want to create.
 3. Enter a name for the action in the **Name** box.
 4. Right-click over the action, select properties, and set up the required options for the action.
 5. Click one of the following as desired:
 6. **Run** - apply changes to properties and run the action
 7. **Apply** - apply changes to properties
 8. **Cancel** - cancel the changes to properties
-

Sharing Actions

One of the advantages to using actions to manage your processes is that they can be shared easily with others.

This can be done in many ways. These include:

- pasting an action directly into an email from the clipboard
- copying an action from an email and pasting it into an editor window or into the action palette

Sending Actions by email

Sending an action from the clipboard

1. From the window you want to share (such as Grid|Save As) click the **lightning bolt**  button located in the title bar, beside the Close button.
2. Select **Save to Clipboard**.
3. In your email, select **Paste**.
4. Send your email.

Sending an action from the action palette

1. In the action palette, select the actions you want to send.
 2. Right-click and select **Copy**
- Or

Press **<CTRL><C>**.

3. Paste the actions into the email body.
4. Send the email.

Receiving Actions by email

Receiving an action - clipboard/window

1. From the email you receive, copy the action code to your clipboard.
2. Open the window where the settings reside (such as Grid|Save As, or other)
3. Click the lightning bolt button.
4. Select **Load from Clipboard** and click **OK**.
5. Settings are now loaded in your window and you can complete the action as you would normally.

Receiving an action - clipboard/action palette

1. From the email you receive, copy the action code to your clipboard.
 2. If it is not already open, open the action palette.
 3. Right-click in the action palette and select **Paste**.
- Or

Press **<CTRL><V>**.

4. Rename the pasted action to something descriptive.
 5. Run the action at will.
-

Running Actions from the Command Line

You can easily run actions from the command line with or without having Toad open.

Command Line Syntax

You can run one action, multiple actions, or one or more action sets.

To execute Actions via the Command Line, use the `-a` parameter and specify the Action, Action Set or series of both.

If you are specifying just the Action, the Action name must be unique across all Action Sets. Otherwise an entry will be made in the Action Log about more than one Action found, and the action will not run.

If there may be more than one action with the same name, fully qualify an Action within an action set, use `ActionSet->ActionName`.

Separate more than one Action or Action Set with a space and surround each item with double-quotes.

Examples of command line syntax

The following runs an Action Set called "MondayQueries." It will execute all Actions within the Action Set:

```
Toad.exe -a "MondayQueries"
```

The following runs an Action called "Email Mom". Only one Action by that name in the entire datafile can exist:

```
Toad.exe - a "Email Mom"
```

The following runs a fully qualified Action, since there may be more than one Action by the name "EmpQuery", the Action Set containing the action is included:

```
Toad.exe -a "CommonQueries->EmpQuery"
```

The following runs a series of Actions and Action Sets:

```
Toad.exe -a "CommonQueries" "EmailSet->Email Mom" "SalesReports->MondayReport"
```

Action Palette

Action Palette

The Action Palette provides a location where you can access, create, maintain, run and modify actions.

The action palette consists of:

- a Vault of actions automatically created as you use Toad
- Action Sets of saved actions
- a toolbar of general functions
- a tabbed toolbar of possible actions

Set tab

Action Sets are groupings of actions. You can control what actions are saved to what set. Sets can also be reorganized and renamed to make finding actions easier. You can run and schedule Action Sets as a group from the [command line](#).

View the Action Set tabs by clicking the Set tab at the bottom of the Action Palette.

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Vault

The vault tab contains actions created automatically by Toad when you use select Toad windows. Like the SQL Recall window, it saves your work so that you can go back later to view it. This can be very useful if you want to send someone an action, or find you want to repeat an action you have not saved.

Log tab

The Action log is a log file containing the actions you have run. It is automatically generated as you run actions, and contains data up to 7MB. When it reaches 7MB, old data is trimmed back to 5MB, and then it continues accruing. In this way it remains a current log of the most recent action execution.

Action toolbar

The Action palette toolbar contains two parts. The general toolbar buttons allow you to run, change properties, schedule and search for actions. The tabbed portion of the toolbar contains various action buttons that you can use to create new actions. Some of these actions can be accessed from other locations in Toad, such as the Export Dataset, which relates to the Grid|Save as window. Others, such as Email can only be accessed from the Actions panel.

Actions currently available include:

- Execute script
 - Shell Execute
 - Email
 - Export DDL
 - Export Dataset
 - Object Search
-

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Actions currently available include:

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- Shell Execute
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- Object Search

Action Palette Toolbar



Button	Command
	Execute selected actions
	View properties of selected action
	Schedule selected action
	Find an action

Running Actions from the Action Palette

You can easily run actions from the action palette.

Using this form, you can run one or more actions from the same action set. Multiple actions are run in the order they appear in list view. (See [Ordering an Action Set.](#))

To run actions from the Action Palette

1. Right-click on the action you want to run

Or

Multi-select several actions within the same Action Set and then right-click.

2. Select **Run**.
-

Scheduling actions

Use the Action Palette to easily schedule actions using Toad's Task Scheduler.

To schedule actions

1. In the **Action Palette**, select the **action** you want to schedule.

2. Click the **Schedule Action**  button.

The Toad Scheduler opens with the Toad path and the parameters set.

3. Complete the [Task Scheduler](#) and click **OK**.
-

Related topics

[Task Scheduler](#)

[Action Palette Toolbar](#)

Action Sets

Managing Action Sets

Action sets are central to the efficient use of actions. You can use action sets to store and manage actions you have created. By ordering the actions within an action set, you can run the actions in them from the command line, or schedule them to run at a particular time. The order in which they are specified will be the order in which they are run.

- [Creating Action sets](#)
 - [Naming action sets](#)
 - [Viewing action sets](#)
 - [Using the Vault set](#)
 - [Ordering an action set](#)
-

Related topics

[Running Actions from the command line](#)

[Scheduling actions to run at a specified time](#)

Creating Action Sets

You can create action sets to house your actions at any time from the Action Palette.

To create an action set

1. If the Action Palette is not visible, select **View|Action Palette** from the menu.
 2. Right-click in the main area of the Action Palette and select **Action Sets**.
 3. From the flyout menu, select **New**.
 4. [Rename](#) the new Action set as you like.
-

Naming Action Sets

When you first create action sets, Toad simply numbers them: Set1, Set2, Set3 and so on. You may find it easier to rename them to something that is more relevant to its contents.

Note: You cannot rename the Vault.

To rename an action set

1. Right-click on an action set and select **Action Sets|Properties**
 2. Enter the new name for your action set.
 3. Click **OK** if in the properties window, or press **<Enter>**.
-

Viewing Action Set Contents

You can view the actions contained in action sets in several formats. You can view them in list, icon, or tree (separated by type of action) view.

To view a different action set

- Click on the tab for the action set you want to view.

To change the action view

1. Right click in the action set window and select **View Style**.
 2. Select from list, icon or tree view.
-

Using the Vault set

Toad automatically creates an action for you when you use a window that supports them. Toad automatically stores these actions for you in the vault, so that when you need them they can be retrieved.

You can use the vault the same way you would use the other action sets, except that it cannot be deleted. You can, however, [clear it](#).

Setting the number of actions saved in the vault

By default, Toad stores 10 actions per action type (for example, 10 export DDLs, 10 export dataset (Grid|Save As) and so on. However, this number can be changed easily.

To change the default number of actions automatically created per action type

- From the **Toad Options** window, select **General** and change the number in the **Toad Actions per action type** box.

Clearing the Vault

You can easily clear out all the actions that have been saved in the vault so that it is easier to navigate.

To clear the vault

1. In the Vault action set, right-click and select **Select All**.
 2. Right-click and select **Delete**.
-

Ordering an action set

You can change the order of the actions within an action set. This is useful if you are planning on running actions as a set from the command line, or on a schedule. By putting them in the order you want them to run, for example, you can define emails that should be sent before, during, and after the process.

To order an action set

1. Right-click on the Action Set and select **View Style|List**.
 2. Click and drag the actions in the list into the order you want them to run.
-

Related topics

[Viewing Action Sets](#)

[Running Actions from the Command Line](#)

[Scheduling Actions](#)

Actions Properties

Exporting tab

Export Dataset Action

The export dataset action lets you run a query and export the dataset to a file at any time.

The Export Dataset properties window options are equivalent to the Save As (Export Dataset) window.

For information about setting options, please see the [Grid|Save As \(Export Dataset\)](#) topic.

Dataset

When you are selecting Save As from the data grid, Toad automatically includes the query that was used to create the dataset.

When setting properties for the Export Dataset action, you will need to insert the query or objects you want to export manually.

To set dataset specifications

1. Select either **Export query** or **Export objects**.
 2. Enter the query in the box.
- Or

Click **Add** and select the objects you want to export.

Related Topics

[Save As \(Export Dataset\)](#)

Export DDL Action

The export DDL action lets you run a query and export the dataset to a file at any time. When setting properties for the Export DDL action, you can run the action by clicking Run at the bottom of the window. Clicking Apply will apply your changes.

The Export DDL properties window options are equivalent to the [Export DDL](#) window. To set Export DDL options, please see the [Export DDL](#) topic.

Related Topics

[Export DDL](#)

[Export DDL Options](#)

[Export DDL Output](#)

Misc tab

Archive Action

The Archive window lets you create zip files from within Toad. Use the archive action to create archives on a scheduled basis. You can choose to zip or unzip files, append to existing files and so on from this window.

Set archive action properties from this window.

Zip Archive

Select the filename you want to use as the zip archive.

[Append or Replace existing file](#)

Choose to append to an existing file or replace the existing file.

Zip tab

Select files or folders to archive.

To select files

- Click Add Files and then select the file or files you want to archive.

To select entire folders

- Click Add Folders and then select the folder or folders you want to archive.

Unzip tab

1. Select the location where you want to extract the files in an existing archive.
 2. Enter the pathname in the Extract to box.
 3. Select when you want to overwrite existing files:
 4. Never - never overwrite a file.
 5. Always - always overwrite with the extracted files.
 6. Newer files - only overwrite if the extracted file is newer than the existing file.
 7. Older files - only overwrite if the extracted file is older than the existing file.
-

ANSI Join Converter

You can convert one or multiple SQL file to ANSI Join syntax using the ANSI Join converter action, or using the ANSI converter button in the Query Builder.

Note: SQL files to be converted must consist of *only one* query per file.

To convert a query using the ANSI converter action

1. In the **Action Palette**, click the **Misc** action tab.
2. Click in an **Action set** to create an ANSI join action.
3. Right click the action and select **Properties**.
4. Click the **Connection**  button and associate the action with a connection.
5. Click **Add** and select the saved SQL files you want to convert.
6. Specify the output directory for the converted statements.
7. Click **Apply** to apply property changes

or

Click **Run** to apply property changes and run the action.

To convert a SQL statement in the Query Builder

Note: you can set the Query Builder to create ANSI syntax automatically from [Toad Options|Query Builder](#).

- In the **Generated Query tab**, select the query to convert and click the **ANSI join syntax** button.
-

Email

You can create an action that will email specific information to the recipient of your choice. This action can then be scheduled, shared, and treated like any other action.

The email action is available only from the Action Palette toolbar.

To create an email action

1. From the Action palette, click the Email button.
2. Click in the Action set where you want to create the action.
3. Rename the email action to a relevant name.
4. Schedule or run as desired.

Email properties

When you set the properties for an email action, you will need to include the following information:

Recipients

Enter the email addresses of the recipients you want to receive this email. Multiple email addresses may be separated by semicolons.

From

Enter your email address. If you have already set the host under [Toad Options|Email Settings](#), those settings are entered for you.

Subject

Enter a subject for your email.

Message

Enter the message you want to send.

Append Clipboard Contents

Adds the contents of your clipboard to the bottom of the email.

Note: This appends the contents of the clipboard at *execution* of the action.

Attachments

Click the **Add** or **Remove** buttons to add or remove attachments to the email.

SMTP Server and Port

Enter the host and port for your email account. If you have set the host under [Toad Options|Email Settings](#), those settings are entered for you.

Execute Script

Using the execute script action, you can execute one or more scripts at a time, schedule them to run at a specified time, and so on.

Properties

Properties of the Execute Script action let you add any number of scripts to the action, and specify output type and location.

Description

Use the description box to enter a description of function performed by the script or group of scripts.

Scripts

In the scripts area, add the scripts you want this action to execute.

To enter scripts

- Click **Add** and then select the scripts you want to add.

Use **Remove** to remove any scripts from the script grid, and **Clear** to clear the grid of all scripts.

Output

Use the output area to specify how you want output generated by the script delivered.

- Use single file
- Use separate file for each script
- Clipboard
- Discard

Directory

If you have chosen output to be sent to a file, enter the directory where the file should be located in the Directory box.

Execute Shell

Use the Shell Execute properties window to set or change properties for the Execute shell action.

Program

Enter the path of the program you want to execute.

Working dir

Enter the path of the working directory for the program you want to execute.

Parameters

Enter any **Parameters**. These specify configurations of the program, and can be combined. Some standard parameters are listed in the [macro](#) box at the bottom of the window.

Shortcut

Enter the shortcut for the program, if applicable.

Run

Select how you want the program to run. Options include:

- Normal window - This is the default. The program selected will run as usual, in its own window.
- Minimized - The program selected will run in a minimized window.
- Maximized - The program selected will run in a maximized window.

Macros

5. \$UID - enters the current Toad User ID
 6. \$UPW - enters the current Toad User password
 7. \$SID - enters the current Toad database ID
 8. \$CWD - enters the current Toad working directory
 9. \$TMP - enters the windows temporary directory
 10. \$FIL - enters the file in the active editor
-

FTP Action

Use the FTP action to save FTP settings and perform specific FTP actions whenever needed without entering all the information repeatedly.

You can choose to upload or download from the FTP server, and specify files and directories.

To set up an FTP action

1. Click the **Server Settings**  button and then enter settings as described in the [Server Settings](#) topic.
2. Select either Upload
Or
Download.
3. Click **Add** and add any files you want to upload or download.

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4. For upload, enter the absolute path of the **remote directory**.
For download, enter or browse to the absolute path of the **local download directory**.
5. Click **Run** to save and run the action
Or

Click **Apply** to save changes.

Related Topics

[FTP](#)

[Server Settings](#)

[FTP Messages](#)

File Menu

Save File

This saves your current file. If you have not selected a name it opens the [Save As](#) window, at which time you can select or type in a name.

To save a file

- From the **File** menu, select **Save**.
-

Save As dialog

Use this dialog box to pick an output file for your Editor code.

If the destination file is marked with the read only file system attribute, Toad will not be able to save the Editor code to that file. Pick another file.

Note: You can also save the contents of your data results grid using the [Save Grid contents](#) command.

To access save as

- Select the **File|Save As** menu item.
-

Reopen File

Reopen file lets you open any of the last ten files you have had open.

To reopen a file

1. Open the **Editor**.
2. From the **File menu**, select **Reopen File**.

Toad displays a list of the last ten files that you opened. This list is saved and restored to the file SQLFILES.TXT in the Toad for Oracle\Temp folder.

Rename File

This window renames a file in the FTP interface.

For more information about FTP see [FTP](#).

To access Rename File

- You get to this window from the [Toad FTP Window](#).
-

Print

This sends a print command to your printer.

File|Print works on all Toad windows, when a SyntaxMemo control is currently in focus. For example, Schema Browser, Tables tab, Scripts tab. Click inside the resulting script and choose **File|Print**. The table script is sent to the printer.

Note: In Toad Freeware, **File > Print** works only on **SQL Edit** and **Proc Edit** windows.

File: Print Setup

To access the Page Setup window

- Click **File|Print Setup**.
 - Dropdowns let you select your paper size and your paper source.
 - Radio buttons let you choose orientation. The default is portrait.
 - You can also change the margins.
 - The Printer button displays a window that lets you select Printers, Properties, and so on.
-

Project Manager

Project Manager Overview

You can use the Project Manager to easily organize your work area. The window is organized in a tree structure, with every item in the tree being a node that points to a different object. You can combine several different Oracle connections and FTP connections into one project to make it easy to upload, download, and work with your databases. You can add subproject folders to your projects to further organize your work.

If you have recently upgraded Toad and you want to view newly available Project Manager actions, such as right-click menus, simply select the **Popup Menus** tab from the Project Manager configuration screen.

Unless you have a highly configured Project Manager environment you may want to consider performing a "Reset all defaults" to see all the new actions within the window itself.

Connection Panel

The connection panel is an area to work with various connections. You can create new connections, end connections, run scripts from a particular connection, and so on from this area. (For more information see [Using the Connection Panel](#).)

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Nodes

The Project Manager uses the following types of nodes and tabs to let you arrange your work:

Project Folder

The overlaying organizational unit is the [Project Folder](#) tab. This can contain other project folders, other types of folder, or other content. Multiple project folders can be created and arranged to suit your work style. The connections tab cannot be moved. The order of tabs is preserved when you close and reopen the Project Manager. Hovering your pointer over a project tab will display the full path to the project file.

File Folder

Use a [File Folder](#) node to represent a folder on a local or network disk.

File

Use a [folder item](#) node to represent a file on a local or network disk. These can include .sql files, .html files, .doc files, and so on. This node is located beneath a file folder node.

FTP Folder

Use an [FTP folder](#) node to represent a folder on an external FTP server. Contains FTP files.

FTP File

Use an [FTP file](#) node to represent a file on an external FTP server. This node will always be beneath an FTP folder.

DB Schema

You can add a [Database Schema](#) node to represent a connection to a schema on a database. Can contain database objects.

DB Object

Within schema nodes, you can include [database object](#) nodes. These represent objects residing on a database. Must be contained in a DB Schema node.

Task

Use the Project Manager to schedule tasks using the [Windows Task Scheduler](#).

To Do List

Represents an user-created checklist. [To do items](#) are added beneath it.

URL

Represents an URL and can act like a shortcut to that site.

Acting on Nodes

The Project Manager is highly configurable, letting you easily work with various objects at one time. You can configure its behavior for:

- [drag and drop](#)
- [double-click](#)
- [popup](#) (right-click) menus
- [DDL](#)
- [sorting](#)

If you are just starting out with the Project Manager, reading the Working with the Project Manager book (beginning at [Using Different Types of Objects Simultaneously](#)) in this help file will give you an overview of the types of things you can do in this window. Then move on to Configure Project Manager, which will give you an idea of how to customize the window to work in the best way for you.

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - Popup Menus](#)

[PM - DDL](#)

Project Manager Toolbar

The toolbar lets you perform several actions with just a click of the mouse.



Button	Command
	Select the drop down menu to choose an item to add.
	Loads a Project File.
	Creates a new Project File.
	Saves Project File as....
	Saves Current Project File.
	Print project
	Toggles Reorder Mode so you can move items around within the Project Manager. By default, items are included in the hierarchy in the order they are



added.
Remove Dead Links.



Access Project Manager Options to configure the Project Manager.

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - Popup Menus](#)

[PM - DDL](#)

Removing Dead Links

You can remove any dead links in your project. These can include nodes which no longer exist in the schema, windows tasks which are no longer present and so on.

When you select a type of link to remove, all dead links of that type will be removed. To remove limited numbers of them, you will need to remove the appropriate nodes manually. When you remove dead links, all subnodes are removed as well as the dead node.

To remove dead links

1. From the **Project Manager** toolbar, click the **Remove Dead Links**  button.
 2. In the **Remove Dead Links** dialog, select the types of dead link you want to remove. Options include:
 3. Database Objects
 4. Folders
 5. Folder Items
 6. Tasks
 7. Named SQL Items
 8. Zip File References
 3. Click **OK**.
-

Configuring the Project Manager

Configuring the Project Manager

The Project Manager can be configured to work in the way you work. You can specify the command Toad executes when you drag a file onto another file, or onto a node.

Double-clicking is also customizable, as are the menu items that appear in the right-click (pop up) menu.

To configure the Project Manager

1. From the Project Manager, click the **Project Manager Options**  button
2. Select or clear the options you want to configure.

You can also choose to Reset all Defaults or Use defaults for a particular tab.

3. Click **OK**.

Reset all Defaults

Clicking Reset all Defaults at the bottom of this dialog box will reset defaults on ALL tabs.

Use Defaults

Click the Use Defaults button on an individual tab to return to the default settings for that tab only.

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - Popup Menus](#)

[PM - DDL](#)

Configuring the Project Manager

The Project Manager can be configured to work in the way you work. You can specify the command Toad executes when you drag a file onto another file, or onto a node.

Double-clicking is also customizable, as are the menu items that appear in the right-click (pop up) menu.

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To configure the Project Manager

1. From the Project Manager, click the **Project Manager Options**  button
2. Select or clear the options you want to configure.

You can also choose to **Reset all Defaults** or **Use defaults** for a particular tab.

3. Click **OK**.

Reset all Defaults

Clicking Reset all Defaults at the bottom of this dialog box will reset defaults on ALL tabs.

Use Defaults

Click the Use Defaults button on an individual tab to return to the default settings for that tab only.

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - Popup Menus](#)

[PM - DDL](#)

General Options

General options let you change the options for the entire Project Manager.

Editor file load options

Reload into existing window

Select this option to load editor contents into the existing Editor window.

If this option is selected, you must choose to either append the new data to the data existing in the window, replace the contents of the window entirely, or create a new tab and load the SQL there.

The default is unselected.

Load into new window

Select this option to open a new Editor window in which to load your file. This is the default option for file loading.

Generate Script for Multiple check box - if checked and multiple scripts are selected for loading, Toad creates a script referencing the selected scripts as follows (assuming employees 1 through 3 are selected for loading)

```
@ "c:\one\two\employees.sql "  
@ "c:\one\two\employees1.sql "  
@ "c:\one\two\employees2.sql "
```

[Navigate to previous invocation](#)

When selected, if you choose a file to load into the Editor that is already there, TOAD will navigate to that Editor tab. In addition, this option finds the Editor in which the file was previously loaded, brings it to the top, and makes the tab in which its loaded the active tab (navigates not just to the tab but to the SE if there are multiple open).

[Prompt each time](#)

When selected, TOAD will prompt you to select one of the above options each time you choose to load a new file.

Export Options

[Compress export file \(.zip\)](#)

When this option is selected, Toad compresses the exported file into a .zip format. The default is unchecked.

[Watch progress](#)

When this is selected, Toad watches the progress of long exports.

FTP server passwords

[Save encrypted passwords](#)

When checked, Toad saves the passwords for your FTP sites in an encrypted format.
The default is checked.

Hints

[Named SQL](#)

When checked, named SQL items display a Windows hint when hovering over them, showing the underlying SQL.

The default is unchecked.

[Database Objects](#)

When checked, the note associated with the Database object displays as the hint when you hover your pointer over the item.

The default is checked.

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To-Do

When checked, the note associated with the to do item displays as the hint when you hover your pointer over the item.

The default is checked.

To-Do

Past due color drop down

A to do item displays in black text by default. When it is past due, the color changes as an instant reminder. Choose the color you want past due items to be from the drop down color menu.

The default is red.

Server side compression

Utility for 'compress' action

Select the utility you want to use for server side compression from the compress drop down.

Choices are compress, zip or gzip. The default is compress.

Web Browser

You can select the web browser you want Toad to use for web based activity.

Filename

If you know the location of your web browser, you can enter the entire path in the filename box.

Browse

Click the **Browse** button to locate your web browser using a standard Windows Open dialog.

Find default

Click the **Find default** button and Toad will find your default browser and enter it in the filename box for you.

Dragging and Dropping

Prompt if multiple actions are available

If you have checked this option, and multiple actions are available, Toad will display a dialog for you to choose the action you want to perform. From this dialog, you can also make the action the default, and turn off prompting.

The default is unchecked.

Use user setting

When checked, Toad uses the value you chose (or the default) on the "Drag and drop operations" tab in the Project Manager Options window.

Refresh folder links

Include subdirectories

When checked, a refresh includes all subdirectories of the folders in the nodes. The entire folder tree will be built in the Project Manager.

Unchecked, only files under the folder's main directory are displayed. Subfolders are not added.

The default is checked.

Refresh after changing properties

When checked, if you set a filter, or otherwise change the properties of a folder, all folder links are refreshed when you click OK. Unchecked, folder links are not refreshed.

The default is unchecked.

Prompt before rebuilding

When checked, Toad will prompt you for confirmation before rebuilding any links when you refresh a folder item. If unchecked links will be built without notifying you.

The default is checked.

Shell for remote file execution

You can select a shell for use when executing a file remotely. Select from the drop down menu. The following common shells are available:

- Bourne shell (sh)
- Korn shell (ksh)
- CSH

In addition, you can supply your own shell choice by entering the appropriate shell name in the box.

Tree

Font

Click the Font button for a standard Font dialog to select the font and font properties Toad uses in the Project Manager.

The default is MS Sans Serif.

SmartExpand

Select this check box to only allow one top-level project node to be expanded at one time. Expanding one node will collapse the others.

The default is unchecked.

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - Popup Menus](#)

[PM - DDL](#)

PM - Associations

You can use the Applications Properties box to select associations for various file extensions.

The Application Properties dialog box is accessible from the [Project Manager](#).

To set application properties

1. Click the **Settings**  button on the toolbar.
2. Click the **Associations** tab.
3. Click **Add**, or select an **association** and click **Edit**. The Application Properties dialog box appears.

From this dialog box you can easily create or edit associations.

Property Descriptions

Title

Enter the title you want the association to have in the Project Manager.

Program

Enter either the full path name of the program, or click the browse  button and search for it.

Working dir

Enter the full path name for the directory you want to specify as the working directory for this application.

Parameters

You can use one or more of the following parameters to configure your application:

5. \$UID - enters the current Toad User ID
6. \$UPW - enters the current Toad User password
7. \$SID - enters the current Toad database ID
8. \$CWD - enters the current Toad working directory
9. \$TMP - enters the windows temporary directory
10. \$FIL - enters the file in the active editor
11. %S (or "%S") - specifies where the filename should appear (otherwise Toad uses the standard convention of "app.exe -options filename").

These parameters can be used individually, or combined. For example, if you wanted to automatically open Notepad with the current file in the active editor, you would enter the information to open Notepad as above, and enter \$FIL in the Parameters field.

You could also enter the command: `sqlplusw.exe $UID/$UPW@$SID` which starts sql plus with the current toad connection.

Extensions

Enter the extensions you want to associate with this application.

Run

Enter the parameters for how you want the application to run when accessed, as follows:

- Window type - Specify the window type you want to open: Normal, Minimized or Maximized.
- Launch new - Start a new instance of the application when the Project Manager accesses it.
- Use existing if possible - If an existing instance of the application is running, Toad will try to use that instance before moving to start the application again.

Icon

Choose an icon you want to associate with files that use this application.

Related Topics

[Configure Toad Tools](#)

PM - Drag and Drop Operations

Use the drag and drop operations screen to configure the action Toad takes when an item is dragged within the Project Manager.

The grid is organized in a simple, "when source is, and destination is, then do this" format. The action performed can easily be set to other possibilities.

To change the action performed on dropping

1. Click on the action you want to change. An arrow appears in the right of the cell.
 2. Click the arrow to display a menu of possible actions.
 3. Click the action you want to select.
-

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[Changing the Default Behavior](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Double-click Operations](#)

[PM - Popup Menus](#)

[PM - DDL](#)

PM - Double-click Operations

Use the double-click operations screen to configure the action Toad takes when an item is dragged within the Project Manager.

The grid is organized in a simple, "when source is, then do this" format. The action performed can easily be set to other possibilities.

To change the action performed on double-click

1. Click on the action you want to change. An arrow appears in the right of the cell.
 2. Click the arrow to display a menu of possible actions.
 3. Click the action you want to select.
-

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Popup Menus](#)

[PM - DDL](#)

PM - Popup Menus

You can customize the right-click menus for the various objects you have in your Project Manager.

Each different type of object in the left pane has an associated pop up (right-click) menu. This means that if you have an FTP folder selected, the items selected under FTP appear on the menu, and so on. For the most part, items you add are added to the topmost area of the right-click menu, in addition to the standard items in the lower regions (Add, Remove, Rename, Copy, and Properties, for example).

Note: For database objects under a schema node with an open connection, the topmost part of the right-click menu is the Schema Browser menu for that object type. This is not customizable. Any changes you make will occur below the Schema Browser menu.

In addition, from time to time certain menu items may appear which are specific only to certain file types, such as the Run in Quest ScriptRunner item, which appears only for SQL files. These items are specific to the file type, as defined by their extension, and are not customizable.

To customize the popup menus

1. From the Configuration window, click the **Popup menus** tab.
2. Select menu items you want to appear on the various menus, and clear items you do not want to appear.
3. Click **OK**.

Resetting Defaults

You can reset defaults in only the popup menu area, or throughout the Project Manager.

To reset defaults in popup menus only

- Click the **Use Defaults** button.

To reset defaults throughout the Project Manager

- Click the **Restore Defaults** button.
-

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - DDL](#)

PM - DDL

You can modify the clauses of the DDL scripts Toad creates when you choose a DDL action such as copy DDL to Folder.

To modify DDL clauses

1. Click the **DDL** tab on the Configuration dialog.
 2. Click the tab listing the object containing the DDL you want to change.
 3. Select the clauses of each script type you want included as part of the script and clear the clauses you do not want included.
 4. Click another tab, or click **OK**.
-

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - Popup Menus](#)

Using Different Types of Objects Simultaneously

One of the great advantages to using the Project Manager is that you can work with multiple types of objects at the same time. This lets you drag-and-drop them to access functions.

After you have added a variety of different types of database objects under one or more schema nodes, you can:

- Multi-select database objects, right-click and choose **DDL to clipboard**, **DDL to file**, **Load DDL into Editor** or **Describe** (Describe may not be available depending upon the object type)
 - Drag objects onto one another to compare them
 - Drag objects onto a local or remote file folder link to generate a DDL file which will be placed into the local or remote folder
 - Drag objects onto a local or remote file to generate the DDL for the objects and overwrite the destination file with the DDL
-

Working with Server Directories and Files

Another of the many strengths of the Project Manager is its ability to easily work with FTP server directories and files.

After you have created an FTP folder (see [FTP Folders](#)), and added the server information to it you can create additional nodes and servers quickly by using the [copy nodes](#) feature. You can also right-click and select **Rename** to rename the node for a more logical representation of what the directory contains, such as **Toad UNIX Scheduler log files**.

From here you can:

- Select one or more server nodes, right-click and select **Refresh server links**. This builds shortcuts to all the files underneath the selected server directories. Whenever you want to get an updated list of the server directory contents simply select refresh to rebuild the nodes.
 - Drag-and-drop server file links to local directories to download the files.
 - Drag-and-drop local file links to server directories to upload the files to the server.
 - Drag files into the trash can to move them to the Recycle Bin.
-

Loading Local or Server Files into Toad Windows or External Applications

If you frequently work with files in Toad or other applications you can add links to them in the Project Manager. You can then associate their file extensions with either Toad windows or defined external applications. (See Configure Project Manager for more detailed information about associating extensions.)

Toad windows with which you can associate files include: Editor, Offline Editor, SQL*Loader, Query Builder, TNSNames Editor, Export File Browser and the Project Manager itself. When double-clicking or right-clicking and selecting **Load**, files that match pre-defined extensions for these windows will be loaded.

Note: To be sure you see all options, click the **Add defaults** button.

You can use the General tab in the Project Manager options to change the default extensions for the Toad windows, or add external applications yourself. For instance, you could add Internet Explorer as an application and associate it with htm and html files.

To view all file types you can associate

- Click **Add defaults**.

To load multiple files

1. Select the files.
 2. Right-click and select **Load**. If loading into the Editor, a separate tab is created for each item. Pressing the Enter key loads only one file, because the enter key is tied to the double-click event, which can only occur on one node/file at a time.
-

Working with Local Files and Directories

Use **Windows Explorer** to drag-and-drop folders onto Projects to create links to local folders and files. You can also right-click a **Project** and select **Add|Folder** and **Add|Folder Items**.

Once you have shortcuts to local folders and files you can:

- Right-click folders and select **Refresh folder links** to automatically build a list of shortcuts to all files in that folder
 - Drag files onto one another to perform Toad's file compare.
 - Drag files and folders onto server directories to upload them. Dragging a folder onto a server folder will upload all the underlying files.
 - Drag files into the trash can to move them to the Recycle Bin.
-

Changing the Default Behavior

The Project Manager is entirely user-programmable. That is, you can think of the Project Manager as having a number of pre-defined actions. These actions occur during three different types of user operations: Drag & Drop, Double-click and Right-click. You can change the behavior of the Project Manager when you perform one of these operations. This is an overview of the types of actions you can perform. For specific instructions on changing the action for each operation, please see Configure Project Manager.

Drag-and-Drop

When specifying the action for a drag-and-drop operation, first think of the node types you are dragging, and the type of node you are dropping onto. You can then tell the Project Manager what you want to happen when the drop occurs. For example, when you drag a file folder item onto a file folder, you can tell Project Manager whether you want the file moved or copied.

Double-Click

There are more possibilities for the double-click operations. The default for many database object types is to open the 'Describe' window. But this can be changed, per database object node type, to other actions such as 'DDL to clipboard,' 'DDL to file' and 'Load DDL into Editor'. For source code there is also 'Load into Editor.'

Right-click Menu

The right-click menu is configurable as well. You can select which items appear in the menu as well as their order. Note that the bottom portion of the menu is static. Also, for some database object node types, the right-click menu also includes the full Schema Browser right-click menu for that object type.

Related Topics

[Project Manager Overview](#)

[Configure Project Manager](#)

[PM - General Options](#)

[PM - Associations](#)

[PM - Drag and Drop Operations](#)

[PM - Double-click Operations](#)

[PM - Popup menus](#)

[PM - DDL](#)

Copy Nodes Between Projects

If you have more than one project going at once, and need links to the same files, FTP connections, or schemas, you can copy them from one project to another.

This Copy feature applies to second-level nodes: Schemas, Folders, and FTP Folders. It copies the selected nodes and all items below them.

To copy nodes between projects

1. Select the **nodes** you want to copy. You can use **<SHIFT>** or **<CTRL>** to multi-select.
 2. Right-click and select **Copy** from the menu. The Destination Projects dialog box appears. This dialog box has a list of all other Project Folders you have set up in your Project Manager.
 3. Select one or more of the projects. You can use the **All** or **None** buttons to select or clear all of the projects.
 4. Click **OK**. The nodes you have selected are copied to the other projects, and you are returned to the Project Manager.
-

Project Manager Sorting

You can easily sort the items under any node in the Project Manager.

1. Select the **node** you want to sort.
Note: Select only one node at a time. If multiple nodes are selected, none will be sorted.
 2. Right-click and select **Sort**. The nodes directly beneath the selected node are now in alphabetical order.
-

Related Topics

[Searching for Nodes](#)

[Project Manager Overview](#)

[Project Manager Toolbar](#)

Searching for Nodes

When you have your Project Manager configured and stocked with your files and schemas, you can easily find what you have entered. Click anywhere in the left hand tree view and start typing. Toad will search for and highlight the first occurrence of what you type after the cursor.

Formatting Files

You can format your files from within the Project Manager. This lets you more easily convert scripts, procedures, functions, and so on to fit your company's formatting requirements.

Files to be formatted must be included in the Project Manager as nodes. (See [Adding Folder Items](#).)

Note: Formatting is not immediately accessible from the popup menu. You must add it to the menu as described in [Configure Project Manager - Popup Menus](#).

The files are automatically formatted and the results of the formatting process are displayed in the Output window, Formatting Results tab. If there are syntax errors within the code that prevent proper formatting, Toad will list these as well.

To format one file from the Project Manager

1. In the **Project Manager**, select the file you want to format.
2. Right-click and select **Format Files**.

To format multiple files from the Project Manager

1. In the Project Manager, select the files you want to format.

Or

Select the folder or project nodes that directly contain the files you want to format.

2. Right-click and select **Format Files**.
-

Related Topics

[Syntax Errors](#)

[Profiling](#)

Checking Files for Syntax

You can check the syntax of your files from the Project Manager tree. You can check multiple files, or check them one at a time.

Results display in the Output window, on the Syntax Check Results tab.

To check files for syntax errors

1. Select one or more files from the Project Manager tree.

Toad 9.5

Or

Select the folder or project nodes containing the files you want to check.

2. Right-click and select **Check Syntax**.
-

Related Topics

[Formatting Files](#)

[Using the Connection Panel](#)

File to FTP

You can upload a file directly from the Editor to FTP using the Project Manager.

To move a file from Editor to FTP

- From the **Editor**, click and drag the tab of a loaded file from the Editor to an **FTP** node in the Project Manager.
-

Connection Panel

Using the Connection Panel

The connection panel is located in the top panel, just below the [Project Manager toolbar](#).



From the connection panel, you can easily manage your connections. You can:

- Select an active session and drag it into a project folder to create a new schema node
 - Create new connections
 - Execute a quickscript against the selected connections
 - Execute a named sql against the selected connections
 - Copy TNS Names information to the clipboard
 - Create objects across multiple databases
-

Related Topics

[Creating New Connections](#)

[Creating Objects in Multiple Database](#)

[Executing Named SQLs](#)

[Executing QuickScripts](#)

[Copying TNS Names Info to Clipboard](#)

Creating New Connections

You can use the Connection Panel of the Project Manager in several ways to create new connections.

To create a new connection

1. Right-click in the Connection Panel.
2. Select **New Connection**.

To create a quick connection

1. Right-click in the Connection Panel.
2. Select **Quick Connect**.
3. Select **All** to list all the connections you have available

Or

Select a server and then select the connection from the server menu.

4. If the password has not been saved, you will be prompted to provide login information and the [Server Login](#) window appears. Otherwise the connection will be made automatically.
-

Executing QuickScripts

From the Project Manager's Connection Panel, you can execute a any configured [QuickScript](#) against selected connections.

To execute QuickScripts

1. In the ConnectioSn Panel, select one or more connections to execute against.
 2. Right-click and select **Execute QuickScript**.
 3. Select the script you want to execute.
-

Executing Named SQLs

From the Project Manager's Connection Panel, you can execute a named SQL against selected connections.

To execute named SQLs

1. In the Connection Panel, select one or more connections.

2. Right-click and select **Execute Named SQL**.
 3. Select the SQL you want to execute.
-

Creating Objects in Multiple Databases

You can create objects in multiple databases using the Project Manager Connection Panel. This is very useful when you need identical objects in various schemas. Create them at once and save time.

When you create an object in multiple databases, the Create window that is opened corresponds to the lowest Oracle version you have selected. Therefore, if you have selected a connection to an Oracle 8i database and another to an Oracle 10g database, the options on the Create window will be 8i compatible. All DB information loaded into the window, such as the schema list and available data types will be loaded from the lower Oracle version.

This means that the Create is owned by the lowest Oracle version and then the generated SQL is run against the other connections selected in the Connection Panel.

To create objects in multiple databases

1. In the Connection panel, select the connections where you want to create an object.
2. Right-click and select **Multi-database Create**.
3. Select the type of object you want to create:
 4. [Policy](#)
 5. [Policy Group](#)
 6. [Profile](#)
 7. [Resource Consumer Group](#)
 8. [Resource Plan](#)
 9. [Role](#)
 10. [Table](#)
 11. [User](#)
4. Enter the appropriate information in the Create window that appears.
5. Click **Create**.

You can also use the Schedule button to run the scripts against the databases at a later time.

Copying TNS Names Info to Clipboard

You can copy TNS Names information for one or more selected connections into the clipboard. From the clipboard you can paste the information wherever you need it.

To copy TNS Names information

1. Select one or more active connections in the connection panel.
 2. Right-click and select **Copy TNS Names Info to Clipboard**.
 3. Paste where needed.
-

Project Nodes

Project Nodes

Project nodes are the heart of the Project Manager window. They are central to easily organizing your files.

Within each project node you can store links to FTP folders, regular folders, connection links, and database objects. Different project nodes can contain links to the same items. This lets you have, for example, one project for development and one for production, possibly containing links to the same files.

You can:

- [Add a project node](#)
 - [Save a project](#)
 - [Rename a project](#)
 - [Remove a project](#)
-

Adding a Project Node

You can add a project node in two ways.

To add a project node

- Right-click and choose **Add Project**.

Or

Select **Project** from the **Add Item** dropdown on the toolbar.

Note: When you are adding an item from the Schema Browser, you can create a new Project by typing the project name into the Name box instead of choosing from the dropdown list.

Related Topics

[Project Nodes](#)

[Saving a Project](#)

[Renaming a Project](#)

[Removing a Project](#)

Saving a Project

You can save the organization of the Project Manager to a file. This way if you have a project that has gone into maintenance, you can save its settings to a new file, keeping your Project Manager window clear for current projects. Then you can reload it again when you need it. This helps keep your Project Manager window streamlined.

To save a project

- Click the **Save to File**  button on the toolbar to save the contents of the Project Manager with a new filename.

If you have already saved a project, and just want to update it, you can click the save  button on the toolbar instead. The current Project Manager file is also saved automatically when you close the Project Manager window.

Related Topics

- [Project Nodes](#)
- [Adding a Project Node](#)
- [Renaming a Project](#)
- [Removing a Project](#)

Renaming a Project

When a project is first added to your Project Manager, it is called **Toad Project**, but it is created in Rename Mode. You will want to change this to something more appropriate to your work environment. Just type the new name and press <Enter>.

To change a project name

1. Select the **project** in the project hierarchy and press <F2>.
Or
Right-click the **project** and select **Rename**.
 2. Enter a new **project name** and press <ENTER>.
-

Related Topics

- [Project Nodes](#)
- [Adding a Project Node](#)
- [Saving a Project](#)
- [Removing a Project](#)

Removing a Project

You can also remove a project entirely from the Project Manager.

To remove a project from the Project Manager

1. Select or multi-select a project or projects, right-click and select **Remove** from the menu.
2. A confirmation dialog box appears. Click **Yes** to remove the Project Node.

This removes the node and any of the links to items beneath it from the Project Manager. It does not remove your files from your hard drive.

Related Topics

- [Project Nodes](#)
- [Adding a Project Node](#)
- [Saving a Project](#)
- [Renaming a Project](#)

Schema Nodes

You may use several different schemas or users within each project. You can use the Project Manager to access your connections, see if you are connected, and to connect if the connection is not current. You can also configure the Project Manager so that when you drag a schema node into another schema node Toad will automatically run a schema compare on the two.

In addition, you can right-click a schema node for a list of possible actions, including:

- Opening an Editor window
- Opening a Schema Browser window
- Opening a Query Builder window
- Opening a Procedure Edit window
- Connecting to the schema
- Disconnecting from the schema

For other configuration options, see [Configure Project Manager](#).

Database Objects

You can work with database objects from within schema nodes.

Adding

You can add a database object within a schema node. There are several ways to do this, and they depend on the object you are adding. Some objects can be added in one way but not another. See [Database Object Functionality](#) for a list of database objects and how to add them to your projects.

- Right-click the **schema name** and then select **Add|Database Object...**
- Drag-and-drop the object from the Schema Browser to a project node in the Project Manager.
- In the Schema Browser, select the object you want added, right-click and select **Add to Projects window**.

For the last two options, Toad will automatically find any schema node within the selected Project node that matches the current schema in the Schema Browser. If an appropriate node is not found, Toad will create one and add the objects under that schema.

Right-click

The right-click menu displays the Schema Browser right-click menu for the database object you have selected. In addition, it adds the selections you have selected from [Pop up menus](#) below the Schema Browser selections.

Note Property

You can add a Note to any Database Object Node. This note can be displayed as a hint.

Related Topics

[Adding objects to the Project Manager](#)

Database Object Functionality

The Project Manager lets you easily add database objects to your projects. However, some objects can be added only from the Object Browser. The table below describes the possible database objects, how to add them, and what functionality is associated with them at this time.

For Schema Browser accessibility, unless otherwise noted, you can either drag-and-drop the object into the Project Manager, or right-click and select **Add to Project Manager**.

Object Type	How to Add to Project Manager	Drag & Drop Operations	Double-click Operations	Popup Menu Operation
Clusters	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Constraint	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Columns (table)	Cannot Add	N	N	N
DB Link	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Dimension	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Directory	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Function	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Index	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Java Class	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Java Resource	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Java Source	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y
Job	Object Search/Schema Browser/Drag-and-Drop	Y	Y	Y

Library	and-Drop Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Package	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Package Body	Object Search/Schema Browser	Y	Y	Y
Policy	Object Search/Schema Browser/Drag- and-Drop	N	N	N
Policy Groups	Cannot Add	N	N	N
Procedure	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Profile	Drag-and-Drop	Y	Y	Y
Queue	Object Search	Y	Y	Y
Queue Table	Object Search	N	N	N
Recycle Bin	Cannot Add	N	N	N
Refresh Groups	Cannot Add	N	N	N
Resource Groups	Cannot Add	N	N	N
Resource Plans	Cannot Add	N	N	N
Role	Schema Browser/Drag- and-Drop	N	Y	Y
Rollback Segment	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Scheduler Job Classes	Object Search/Schema Browser/Drag- and-Drop	N	N	N
Scheduler Jobs	Object Search/Schema Browser/Drag- and-Drop	N	N	N
Scheduler Window Groups	Object Search/Schema Browser/Drag- and-Drop	N	N	N
Scheduler Windows	Object Search/Schema Browser/Drag-	N	N	N

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Scheduler Schedules	and-Drop Object Search/Schema Browser/Drag- and-Drop	N	N	N
Scheduler Programs	Object Search/Schema Browser/Drag- and-Drop	N	N	N
Scheduler Chains	Object Search/Schema Browser/Drag- and-Drop	N	N	N
Sequence	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Snapshot	Schema Browser/Drag- and-Drop	Y	Y	Y
Snapshot Log	Schema Browser/Drag- and-Drop	Y	Y	Y
Synonym	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
System Privilege	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Table	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Tablespace	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
Trigger	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y
User	Schema Browser/Drag- and-Drop	Y	Y	Y
User Type	Object Search	Y	Y	Y
User Type Body	Object Search	Y	Y	Y
User Collection	Object Search	N	N	N
View	Object Search/Schema Browser/Drag- and-Drop	Y	Y	Y

Folders

Adding Folders

You can add as many folders as you like to a project. Each folder must already exist on your hard drive or the network drive. Adding a folder to the Project Manager maps the folder path.

Note: Refresh folder list functionality is limited for a network folder node. Only the parent directory of the network folder node will be refreshed, but its subfolders and their contents will not be refreshed.

To add a folder

1. Right-click on a **project node** in the left pane of the Project Manager.
2. Select **New|Folder**.
3. Enter the path to the folder in the path box.

Or

Click the drilldown  button and browse to the folder you want to add.

4. Add any [filters](#) in the Filter box.

By default, double-clicking on the folder will open the Windows Explorer to that folder, so you can easily browse through the contents.

You can also add items contained in the folder to the Project Manager window so they are accessible directly. See [Adding Folder Items](#).

Related Topics

[Removing Folders](#)

[Adding Folder Items](#)

[Removing Folder Items](#)

[Filtering Folder Items](#)

[FTP Folders](#)

Removing Folders

You can remove folders from the Project Manager just as easily as you can add them.

To remove a folder

- Select one or more folders, right-click and select **Remove**.

The folders are removed from the Project Manager listing. They are not deleted from your hard drive.

Caution: Be sure you select **Remove** from the right-click menu and not **Delete**. **Delete** will delete your folder entirely if it is empty.

Related Topics

[Adding Folders](#)

[Adding Folder Items](#)

[Removing Folder Items](#)

[Filtering Folder Items](#)

[FTP Folders](#)

Adding Folder Items

Adding folder items to folders you have mapped in the Project Manager makes it easier to open them. You no longer have to open the Windows Explorer, but can open them directly from the Project Manager.

Project Manager automatically names these folders with their entire path name. You can also rename these folders to something more easily remembered within the Project Manager.

To rename a folder

1. Right-click the **folder** and select **Rename**.

Or

Select the **folder** and press <F2>.

2. Enter a new **name** for the folder and click **OK**.

The pathname is retained, but the folder name is now more manageable in the Project Manager.

Related Topics

[Adding Folders](#)

[Removing Folders](#)

[Removing Folder Items](#)

[Filtering Folder Items](#)

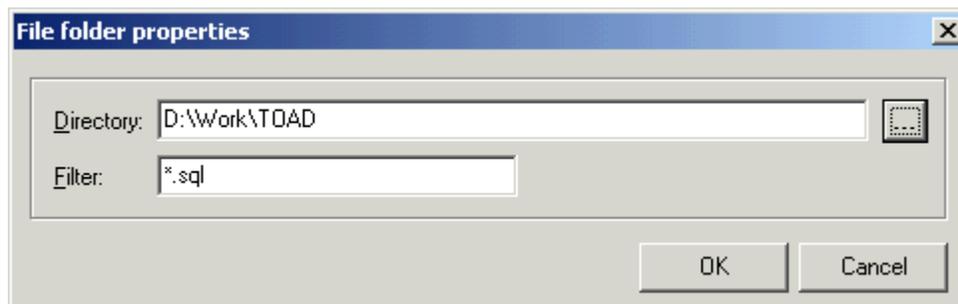
[FTP Folders](#)

Filtering Folder Items

When adding or viewing the properties of a file folder you can filter the file list appearing in the folder. This can be useful if you have many file folder items displayed, and you need to easily find a specific file.

To change file folder properties

1. Right-click the file folder and select **Properties**.



2. You can change the directory information by browsing for it using the drilldown button, or by entering a path directly.

3. Enter filter information in the Filter box using standard DOS wildcard characters. For example, *.txt will display only .txt files, fill* will find only files beginning with the letters "fill" and so on.
 4. Right-click and select **Refresh folder links** from the menu. After a confirmation, all current links will be removed, and only those files that match the provided filter will be created as links under the folder. This does not create new links, but only filters existing links.
 5. Returning to the properties dialog box and restoring it to all files (*.*), and again refreshing it, will restore all your links.
-

Related Topics

[Adding Folders](#)

[Removing Folders](#)

[Adding Folder Items](#)

[Removing Folder Items](#)

[FTP Folders](#)

Removing Folder Items

You can remove folder items from the Project Manager just as easily.

To remove a folder item

- Select one or more items, right-click and select **Remove**.

The folders are removed from the Project Manager listing. However, they are not deleted entirely.

Caution: Be sure you select **Remove** from the right-click menu and not **Delete**. Delete will delete the item entirely.

Related Topics

[Adding Folders](#)

[Removing Folders](#)

[Adding Folder Items](#)

[Filtering Folder Items](#)

[FTP Folders](#)

FTP Folders

FTP folders represent connections to a remote server. These are located as sub-nodes to a [Project Folder](#) you create. You can add a separate folder for each server directory you want mapped.

To add FTP folders

1. Select the project where you want the FTP Folder to reside.
2. Right-click and select **Add|FTP Folder**.
3. Set up an FTP connection as described in [FTP Logon](#).
4. Click **OK**.

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To remove FTP folders

1. Select the **folder** or **folders** you want to remove.
2. Right-click and select **Remove** from the menu.

FTP Folder Actions

When an FTP folder has been added, you can perform several actions from the right-click menu. Right-click the FTP folder and select from:

- Refresh Server Links
- Browse - This opens an FTP connection and lets you browse the contents of the FTP connection. It uses the client dir as the local directory.
- Add Folder item (See below)

Add FTP Folder Items

FTP Folder items represent files on the remote server. Adding them to your FTP folder tells Toad where they are located, and what they are called. When you act on them, you are connecting to the server, downloading the item and editing it. You can then use FTP to send them back to the server.

To add FTP folder items

1. Select the **FTP Folder** where the files are located.
2. Right-click and select **Add|FTP Items** from the menu.
3. Select the files you want to add to your folder. You can easily select all or none by clicking the corresponding buttons.
4. Click **OK**. The files are added to the FTP Folder node you had selected.

To remove FTP folder items

1. Select the folder or folders you want to remove.
2. Right-click and select **Remove** from the menu.

Caution: Be sure to select **Remove** and not **Delete Server File**. Delete Server File will remove the file from your server directory.

Related Topics

[Adding Folders](#)

[Removing Folders](#)

[Adding Folder Items](#)

[Removing Folder Items](#)

[Filtering Folder Items](#)

[FTP Folders](#)

To Do Lists

To Do Lists

You can create a "To Do" list to keep track of your projects and what needs to be completed.

To Do items can be listed under a node, or under another To Do item. So if you need to break a task into its component parts, you can create multiple sub-items.

To create a To Do node

- Over a **Project Node**, right-click and select **Add|To Do List**. The new list appears with the name selected so you can immediately change it.

To create a To Do item

1. Right-click on a **To Do List** or a **To Do Item** and select **Add|To Do Item**.
 2. Name the item.
 3. Right-click on the item and select **Properties**. From here you can:
 4. mark the item completed
 5. add notes about the item
 6. change the due date (the default is three days from the current date)
 4. Click **OK** to accept the changes to the properties.
-

Query Viewer

Query Viewer

The Query Viewer displays currently running background queries, the database where they are running, their current execution time and the SQL. Queries are automatically displayed in their order of execution. From this window you can cancel queries, or display the Editor page where they are running and view them in detail.

The Query Viewer is available as an individual window within Toad, or you can access it from the dockable panel in the Editor.

To access the Query Viewer

- From the **View** menu, select **Query Viewer**.

Or

From the **Editor**, right click, select **Editor Desktop** and select **Query Viewer**.

Query Toolbar

Button	Command
	Cancel Query
	Find Query in Context



Apply [Query Viewer Filter](#)

Clear inactive queries (those queries that do not have active datasets)

Related Topics

[Finding Queries in Context](#)

[Query Viewer Filter](#)

[Using the Query Viewer](#)

Finding Queries in Context

Finding queries in context lets you move to the Editor tab where the query is running and view it there.

To find a query in context

1. In the query viewer grid, select the query you want to find.
 2. Click the **Find Query in Context**  button.
-

Related Topics

[Query Viewer](#)

[Finding Queries in Context](#)

[Using the Query Viewer](#)

Query Viewer Filters

You can easily filter the viewer grid in order to find specific queries.

To filter the viewer grid

1. From the **Query Viewer** toolbar, click the **Filter**  button.
 2. Select the method you want to use to filter the grid:
 3. SQL contains.
 4. Runtimes longer than *n* minutes.
 5. Started in last *n* hours.
 3. Click **OK**.
-

Using the Query Viewer

The query viewer displays queries that have run or are currently running, in grid format.

The grid view includes columns that display:

- Database

- Status
- Start Time
- Stop Time
- Execution Time
- Type
- SQL

The panel below the grid includes two tabs. One displays the SQL that is selected in the grid. The other displays any errors that were encountered while running that SQL.

To view SQL

1. In the grid area of the **Query Viewer**, click on the SQL entry you want to view.
2. In the lower pane of the **Query Viewer**, click the **SQL** tab.

To view Errors

1. In the grid area of the **Query Viewer**, click on the SQL entry you want to view.
 2. In the lower pane of the **Query Viewer**, click the **Errors** tab.
-

Related Topics

[Query Viewer](#)

[Finding Queries in Context](#)

[Using the Query Viewer](#)

SQL Command Recall

SQL Statement Recall (History - F8)

This command opens the SQL Statement Recall window and activates the History tab.

To recall SQL History

- Select the **View|SQL Command Recall|History** menu item, or press <**F8**>.

Toad saves all statements in this list between sessions of Toad, in a file named PERSSQLS.DAT.

Related Topics

[SQL Statement Recall \(Named\)](#)

[Add to Personal SQLs](#)

SQL Statement Recall (Personal)

This command opens the SQL Statement Recall window and activates the Personal SQL tab.

To recall a personal SQL

- Select the **View|SQL Command Recall|Recall Personal SQL** menu item

Note: You can add a statement to this list from the **Editor|Add to Personal SQLs**.

Toad saves all statements in this list between sessions of Toad, in a file named PERSSQLS.DAT.

Related Topics

[SQL Statement Recall \(Named\)](#)

[Add to Personal SQLs](#)

SQL Statement Recall (Named)

Use this dialog box to pick a SQL statement from your named list of SQLs, then copy it back to the Editor window for execution.

To recall a named SQL

-

Opening Script Manager

From File Menu

- From the **Utilities menu**, select **Script Manager**. The Script Manager window appears.

From Toolbar

- On the main toolbar, click the Script Manager (Run Script)  icon. The Script Manager window appears.

Open Script Manager at Startup

You can set Toad to open a Script Manager window instead of an Editor when you start Toad.

To set Script Manager to open at startup

1. From the **View** menu, select **Toad Options**.
 2. In the left panel, select **Windows**.
 3. In the **Script Manager** row, select the **Auto open** checkbox.
-

Related Topics

[StartUp](#)

Scripts Provided with Toad

Several scripts are provided with Toad. Toad installs a folder called ScriptMgr in the User Files directory for easy access to scripts. Script datafile (.sdf) files are generally saved in the same directory as Toad.exe; however, you can save them wherever you wish.

DBA Scripts

The scripts that relate to DBA work are listed in an .sdf (category) file called **DBA.sdf**. This file is installed in the User Files subdirectory. A folder called "DBA" will be placed in the ScriptMgr folder. The DBA related scripts provided by Toad are installed in this folder.

By default, DBA.sdf expects Toad to be installed in "C:\Program Files\Quest Software\Toad for Oracle", which is the default directory for the installation. If this is your location for Toad, you can load DBA.sdf and proceed to use the scripts.

To set script location if Toad is installed elsewhere

1. First load DBA.sdf into the Script Manager.
2. Right-click and select **Batch Directory Change** to change the directory for the scripts. (See [Change all Script Directories](#) for more information.)

Oracle 8i Data Dictionary scripts

The .sdf (category) file **Oracle 8i Data Dictionary.sdf** will be installed into the same directory as Toad.exe.

By default "Oracle 8i Data Dictionary" expects Oracle 8i and its associated scripts to be installed in "D:\ORACLE\ORA817", which is a reasonable location for an Oracle 8i installation. If this is your location for Oracle 8i, you can load the Oracle 8i Data Dictionary and proceed to use the scripts.

However, if Oracle 8i is installed elsewhere:

- first load **Oracle 8i Data Dictionary.sdf** into the Script Manager
- click **Move** and change the directory for the scripts (See [Change all Script Directories](#) for more information.)

Related Topics

[Script Manager Overview](#)

[Opening Script Manager](#)

[Script Manager Toolbar](#)

Script Manager Toolbar

The toolbar lets you perform several actions with just a click of the mouse.



Button	Command
	Runs the selected scripts. Click the drop down list to run with another application, such as Quest ScriptRunner.
	Load a datafile. Use the dropdown menu to select from most recently used files.
	Create new Script Datafile .



Save Datafile.



Open the [script options](#) window.



Select the [connections to use](#) when running scripts. You can select multiple connections from the drop down list.

Managing Script Datafiles

Create New Script Datafile

Script datafiles let you store your scripts for later retrieval. Each datafile can contain multiple scripts. You can use these datafiles to organize your scripts into categories, making it easier for you to find the script you need at any time.

Datafiles are ASCII text files, with one line per script. Datafiles are, by default, stored with an extension of *.sdf*.

To create a datafile

1. Open **Script Manager**. (See [Overview](#).)
2. In the **Script Manager** toolbar, click the **Create New Script Datafile**  button.
3. In the box, enter the **name** you want to use for the datafile: for example, "Toad Setup Scripts".
4. Click **OK**.

You are immediately taken to the [Add Script Entry](#) window. You do not need to add scripts at this time, you can wait and add them later.

Appropriate Script Datafile names

All characters used in the name must be acceptable Windows filename characters. For example, you could not name a category **SQL *Plus Scripts**, because the * is not a recognized character. If you attempt to name a datafile using one of these characters, the file will not be created.

Save Datafile As

You can save the current datafile with a new name.

To save a datafile with a new name

1. Open the datafile you wish to rename.
2. In the **Script Manager** toolbar, click the **Save As**  button.
3. Enter the **new name** for the datafile.

Note: This does not delete the original datafile.

Related Topics

[Deleting a Script Datafile](#)

Deleting a Script Datafile

You can delete script datafiles from the Windows Explorer, as you would any other file.

Using Connections with Scripts

You can use different connections with scripts. These can be saved with each datafile, or as a global value for use with all scripts. If the directory contains the path to Toad, it is stored as a relative directory.

Connections you use for execution can be stored as defaults and saved in the datafile.

To use the datafile defaults

1. Click the **Connections to execute against**  dropdown button.
2. Select **Set to datafile defaults**.

To save a datafile default

1. Load the datafile to which you want to add connection defaults.
 2. Click the Script Manager options button.
 3. In the **Default Execution Connections** area, click **Add** and add the connections you want these scripts to execute against.
 4. Click **OK**.
 5. Click the **Save datafile as**  button.
 6. Name the datafile and click **Save**.
-

Related Topics

[Script Manager Options](#)

[Save Datafile As](#)

[Manage Script Entries](#)

Using the Script Grid

The script grid works in much the same way as many of the other data grids in Toad. To edit the data in the script grid, see [Edit Script Entries](#).

To access the script grid

- Click the **Scripts** tab.

Reorder Grid

You can reorder the script entries using the arrows above the grid. While clicking in the column header will temporarily sort the grid, using these buttons will **permanently** change the order. This allows you to specify the order scripts will execute. Selected scripts execute from the top of the permanent grid order to the bottom.

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To reorder scripts in the grid

1. Select the **script** you want to move.
2. Click  to move the script up in the list.
3. Click  to move the script down in the list.

Print Grid

You can print the script grid for any datafile.

To print the script grid

1. Open the **datafile** you want to print.
2. From the **Grid** menu, select **Print Grid**. The [Report Link Designer](#) appears.
3. Select the options you want and click **OK**. The grid prints.

Script Grid Toolbar

The script grid toolbar is located on the Scripts tab of the Script Manager. From this toolbar, you can act on any of the scripts listed within the grid.



Button	Command
	Add scripts to datafile
	Edit scripts
	Delete selected scripts
	Combine selected scripts
	Schedule scripts to run
	Move row up
	Move row down
	Group by

Adding Script Entries

After you have created script datafiles, you can add scripts to the categories.

To add a script entry

1. Open the datafile where you want to file the script.

2. Click the **Scripts** tab, and then the **Add Scripts**  button
3. Enter the **Use** in the **Use box**. For example, if you use this script for quality assurance, enter "QA". More than one script can share the same description. Press **Tab** or click in the **Description box**.
4. Enter a **Description** of the script. More than one script can share the same Description.
5. Click **Add**. The Save As dialog box appears. This allows you to browse for the scripts you want to add with this Description and Use. Select the scripts you want (you can multi-select by holding down <Ctrl> as you click them) and then click **Save**.

The scripts you have selected are listed in the filenames area of the Add Script Entry dialog box.

6. Click **OK**. The scripts are now added to the grid. The Use and Description are the same for all the scripts you added.
-

Editing Script Entries

Once scripts have been entered into categories you can edit the entries.

To edit entries

1. From a datafile that contains scripts, click in a **script name** and click the **Edit Script**  button, or right-click and select **Edit**.
2. Change the **description**, **use**, or **pathname** for the script.

Note: The script must exist in the new location before you change the pathname.

Removing Script Entries

You can easily remove script entries from a datafile.

To remove script entries

1. From a datafile that contains scripts, select and highlight the scripts you want to remove.
2. Click the **Delete**  button on the **Scripts** tab toolbar, or right-click and select **Remove Scripts**.
3. Confirm that you want to permanently remove the scripts from the datafile by clicking **Yes**.

Note: This does NOT remove scripts from your hard drive. Only from the datafile you have selected.

Changing Script Directories

You can change the directory for all the scripts in a selected category.

To change all script directories

1. In the script column of the script grid, select a script use (top) node.
2. Right-click and select **Batch Directory Change**.

Toad 9.5

3. Enter the new pathname of the directory.

Or

Click the drill down button and select the correct directory.

4. Click **OK**. The directory for all the scripts in this category is changed.

Note: Using this command does not actually move scripts from one directory to another. If the directory column is pointing to the wrong directory, this procedure allows you to easily point to the correct directory to access your scripts.

Scheduling Scripts

You can easily schedule scripts to be run at a later time or date.

Note: Scripts scheduled for execution will execute using Quest ScriptRunner.

To schedule scripts

1. In the **Script Manager**, select the scripts you want to schedule.
 2. Click the **Schedule**  button in the Scripts tab toolbar.
 3. If you have selected multiple scripts, you are asked to decide to combine or not. Click **Yes** or **No**.
 4. Complete the scheduling process using the [Add Task wizard](#) that appears.
-

Related Topics

[Task Scheduler](#)

[Script Manager Overview](#)

Grouping Scripts

You can choose how you want to view the script grid.

Group by <none>

Choosing None does not group your scripts at all. They are simply listed in the order you have chosen to display them (this order is, by default, the order they were added to the datafile, but you can change it by using the move up and move down buttons in the script grid toolbar).

Group by Use

Choosing Use groups all of your scripts by the Use field that you have designated. Each use field is displayed as a node, with scripts listed below it. This is one of the most powerful selection options.

Group by Extension

Choosing Extension groups all your scripts by extension. Each extension (.sql, .prc, etc) becomes the top node and all scripts are grouped under it.

Group by Directory

Choosing Directory groups all your scripts by their directory. The directory becomes the top node and all scripts are grouped under it.

Viewing Scripts

Once you have scripts entered in your Script Manager, you can view your scripts easily.

To view a script

1. From the **Script Manager**, Scripts tab, open the datafile where your script is located.
2. If necessary, expand the top-level node to display your scripts.
3. Select the scripts you want to view.
4. Right-click and select **View** from the menu.

A copy of Notepad opens for each script you have checked.

Loading Datafiles

You can load a datafile of a Script Manager category. This can be useful if someone sends you a category and the scripts used in it.

To load the datafile (category)

1. In the main **Script Manager** toolbar, click the **Open Datafile**  button.
2. Select the **datafile** you want to load. The extension for datafile is **.sdf**.

The loaded file appears in the Script Manager. Check the pathnames in the Directory column of the new scripts. If these pathnames do not correspond to how your computer is organized, you will have to either change the pathnames or move the scripts, or the scripts will be inaccessible. (See [Edit Script Entries](#) for more information.)

Combining Script Entries

You can use the Script Manager to combine two or more scripts into one. The scripts must reside in the same datafile to combine them.

Once combined, the new script is automatically added to the active datafile.

To combine scripts into a single script

1. From the **Script Manager**, select the datafile where your scripts reside.
2. In the script grid, select the scripts you want to combine.
- Click the **Combine Scripts**  button on the Scripts tab toolbar.

Note: the default pathname is the same as that of the scripts you have combined. If you want to put the scripts in a different directory, you can enter a full pathname [here](#).

Execute Scripts

Execute Scripts using Options

When you execute a script from the Script Manager you can set various options that define how the script is run.

To select scripts to execute

1. From the **Script Manager**, select the **datafile** you want to work with.
2. Select the scripts you want to run.

To set options

1. In the Script Manager toolbar, click the **Options**  button.
2. Set options and click **OK**.

Execute the Scripts

You can execute scripts from the Script Manager within Toad or by using Quest ScriptRunner.

You can execute scripts against any of your databases. If you do not have a live connection, Toad will open a connection and close it when the script has completed running.

To execute the scripts

1. Select the scripts you want to run.
2. Right-click and select **Run**.

Or

Right-click and select **Run in Quest Scriptrunner**.

Script Manager Options

Execution options

Execute scripts via Editor

Select this if you want to spool the SQL into the Editor and display script output in the Script Output tab.

If this is selected, Spool Output to File will not be available.

Spool Output to File

Select this to spool the SQL to a file instead of displaying output in the editor.

If this is selected, Execute Scripts via Editor will not be available.

Use single file

This option sends all the output to one file that you name. Enter the **filename** in the appropriate box, including the entire path.

Use separate file for each script (autonamed)

This option creates a separate file for each script. In this case, Toad will name the files for you. You do, however still need to specify the directory where you want the files saved.

Caution: Files are saved as the original script name, with a .txt extension. If your original scripts had a .txt extension and you choose the directory where they are located, they will be overwritten by the new files.

Filename

You can specify a filename for the output file to use. This can be either global or specific to the datafile (.sdf) you use.

Global

Specify a name for the output file to use with all datafiles, or select one from the browse window by clicking the **browse**  button.

Filename

Specify a name for the output file to use with the selected datafile, or select one from the browse window by clicking the **browse**  button. A line will be included in the datafile that includes SPOOL= path you specified.

Default execution connections

You can have Toad run code from various datafiles on one or more connections. In this box, add the connections you want to run scripts against to this list and the connections will be included in the datafile (.sdf). In the future, any script you run from this datafile will be run on all connections you have listed by default.

Note: You can choose to run scripts on default connections from the toolbar by selecting **Set to datafile defaults** on the connections dropdown.

If this box is empty, Toad will run scripts on the connections chosen in the connection dropdown.

QuickScripts

Load only (no execute)

Select this option to load scripts you select from the QuickScripts list into the SQL editor without executing them.

The default is unchecked.

Use single editor

This option appends all scripts into one Editor window. This is the default setting.

Use separate editor for each script

This opens a new Editor window for each script you execute.

Run from Grid

If you do not want to go through the options steps (see [Execute Scripts using Options](#)) you can run your scripts directly from the grid, using the Editor or Quest ScriptRunner.

To run a script from the grid

1. From the **Script Manager**, select the category that houses the script you want to execute.
2. Right-click the script, and select **Run** from the menu, or click the run button on the toolbar.

Note: If you are running a long script and want to continue working as it executes, you may prefer to select **Run using Quest ScriptRunner**. This will allow you to run the script in the background and continue working.

3. **SQL Editor** or **Quest ScriptRunner** opens the selected script and executes it.
-

Quick Scripts

Configure QuickScripts List

The QuickScripts list is a dropdown menu found on the Script Manager toolbar  button and the File|Run Script menu. See [Running and Loading QuickScripts](#). Before you can run a QuickScript, you must configure the QuickScripts List.

To configure the QuickScripts list

1. Scripts can be selected from more than one datafile. From the **Script Manager**, select the datafile where the script resides.
2. In the script grid, click in the **On File Menu** check box for the scripts you want listed. This adds them to the QuickScript list.

Note: To list all of scripts in a Use group, select the box for that node. All scripts within it are selected.

3. Repeat steps 1 and 2 for all datafiles and scripts you want to list.
-

Running or Loading QuickScripts

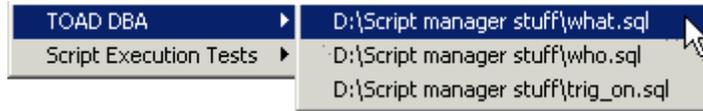
Once QuickScripts are configured from the Script Manager, you can run or load them from the toolbar or the File menu.

To run a QuickScript from the toolbar

1. On the main toolbar, click the Script Manager dropdown  (the arrow). A list of datafiles appears.



2. Select one of the datafiles. A list of scripts appears.



3. Select the script from the list.

The script is run in a new [Editor](#) tab.

To run a QuickScript from the File menu

1. Select **File | Run Script**.
2. Select a datafile from the submenu.
3. Select the script you want to run.

The script is run in a new [Editor](#) tab.

To load a QuickScript from the toolbar or the file menu

1. In the [Script Manager Options](#) page, make sure **Load Only (no execute)** is selected.
 2. Follow the instructions listed above for running QuickScripts. Scripts will be loaded instead of run.
-

Monitoring

Toad Server Statistics

You get to this dialog box by the **Database|Monitor|Server Statistics** menu item.

Use this dialog box to view information about how the Oracle instance is performing. This dialog box is composed of the following tabs:

Analysis

To set the warning light threshold values, see [How to create your Toad for Oracle\Temps\toadstats.ini file](#).

To see a list of required permissions, see V\$ Tables Required: [Server Statistics Analysis](#).

Waits

To see a list of required permissions, see V\$ Tables Required: [Server Statistics Waits](#).

Latches

To see a list of required permissions, see V\$ Tables Required: [Server Statistics Latches](#).

Sessions

To see a list of required permissions, see V\$ Tables Required: [Server Statistics Sessions](#).

Instance Summary

To see a list of required permissions, see V\$ Tables Required: [Instance Summary](#).

Session Browser Overview

The Toad Session Browser lets you easily view and work with sessions. Information on all sessions is organized in grid form, and the session that opened the Session Browser is displayed in **red**.

From the Session Browser you can:

- Organize session views
- View detailed information
- Kill sessions
- Start traces
- Stop traces
- View locks being held or acquired by sessions
- View transaction information for online rollback segments

To access the Session Browser

- From the **Database|Monitor** menu, select **Session Browser**.

Related Topics

[Kill Sessions](#)

[Trace Sessions](#)

[Session Browser Toolbar](#)

[Grouping Sessions](#)

SQL Monitor

You can use the SQL Monitor to monitor SQL statements that are working on your database. This is a separate utility from Toad, and you can get help with it when you open it by pressing <F1>, or selecting **Help|Contents**.

ADDM/AWR

ADDM/AWR

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The Oracle 10g Automatic Database Diagnostic Monitor (ADDM) provides a holistic tuning solution. ADDM analysis can be performed over any time period defined by a pair of Automatic Workload Repository (AWR) snapshots taken on a particular instance, as long as the following requirements are met:

- Neither snapshots encountered any errors during creation and neither have been purged.
- There were no shutdown and startup actions between the two snapshots.

ADDM and AWR reporting can document both problem areas and areas of the database that are running smoothly. For full information about ADDM/AWR reporting, please see your Oracle documentation.

Toad's ADDM/AWR window in Toad lets you:

- Generate reports (including [ADDM Report](#), [AWR Report](#), [AWR SQL Report](#), [AWR Diff Report](#), [ASH Report](#)).
- Copy reports to clipboard.
- Print reports.
- Save reports to file.
- Manage Snapshots (view stats, create, delete).
- Manage Baselines (view, create, delete).

ADDM also documents the non-problem areas of the system. For example, wait event classes that are not significantly impacting the performance of the system are identified and removed from the tuning consideration at an early stage, saving time and effort that would be spent on items that do not impact overall system performance.

In addition to problem diagnostics, ADDM recommends possible solutions. When appropriate, ADDM recommends multiple solutions for the DBA to choose from. ADDM considers a variety of changes to a system while generating its recommendations.

To access the ADDM/AWR window

- From the **Database** menu, select **Monitor|ADDM/AWR**

Related Topics

[Generate an ADDM Report](#)

[Working with ADDM Reports](#)

[Using the QuickFilter Box](#)

Generating an ADDM Report

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily generate an ADDM report from Toad.

To generate an ADDM report

1. From the **Database** menu, select **Monitor|ADDM/AWR**.
 2. Click the ADDM/AWR Report tab.
 3. Select the appropriate Instance from the Instance drop down box.
 4. Click a **drill down**  button to select:
 - Starting snapshot
 - Ending snapshot
 - Baseline range

Note: To shorten the list of snapshots, you can select **Filter by ID** and use the [Quickfilter](#) box to filter the list.
 4. Click **OK**.
 5. Click the **Generate Report**  button on the Report Generator toolbar. The report displays in the tab below the selection fields.
-

Related Topics

[ADDM Report Generator](#)

[Working with ADDM Reports](#)

[Using the QuickFilter Box](#)

Working with ADDM Reports

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

When you have generated an ADDM report, you can, of course, read it on screen in Toad.

Alternately, you may want to work with it in another format. You can move an ADDM report in several ways.

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To copy the ADDM report to the clipboard

- Run an ADDM report, and then click the **Copy to Clipboard**  button.

To print the ADDM report

- Run an ADDM report, and then click the **Print**  button.

To save the ADDM report to a file

- Run an ADDM report, and then click the **Save to File**  button.

Related Topics

[ADDM Report Generator](#)

[Generate an ADDM Report](#)

[Using the QuickFilter Box](#)

Generating an AWR Report

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily generate an AWR report from Toad.

To generate an AWR report

1. From the **Database** menu, select **Monitor|ADDM/AWR**.
2. Click the ADDM & AWR Reports tab.
3. Select the appropriate Instance from the Instance drop down box.
4. Click a **drill down**  button to select:
 5. Starting snapshot
 6. Ending snapshot
 7. Baseline range

Note: To shorten the list of snapshots, you can select **Filter by ID** and use the [Quickfilter](#) box to filter the list.
5. Click **OK**.
6. Click the **Generate Report**  button on the Report Generator toolbar.
7. Select the **AWR Report - HTML Format** tab or the **AWR Report - Text Format** tab to view the report in either of those formats.

Related Topics

[ADDM Report Generator](#)

[Working with ADDM Reports](#)

[Using the QuickFilter Box](#)

Generating an AWR SQL Report

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

If you are using Oracle 10.2 or higher, you can easily generate an AWR SQL report from Toad.

To generate an AWR SQL report

1. From the **Database** menu, select **Monitor|ADDM/AWR**.
 2. Click the **AWR SQL Report** tab.
 3. Select the appropriate Instance from the Instance drop down box.
 4. Click a **drill down**  button to select:
 5. Starting snapshot
 6. Ending snapshot
 7. Baseline range

Note: To shorten the list of snapshots, you can select **Filter by ID** and use the [Quickfilter](#) box to filter the list.
 5. Click **OK**.
 6. Click the **drill down**  button and select a **SQL ID**.
 7. Click the **Run AWR Report**  button on the AWR Report Generator toolbar.
 8. Select the **HTML** tab or the **Text** tab to view the report in either of those formats.
-

Related Topics

[ADDM/AWR](#)

[Working with ADDM Reports](#)

[Generating an AWR Report](#)

[Using the QuickFilter Box](#)

Generating an AWR Diff Report

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

If you are using Oracle 10.2 or higher, you can easily generate an AWR differences report from Toad.

To generate an AWR Diff report

1. From the **Database** menu, select **Monitor|ADDM/AWR**.
2. Click the **AWR Diff Report** tab.
3. In the Compare This area:

Toad 9.5

1. Select the appropriate Instance from the Instance drop down box.

2. Click a **drill down**  button to select:

3. Starting snapshot
4. Ending snapshot
5. Baseline range

Note: To shorten the list of snapshots, you can select **Filter by ID** and use the [Quickfilter](#) box to filter the list.

3. Click **OK**.

4. In the To This area:

1. Select the appropriate Instance from the Instance drop down box.

2. Click a **drill down**  button to select:

1. Starting snapshot
2. Ending snapshot
3. Baseline range

Note: To shorten the list of snapshots, you can select **Filter by ID** and use the [Quickfilter](#) box to filter the list.

3. Click **OK**.

4. Click the **Run AWR Diff Report**  button on the AWR Diff Report Generator toolbar.

5. Select the **HTML** tab or the **Text** tab to view the report in either of those formats.

Related Topics

[ADDM/AWR](#)

[Working with ADDM Reports](#)

[Generating an AWR Report](#)

[Using the QuickFilter Box](#)

Generating an ASH Report

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily generate an Active Session History (ASH) report from Toad.

To generate an ASH report

1. From the **Database** menu, select **Monitor|ADDM/AWR**.
2. Click the ASH Report tab.
3. Select the appropriate Instance from the Instance drop down box.
4. Select the Starting date and time from the appropriate boxes.
5. Select the Ending date and time from the appropriate boxes.

6. Click the **Run ASH Report**  button on the ASH Report Generator toolbar.
 7. Select the **HTML** tab or the **Text** tab to view the report in either of those formats.
-

Related Topics

[ADDM Report Generator](#)

[Working with ADDM Reports](#)

[Using the QuickFilter Box](#)

Data Select Dialog

Use the Data select dialog to select the snapshot to use in the selected report. You can use this dialog to select starting and ending snapshots, or a baseline snapshot.

Filtering the Data Grid

You can filter the data grid using the Quickfilter box at the bottom of the dialog.

To filter the grid

1. Select the **Filter by** check box.
2. Enter your filter criteria in the [Quickfilter](#) box below the check box.

Selecting data

Select data by clicking on a row in the data grid. Only one row may be selected at one time.

To select data

1. Select data by clicking on a row in the data grid.
2. If desired, edit the query, or insert variables.
3. Click **OK**.

Editing the SELECT query

When you have selected a row, you can edit the query before it is sent to Oracle. You should limit yourself to editing the WHERE and ORDER BY clauses.

To edit the query

1. Select data.
 2. Click the **Edit Query** button.
 3. Edit the **Where** or **Order By** clause.
 4. Optionally, click the **Check** button to check your query for syntax errors.
 5. Click **OK**.
-

Related Topics

[ADDW_AWR_Baseline_Manager](#)

[Creating_a_Baseline](#)

Snapshot Management

ADDM/AWR Snapshot Management

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

The Snapshot Management tab lets you easily manage your snapshots.

The Snapshot Management tab is divided into two areas: collection settings, and snapshot details.

Collection Settings

Collection settings are the settings that Oracle uses to define how often to take a snapshot and how long to keep it.

The format is +dd hh:mm:ss:nnnnnnn.

Snapshot Interval

Snapshot interval specifies the interval at which Oracle will take snapshots. The default is one hour: +00 01:00:00:000000

Retention

Retention specifies how long the snapshot will be maintained. The default is seven days: +07 00:00:00:000000

Top N SQL

For the Top SQL to flush for each SQL criteria, you can choose to use:

- Default - Uses Top 30 for statistics level TYPICAL, and Top 100 for statistics level ALL.
- Maximum - Captures the complete set of SQL in the cursor cache.
- Specify - Uses the number you you specify as described below.

If you choose Specify, enter the value into the number box. This value is not affected by the statistics or flush level. It will override system default behavior for AWR SQL collection.

Snapshots

In the Snapshots area you can

- [View Snapshot Statistics](#).
- [Create a New Snapshot](#).
- [Drop a Snapshot Range](#).

The options change with the selection you make.

Related Topics

[ADDM/AWR](#)

[ADDM/AWR Create New Snapshot](#)

[ADDM/AWR Drop Snapshot Range](#)

[ADDM/AWR View Snapshot Statistics](#)

[ADDM/AWR Baseline Manager](#)

View Snapshot Statistics

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

From the Snapshot Management tab you can view aggregate Snapshot statistics for snapshots on the current connection. In addition, if you are connected as SYS, you can also deallocate unused AWR space or shrink AWR objects.

To view snapshot statistics

1. From the ADDM/AWR window, click the Snapshot Management tab.
2. In the Snapshots area, click the number of the snapshot for which you want to see statistics. Statistics display to the right of the list of snapshot numbers.

To deallocate unused AWR space

1. From the ADDM/AWR window, click the **Snapshot Management** tab.
2. In the Snapshots area, click the **Deallocate Unused AWR Space**  button.

Note: You must be connected as SYS to perform this function.

To shrink AWR objects

1. From the ADDM/AWR window, click the **Snapshot Management** tab.
2. In the Snapshots area, click **View Snapshot Statistics**.
3. Click the **Shrink AWR Objects**  button.

Related Topics

[ADDM/AWR](#)

[ADDM/AWR Create New Snapshot](#)

[ADDM/AWR Drop Snapshot Range](#)

[ADDM/AWR Snapshot Management](#)

[ADDM/AWR Baseline Manager](#)

Create New Snapshot

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

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You can create a new snapshot from the ADDM/AWR window.

To create a new snapshot

1. From the ADDM/AWR window, click the **Snapshot Management** tab.
2. In the Snapshots area, click the **Create New Snapshot**  button.
3. Select either Flush Level: Typical
Or

Flush Level: All

4. Click **OK** to create the snapshot.

An information window displays listing the Snapshot ID of the new snapshot: for example, "Snapshot ID 6517 has been created."

5. Click **OK**.
-

Related Topics

[ADDM/AWR](#)

[ADDM/AWR Drop Snapshot Range](#)

[ADDM/AWR Snapshot Management](#)

[ADDM/AWR View Snapshot Statistics](#)

[ADDM/AWR Baseline Manager](#)

ADDM/AWR Drop Snapshot Range

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily drop a snapshot range.

To drop a snapshot range

1. From the ADDM/AWR window, click the **Snapshot Management** tab.
 2. In the Snapshots area, click **Drop Snapshot Range**.
 3. Beside the Starting Snapshot box, click the drill down  button.
 4. In the [Data Select Dialog](#), select the starting snapshot and click **OK**.
 5. Beside the Ending Snapshot box, click the drill down  button.
 6. In the [Data Select Dialog](#), select the ending snapshot and click **OK**.
 7. Click **Execute** to drop the range.
-

Related Topics

[ADDM/AWR](#)

[ADDM/AWR Create New Snapshot](#)

[ADDM/AWR Snapshot Management](#)

[ADDM/AWR View Snapshot Statistics](#)

[ADDM/AWR Baseline Manager](#)

Baseline Management

ADDW/AWR Baseline Manager

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can use the Baseline manager to view and control various baselines.

You can view established baselines from the navigator on the left side of the window. Baselines are listed by name.

To view a baseline

- In the Baselines navigator, click on a baseline name.

The baseline information displays in the right hand area, and includes:

- Baseline ID.
 - Baseline Name.
 - Starting Snapshot ID.
 - Ending Snapshot ID.
 - Starting Snapshot time.
 - Ending Snapshot time.
-

Related Topics

[ADDM/AWR](#)

[ADDM/AWR Create New Snapshot](#)

[ADDM/AWR Drop Snapshot Range](#)

[ADDM/AWR Snapshot Management](#)

[ADDM/AWR View Snapshot Statistics](#)

Creating a Baseline

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily create a new baseline range of snapshots from the ADDM/AWR window.

When creating a baseline, the Baseline ID, starting Snapshot Time and ending snapshot time are set automatically.

To create a new baseline

1. From the ADDM/AWR window, click the **Baseline Management** tab.

Toad 9.5

2. Click the Create New Baseline  button.
 3. Enter a name for the baseline in the Baseline Name box.
 4. Enter a starting Snapshot ID, or click the drill down  button and select one from the [Data Select Dialog](#).
 5. Enter an ending Snapshot ID, or click the drill down  button and select one from the [Data Select Dialog](#).
 6. Click **OK**.
-

Related Topics

[ADDM/AWR](#)

[Baseline Manager](#)

[Dropping a Baseline](#)

Dropping a baseline

Note: This Toad feature is only available in the commercial version of Toad in either the Professional Edition or with the optional Quest DBA Module.

You can easily drop a baseline from the Baseline Management tab.

To drop a baseline

1. In the Baselines navigator panel, select the baseline you want to drop.
2. Click the Drop baseline  button.
3. Choose to either
Drop Baseline only

Or

Drop Baseline and all Associated Snapshots
by selecting the appropriate option.

Note: Dropping all associated snapshots could impact other baselines.

4. Click **OK**.
-

Related Topics

[Baseline Manager](#)

[Creating a Baseline](#)

Database Browser

Database Browser

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you see information across multiple schemas or servers. You can select multiple schemas or servers; view a variety of summary information for them; perform pings and tns pings on them; or open common Toad windows for them.

Note: Some V\$ synonyms are required for this feature. See Configuration [V\\$ Tables Required Database Browser](#) for more information.

Access this window from the **Database Menu | Monitor | Database Browser**.

Tree view

The left side tree view is initially created from your tnsnames file and then saved into a file called DatabaseBrowser.tdb in your Toad directory. You can add or delete server and schema nodes to make the tree more manageable. You can also set properties for individual nodes by selecting a node, right-clicking it and choosing **Properties**. You can also perform the following operations on nodes:

- Connect
- Disconnect
- Associate with a schema (valid only for schema nodes)
- Rename
- Remove
- View and modify properties, including default schema and choosing to auto connect

These operations can be performed on multiple nodes at the same time. For instance you can connect to multiple servers by selecting them and choosing **Connect**. If you choose **Connect** while on a server node, connections will be created for **all** the database nodes under that server.

Summary Information

Select a node or group of nodes from the tree view. On the right hand side of the window, summary information is displayed for the connections you've selected.

In some cases you can get "roll up" information for all of your databases or servers at once. For example

- the **Space Usage** tab displays totals for Megs Allocated, Used and so forth
- the Datafile IO tab displays the Total IO of all your selected databases.

Tabs provide access to the summary information as follows:

- Overview
- Instance
- Database
- Options
- Parameters
- Sessions
- Top Sessions
- Datafile IO

Toad 9.5

- RBS Activity
- Space Usage

The Instance and Database tabs offer two views: single record and grid view. The single record view is useful on these tabs because of the number of columns displayed.

The Top Sessions tab has a SQL tab at the bottom. This tab allows you to view the full, formatted SQL statement of the current record selected on the Grid tab.

Database Browser Toolbar

The database browser toolbar provides easy access to many related Toad features.



Button	Command
	New Server
	New Database
	Refresh Data
	Perform Ping or TNS Ping on selected objects
	Open a Schema Browser for selected databases
	Open an Editor for selected databases
	Find Object
	Open Server Side Object Wizard
	Open Database Health check
	Open Database Monitor

Database Monitor

Toad Database Monitor

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You get to this window from the **Database|Monitor|Database Monitor** menu item.

The Database Monitor lets you monitor database performance with nine charts: Logical IO, Physical IO, Event Waits, Sessions, Call Rates, Miss Rates, SGA Memory Usage, Shared Pool, and Indexed Queries %. There is a horizontal scroll bar to allow you to see all the charts.

The Database Monitor must be launched in order to work. So, you can launch it in the morning, minimize the window, and later in the day if a threshold is crossed you will be alerted.

Note: Access to some V\$ tables are required to use this option. To see a list of these permissions, see [Database Monitor](#).

RAC Connection

Within the database monitor, all information is provided as per a single connection. However, it is summarized or aggregated for all the instances that compose the RAC cluster. For example, looking at SGA memory - if each RAC instance is 150 MB, and you have two RAC instances, this column will display 300MB.

SYS view warning

When you first log into the Database monitor, you may get a warning dialog box stating that you are missing the "SYS view, X_\$KSLLT" view. Without this view, the Latch series on the Miss rates chart will be zero.

- If this dialog box appears, you can check the "**Don't show this message again**" check box in the lower left corner and it will not display again. In order to obtain data for the latch series, connect as SYS and execute the following SQL:


```
CREATE OR REPLACE VIEW x_$ksllt AS SELECT * FROM x$ksllt;
GRANT SELECT ON sys.x_$ksllt TO PUBLIC;
```
- Click **Close** to continue using the Database Monitor.

Setting Options for the Monitor

You can set up numerous thresholds and alerts in the View|Toad Options|[Monitors](#) page.

Each item in the series list corresponds to one line on the graph. You can enter the minimum and maximum threshold values.

Zoom

You can zoom in on a graph and scroll through it.

To zoom a graph

- Right-click the graph you want and select **Zoom**. The graph appears in a new window. You can scroll this window to see more of the graph.

Print

You can print a graph from the Monitor.

To print a graph

- Right-click the graph you want to print and select **Print**. The job is automatically sent to the printer.

Save

You can save a graph in any of three formats:

- XLS
- HTML
- Bitmap

To save a graph

1. Right-click the graph you want to save and select Save.

The chart you right-clicked on will be selected.

2. Select the format the file to have.
3. Enter a filename for the graph, or use the default.
4. Click **OK**.

Database Monitor Toolbar

The database monitor toolbar provides a location to easily work with features of the entire database monitor.



Icon	Command
	Change Active session.
	Flush the Cache.
	Options
	Refresh Data.
	Alerts.
	Save chart
Instance	If you are connected to a RAC instance, use this drop down menu to select the instance you want to monitor.

Database Monitor Email Alerts

You can view the alerts that have been sent.

To view email alerts

1. Click the **Alerts** button. The Alerts window appears with a list of all alerts that have occurred since you either opened the monitor or last cleared the window.

At the bottom of the window notice of any emails that were sent appears.

2. Click **Clear** to clear the alerts, or click **Close** to close the window.

In addition, you can choose to enable or disable alerts. If you have enabled email alerts, you will need to set up your email options from the View|Options| [Email](#) window.

Flushing the SGA or Buffer Cache

You can flush the SGA or the buffer cache easily.

- Click the Flush cache drop down  button and select either **Flush SGA** or **Flush Buffer Cache** (Oracle 10g only).
-

Database Monitor Options

Refresh rate

The graphs and the monitor refresh at an adjustable interval.

- Select the appropriate interval from the dropdown **Refresh rate** menu. If you have checked the **auto refresh check box**, the window will automatically refresh at the interval you select.

You can also refresh the window manually by clicking the **Refresh** button.

Window

Use the Window box to specify how much graph data to display in the graphs. Options include one, two, six, twelve and twenty-four hours.

Note: The zoom amount will be twice the selected number.

TNS Ping check box

If checked, Toad will ping the Oracle server (using TNS ping) before it runs the query to refresh the data on the charts.

Ping check box

If checked, Toad will perform a TCP/IP ping to the Oracle server before it runs the query.

Database Probe

Database Probe Overview

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Toad Database Probe is a real-time monitoring window that offers a large collection of alerts. You can also create your own alerts.

The database probe does not automatically do a full refresh upon opening. If you would like it to do so, you can change the probe [Settings](#).

To access the database probe

- From the Database menu, select **Monitor|Database Probe**.

Note: Some V\$ synonyms are required for this feature. See Configuration|[V\\$ Tables Required|Database Probe](#) for more information.

The probe window is divided into five zones, or collections of display controls. These roughly correspond to the layout of the window. See the [Settings](#) topic.

The database probe has its own [toolbar](#) as well as status bar. A warning  icon can appear to the left of each data control when an alert is tested and fired and you have chosen that area of the screen to show an icon.

When an alert fires and the warning icon appears, click the icon to display a dialog box revealing details about the alert. This dialog box has a group box caption showing the name of the alert. The detail window shows the alert description. Below the detail window the alert expression displays, and a check box offers the possibility to turn the alert off at this point.

The Database Probe alert definitions and options are kept in an INI file called "DatabaseProbe.INI".

Reading the probe information

Information gleaned from the database regarding the alerts is displayed as follows:

- The information displayed reflects standard Oracle statistics. For more information about what the areas on the database probe represent, see your Oracle documentation.
- The result of **Number/number** represents used/max
- For example, 2/170 is 2 total sessions out of a possible 170.
- - represents a NULL value or "invalid for the current connection version"

Upgrading definitions and options

The Database Probe alert definitions and options are kept in an INI file called "DatabaseProbe.INI".

Future upgrades to Toad may include an updated DatabaseProbe.ini file as well. If you have made changes to your alerts, you may want to back them up in a separate file. When a new DatabaseProbe.ini is provided, you can compare the files (see [Compare Files](#)) and only add the parts of the new ini file that you want to include in your alerts.

Database Probe Toolbar & Status Bar

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Toolbar



Icon	Command
	Open Quest Spotlight (if you have it installed) to the active connection.
	Select a different session.
	Refresh all five zones and reset the refresh timers. The dropdown offers a list of



each zone. Selecting an individual zone will refresh just that zone.
Flush SGA or Flush Buffer Cache (Oracle 10g only).



Display the Settings dialog box.

Status bar

The status bar displays the names of queries as they are executing during zone refreshes. It also displays the connection string for the active window connection.

Database Probe Settings

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

From the Settings dialog box of the Database Probe, you can change several types of settings for the Database Probe. These include refresh rates, alerts, and several miscellaneous settings.

Refreshes

The Refresh tab of the Settings dialog box allows the user to set a separate refresh rate for each zone, or no refresh at all. The available refresh rates are 15 seconds, 30 seconds, 1 minute, 5 minutes, and 15 minutes.

Available zones include:

- Sessions, processes, PGA, block gets/mods, efficiency
- SGA

Note: The Lock check box in the SGA area is only applicable on non-Windows servers.

- DBWR, LGWR, ARCH, Phys reads/writes
- Files
- Overhead

The Active Alerts column displays the number of *active alerts* for the affiliated zone. An alert can be active or inactive. It is only active alerts that potentially impact the performance of a zone refresh.

Perform a full refresh upon opening

Check this box to force the Database Probe to refresh when you open it. The default is unchecked.

Alerts

The Alerts tab of the Settings dialog box displays all the alerts currently in Probe, including

- name
- description
- active or inactive (Only active alerts are tested during their relevant zone refresh.)

An alert is a user-defined event. It reads the data on the main window and issues a warning by a display icon. An alert consists of an expression representing a formula. The formula is then used to determine whether to fire the alert.

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For example, you may want an alert to fire if the number of active sessions matches the number of total sessions. An Alert can be **inactive**; inactive alerts are not tested when operands are refreshed. Alerts can be **tested**, **fired**, and **extinguished**.

You can add alerts, edit or delete selected alerts, activate or deactivate them individually or all at once.

Activate or deactivate alerts by clicking in the check box in the Active column. Alternately, click the Activate All or Deactivate All buttons to the right of the alert grid.

Tested

When a refresh occurs on an operand that is being used by an alert, then the alert for that operand is tested. This means the alert expression is evaluated.

Evaluation consists of a process whereby the operand identifiers in the expression are replaced with their on-screen data values and any embedded queries within the expression are executed and the resulting value is substituted.

- If the resulting expression evaluates to TRUE, then the Alert is **fired**.
- If it evaluates to FALSE, the Alert is **extinguished**.

Fired

This happens when an alert is tested and evaluates to TRUE. When an alert fires, the warning display icon for it becomes visible.

Extinguished

This is what happens when an alert is tested and evaluates to FALSE. When an alert is extinguished the warning icon for it is hidden.

Alert Map

You can check the map of alerts by clicking the **Show Map** button.

The Alert Map is a convenient way to see the operands on the main window that have alerts associated with them. When the cursor is passed over alert icons, the alert expression for it is displayed as the hint text.

Misc

Click the **Misc** tab to set the gauge colors (the two bar graphs) as well as the warning levels.

Adding and Editing Alerts

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To add an alert

1. From the Database Probe window, click the **Settings**  button on the toolbar.
2. Click the **Alerts** tab.
3. Click **Add**. Enter the information in the dialog box to create an alert as described below.

General Area

Name

Enter the alert name. This is used to identify the name of the alert for display purposes within the Alerts grid in the Settings dialog box. Alert names must be unique.

Active

This determines whether the alert is tested during relevant zone refreshes.

Alert position

This is the on-screen position of the icon, appearing when the alert fires. A dropdown list of possibilities is offered. Alternately, you can choose from a graphic display:

- Click the drilldown  button, to access the Alert Icon Selection window. This window looks like the main probe window but with all available alert icons visible.
- Click on one of the available icon positions to use. The current one, if one has already been selected, blinks.

When an icon is clicked, this dialog box is closed and the name for that icon is chosen in the Alert position drop down.

Note: Only unused alert positions or inactive alert positions are available choices.

Description

Enter a description of the alert.

Refreshes before computing

Each alert is associated with one or more zones. The zone(s) associated with an alert is determined by the Probe operands used in the Alert Expression. When an alert is associated with more than one zone, the zone with the fastest refresh rate determines when the alert fires. This value determines how many actual refreshes of that zone must occur before the alert is tested.

For example, if the alert is associated with a zone. This zone is refreshed every 15 seconds and you may not want the alert to be tested every time (testing each time can slow down the refresh). It may be more useful to have the alert tested every 2 minutes, and you would enter an 8 here.

Expression Builder

Expressions are the driving force behind an alert; the expression tells Toad what should be tested when it tests an alert.

An alert expression consists of one or more Probe operands, one or more queries (this must be enclosed in double-quotes), and operators listed. The relational operator in the center of the expression determines how the sides of the expression are compared to each other to determine if the evaluation is true.

- Each operand, query, and operator in the expression must be separated by spaces.
- Query SELECT statements must be enclosed in double-quotes and **must** return a numeric value in the first field. This value is then used as the substitution value in the expression. An example of this is the provided alert named "Mismatched Redo Log Size".

To use the expression builder drag-and-drop one or more Probe operands from the treeview into the left and/or right sides of the expression. The operands are grouped by zone. Operators can also be dragged and dropped, or typed directly.

Finally, choose a relational operator. Click **Test** to test the expression to see if the math expression evaluator can turn the string expression into a mathematical formula.

Index Monitoring

Index Monitoring

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Oracle versions 9i and later provide a means of monitoring indexes to determine whether or not they are being used. You can then drop unused indexes to eliminate unnecessary statement overhead.

Information such as monitoring status, start time, end time and usage are available in the Index Monitoring grid. Whenever you enable monitoring, Toad resets these statuses for the specified index.

You can always see your own indexes. To see another user's indexes you must have access to the SYS.OB\$, SYS.IND\$, SYS.USERS\$ and SYS.OBJECT_USAGE views and the ALTER ANY INDEX privilege.

Index Monitoring Toolbar



Button	Command
	Monitor Indexes - Select from monitoring all indexes or selected indexes.
	End monitoring indexes - Select from ending all indexes or selected indexes.
	Display the create script for selected indexes
	Drop selected indexes
	Refresh grid data
Indexes Owned By	Select the schema that owns the indexes you want to view

Activating Index Monitoring

You can monitor all indexes, or only selected indexes.

To monitor all indexes

1. From the **Database** menu, select **Monitor | Index Monitoring**.
2. Select a schema from the **Indexes Owned By** drop down menu.
3. Click the **Begin Index Monitoring** drop down and select **Begin monitoring all indexes**.

To monitor selected indexes

1. From the Database menu, select **Monitor | Index Monitoring**.

2. Select a schema from the **Indexes Owned By** drop down menu.
 3. Select one or more indexes in the data grid.
 4. Click the **Begin Index Monitoring**  drop down and select **Begin monitoring selected indexes only**.
-

Deactivating Index Monitoring

When you have completed monitoring for a period, you can turn off Index Monitoring.

To deactivate index monitoring on all indexes

1. From the Database menu, select **Monitor|Index Monitoring**.
2. Select a schema from the **Indexes Owned By** drop down menu.
3. Click the **End Index Monitoring**  drop down and select **End monitoring all indexes**.

To deactivate index monitoring on selected indexes

1. From the DBA menu, select **Index Monitoring**.
 2. Select a schema from the **Indexes Owned By** drop down menu.
 3. Select one or more indexes in the data grid.
 4. Click the **End Index Monitoring**  drop down and select **End monitoring selected indexes only**.
-

Instance Manager

Instance Manager

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Instance Manager is designed to allow you to check on the status of the various databases you can access.

The main window allows you to change the general options for the Instance manager as described below. Additional options, including options for email alerts, may be found in the [Toad Options|Instance Manager window](#).

To access the Instance Manager

- From the **Database** menu, select **Monitor|Instance Manager**.

Refresh Rate

Select the appropriate time frame to automatically refresh your data. If the Auto refresh data check box is unchecked, it doesn't matter what is selected here, as the data will not be refreshed.

Auto refresh data

Checked, this option automatically refreshes the data according to the rate you have set in the Refresh Rate dropdown. Unchecked, you will have to refresh the data manually.

Polling Priority

The thread that is cycling through the database will be assigned an operating system priority that you select from the dropdown. If you select Idle the thread will only execute when the system is idle; Windows will not interrupt other threads.

Refresh Button

Click this button to refresh the info about your databases before the automatic refresh. Or, if you have automatic refresh unchecked, click Refresh to refresh the data regardless.

Tabs

In addition, there are three tabs to see the status.

The **Status tab** displays the status of the Node, Listener and Database. See also: [Instance Manager - Status Tab](#).

The **Status change history** displays any changes made to your databases in a grid format.

The **Detail log** displays all reports from the Server Manager or SQL.

Buttons

You can Startup a database, Shutdown a database, or Alter the state of a database using the buttons at the bottom of the Status Tab.

Note: The database to be shutdown/started requires a password file and `remote_login_passwordfile=EXCLUSIVE` must be set in the pfile (typically INIT.ORA or INIT<sid>.ORA. If you have created the database with the New Database Wizard, it will already have this file built. If you created the database in another manner, you will need to be sure it has the password file set properly.

In addition, you can

- **Build init.ora...** - This button builds an init.ora file for the currently selected username.
 - **Refresh current** - This button manually refreshes the display of current connections.
-

Related Topics

[Instance Manager - Alter](#)

[Instance Manager - Shutdown](#)

[Instance Manager - Startup](#)

[Instance Manager - Status Tab](#)

Instance Manager - Status Tab

The Status tab in the Instance Manager displays the status of your databases.

Data Status

Toad pings the Listener, the Node, and the Database and displays the results as follows:

Icon	Meaning
	Unknown. Toad can't determine the status. For example, no database connect information is specified, and Instance Manager cannot test the status of the database.
	Could not connect. <ul style="list-style-type: none"> • Database: an Oracle test connection failed. • Listener: tns ping did not return a response. • Node: unable to ping the server.
	Connected. <ul style="list-style-type: none"> • Database: the database is started, mounted, and open. • Listener: tns ping successfully pinged and listener is up. • Node: server successfully pinged and node up.
	Started. This checkmark is only seen in the Database column, when the database has been started, but not mounted or opened.
	Mounted. This checkmark will only be seen in the Database column, when the database has been started and mounted, but is not currently open.

You can select one of the various database connections accessible from your machine and adjust the Startup, Shutdown, or Alter information for checking the instances.

Checking a Database

In order to retrieve information about a particular database, you must enter login information for that database. Toad will use this information to check that the database is up. The connection will then be immediately closed.

To enter login information:

1. Click in the **login info for database test box** for the appropriate database. A dropdown menu appears with previous login information.
2. Select one of the **previous connections** OR select **New**.
3. If you selected **New**, the New connection dialog box appears. Enter the appropriate information in the Username and Password boxes and then click **OK**. The dialog box closes, and the connection is entered in the box.
4. Click **Refresh** to force Instance Manager to check the database immediately.

Related Topics

[Instance Manager](#)

[Instance Manager - Alter](#)

[Instance Manager - Shutdown](#)

[Instance Manager - Startup](#)

Instance Manager – Startup

You can start databases from the Instance Manager in several different modes. Be aware, however, that Instance Manager uses SQL*Plus to start up and shut down databases.

Caution: Because of this, you cannot start up an Oracle 7 database from an Oracle 8i or above client. This is because SQL*Plus is used to start up and shut down databases from an Oracle 8i or above client, but SQL*Plus cannot start up or shut down Oracle 7 servers.

To start a database

1. From the **Instance Manager's Status tab**, select the **server/database** you want to start.
2. Click **Startup**.
3. Enter a **username** and **password** that can connect as SYSDBA or as SYSOPER.

Note: Passwords are only saved if **View|Toad Options|Oracle|Save passwords for Oracle connections** is checked.

4. Select **SYSDBA** or **SYSOPER** from the dropdown.
5. Select the **startup options** you want to use. See below for examples.
6. Enter the **full pathname** for the parameter file you want to use, or click **Browse** and select it from the browse window.

Note: If you have shut down this database from Toad, Toad has saved the parameter file in the Toad directory. This file is the default pathname when you restart the database.

7. Click **OK**. The database starts.

Startup Options

Open

Select open to open a database completely. This is the standard selection and allows all authorized users to log in and use the database.

Mount

Select Mount if you want to mount the database but not actually Open it. Mount allows you to do some basic Oracle alterations that you cannot perform if the database is completely opened.

Nomount

Select Nomount if you want to put the database into the started mode.

Force

If you try to Startup an instance of a database that is already running, the command will result in an error. In some cases, however, you may want to restart a database, for example during debugging or under abnormal circumstances.

To do this, check the **Force** box. This will shut down the current Oracle instance using the Shutdown mode Abort. Then Toad will continue with its startup procedures.

Exclusive

If **Exclusive** is checked, the database can only be mounted and opened by the current instance. It cannot be opened simultaneously by multiple instances. Exclusive cannot be used with SHARED, PARALLEL, OR NOMOUNT.

If no mounting option is specified, EXCLUSIVE will be assigned by default.

Unchecked, the database can be opened simultaneously by multiple instances, making SHARED, PARALLEL and NOMOUNT possible.

Related Topics

[Instance Manager](#)

[Instance Manager - Alter](#)

[Instance Manager - Shutdown](#)

[Instance Manager - Status Tab](#)

Instance Manager - Shutdown

In order to shut down a database, you must have SYSDBA or SYSOPER privileges. Be aware, however, that Instance Manager uses SQL*Plus to start up and shut down databases.

Caution: Because of this, you cannot shut down an Oracle 7 database from an Oracle 8i or above client. This is because SQL*Plus is used to start up and shut down databases from an Oracle 8i or above client, but SQL*Plus cannot start up or shut down Oracle 7 servers.

Note: Access to some V\$ tables are required to use this option. To see a list of these permissions, see [Instance Manager Shutdown](#).

To shut down a database

1. From the **Status tab**, select the **database** you want to shut down, and then click **Shutdown**.
2. Enter the **Username** and **Password** in the appropriate boxes and select either **SYSDBA** or **SYSOPER** from the dropdown menu.

Note: Passwords are only saved if **View|Toad Options|Oracle|Save passwords for Oracle connections** is checked.
3. Choose the **Oracle mode** you want to use to shut down the database: **Normal**, **Immediate**, or **Abort**
4. Click **OK**. The dialog box closes and the database shuts down. This is displayed in a status line in the lower right corner of the Instance Manager window as it is occurring.

When the Database has been shut down, an entry is made in the Status change listing, and the Server Manager or SQL report is appended to the Detail Log.

When you shut down a database, Toad creates a folder called DBA in the Toad directory. In that folder, Toad stores an *.ora* file for the parameters that are not default parameters. In addition, a file called *startupshutdownlog.txt* is created and contains the contents of the detail tab.

When Instance Manager performs a shut down, it queries the v\$parameter table to build an INIT.ORA file for subsequent startups. This file is stored in Toad\DBA and is named pfile_SID.ora (where SID is the database alias). To perform this query, a temporary database connection is created, using the shutdown connection information provided on the "shutdown" dialog box.

Note: On 7.3.4 clients, if the database is not already open, in other words, if it is unmounted or mounted, this SYSDBA/SYSOPER temporary connection is not supported. Thus, on **7.3.4 clients you cannot shut down a database that is not open**. ALTER operations continue to work, however, because they use server manager only, and do not attempt to create this temporary database connection.

Related Topics

[Instance Manager](#)

[Instance Manager - Alter](#)

[Instance Manager - Startup](#)

[Instance Manager - Status Tab](#)

Instance Manager - Alter

Using the Alter command from the [Instance Manager](#) allows you to alter the state of the selected database.

In order to alter the status of a database, you must have SYSDBA or SYSOPER privileges.

To use the alter command

1. From the **Status tab**, select the **database** you want to change status, and then click **Alter**.
 2. Enter the **Username** and **Password** in the appropriate boxes and select either **SYSDBA** or **SYSOPER** from the dropdown menu.
Note: passwords are only saved if **View > Options > Oracle > Save passwords for Oracle connections** is checked.
 3. Choose the **operation** you want to perform on the database. You can either **Mount** or **Open** the database.
Note: If the database is in **Start** mode, you must manually mount the database before you can open it. In order to open the database, mount it, then select it in the Status tab and select Alter again to open it.
-

Related Topics

[Instance Manager](#)

[Instance Manager - Shutdown](#)

[Instance Manager - Startup](#)

[Instance Manager - Status Tab](#)

Session Browser

Session Browser Overview

The Toad Session Browser lets you easily view and work with sessions. Information on all sessions is organized in grid form, and the session that opened the Session Browser is displayed in **red**.

From the Session Browser you can:

- Organize session views
- View detailed information
- Kill sessions
- Start traces
- Stop traces
- View locks being held or acquired by sessions
- View transaction information for online rollback segments

To access the Session Browser

- From the **Database|Monitor** menu, select **Session Browser**.
-

Related Topics

[Kill Sessions](#)

[Trace Sessions](#)

[Session Browser Toolbar](#)

[Grouping Sessions](#)

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Related Topics

[Kill Sessions](#)

[Trace Sessions](#)

[Session Browser Toolbar](#)

[Grouping Sessions](#)

Session Browser Toolbar

The Session Browser toolbar lets you configure your Session Browser.



Button	Command
	Change active session
	Refresh data
Filter: <none>	Filter sessions
Refresh (secs) 30	Set the refresh rate (in seconds) for Auto Refresh
<input type="checkbox"/> Auto refresh	Toggle auto refresh
<input checked="" type="checkbox"/> Auto fetch details	Toggle auto fetch of details.

Flip the Session Browser Layout

The Session Browser default is laid out in two vertical panes, the top containing the tree view and the other containing details. If this makes it too difficult to view all the provided information, you can flip the layout so that the panes are beside each other.

If you choose to flip the form layout, references to the top pane will now refer to the left pane, and bottom pane to the right pane.

To flip the form layout

- From the main **Session Browser** toolbar, click the **Flip Form**  button.

Viewing Sessions

Viewing Sessions

There are potentially thousands of sessions in a database at any one time. It is therefore practical to organize and present them for easier management.

The left side of the Session Browser displays one or more columns queried from V\$SESSION. From this panel, you can

- Group the rows returned from V\$SESSION in seven different ways
- Filter the rows to display a smaller subset of rows

Sessions Toolbar



Button	Command
	Kill Session
	Trace ON
	Trace OFF
	Filter Sessions
	Group By
	Visible columns
	Flip layout of window
	Refresh detail panel
Limit...	Limit a selected column to your filter to

Grouping Sessions

Grouping sessions is a matter of choosing which field you want to use to view sessions.

For example, you choose to view all the sessions for a given user, and the top pane tree will be organized by user.

You can group your sessions by

- program through which the session is running
- user
- session status
- server on which the session is running
- session type
- resource consumer group
- operating system user

To group sessions

- Right-click in the top pane and choose **Group by**.
Or

Select the drop-down **Group by**  button.

The tree will refresh and group sessions according to the column you have chosen, with the caption of the first column updated to reflect the new organization.

Filtering Sessions

Filtering Sessions

You can filter the sessions shown in the top panel in two ways: user defined filters or static filters.

User Defined Filters

User defined filters represent either a condition or a subquery which is performed on the result set. You define the criteria and name it. It is then saved to disk in a file called **Toad_SESSBROWFILTERS.INI** which resides in the same directory as TOAD.INI.

Static Filters

You can also choose a static filter. A static filter is a pre-defined, read-only filter which is used in combination with a user-defined filter.

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To create and manage user defined filters

- Click the **Filter**  button on the **Sessions** tab.

Left Side Panel

The left side of the Filters dialog box displays a list of currently defined filters.

Minimum version

When a filter is created, the list of columns which have been included in the expression is parsed and checked against the known list of columns for the various Oracle versions.

If you choose a column which is not in an earlier version of Oracle, the expression will be evaluated and the minimum Oracle version required will be stored as part of the filter. When a user opens the Session Browser, only filters which are valid for the current Oracle connection are presented in the drop down filter list at the top of the window.

Right Side Panel

The right side shows the filter expression as it has been evaluated by the Session Browser, and in essence represents the query which will be executed to populate the top panel tree view in the Session Browser. This area is read-only.

For convenience, the name and location of the filters INI is shown in the status bar of this window.

Adding a User Defined Filter

You can define your own filters to organize your sessions.

To add a filter

1. Enter a name in the Filter Name box. This should be descriptive enough that the filter is easily identifiable.
2. Enter the expression in the Expression box.

3. When you have created the expression, click **Test** to build a query around it and show the results in the Filter Test window. This is a simple way to ensure you have built a query expression with correct syntax and that you are getting the result set you expect.
4. When you have a filter completely defined, click **OK** to save it to the `Toad_SESSBROWFILTERS.INI` file.

Features of the Add Filter dialog box

Expression box

You can use freeform text or use the selection boxes beneath it to drag-and-drop or double-click elements to include in the expression.

Columns

The columns tree displays all the columns for each of the three views that can be included in the filter. When selecting columns from the tree view, an alias is prefixed onto the column name according to its originating view.

View	Prefix
V\$SESSION	.s
V\$PROCESS	.p
V\$SESS_IO	.io

Note: If you manually type columns into the expression box, this alias convention must be followed for the filter to work.

Lookup

The Lookup button performs a distinct select of the values for the column on the underlying view. For example, if you want to restrict the sessions returned for a list of users, you could select the Username column under the session tree view node and click **Lookup**.

You can have multiple lookup windows open at once. This window can be useful for large lists or for number columns on which you want to perform a range check, as it will display the lower and upper limits currently in the database.

To use lookup

- Select a **column** in the columns area and click **Lookup**.

A small stay-on-top window appears, containing the values found in the column. From this small window you can:

- double-click values to copy them to the expression box
- drag and drop values into the expression box
- multi-select and then drag-and-drop the selected values into the expression box
In the case of string values, the values will be delimited by single quotes when copied to the expression box.

Editing a User Defined Filter

You edit a user defined filter in much the same way as you add a new one. Any part of the filter can be edited, including the name.

To edit a user defined filter

- From the Session Browser Filter dialog box, select the **filter** you want to edit and then click **Edit**.

When the Edit Filter dialog box displays, you can use the same tools described in the [Adding a User Defined Filter](#) topic.

Deleting a User Defined Filter

You can easily delete a user defined filter, whether it is one you have created or a standard filter provided with Toad.

To delete a user defined filter

1. From the Session Browser Filters dialog box, select the **filter** you want to delete and then click **Delete**.

You will be prompted to confirm that you want to permanently delete this filter.

2. Click **OK**.

Note: If you edit or delete standard filters they will be removed from the `toad_sessbrowfilters.ini` file. It is recommended that that you keep a backup of this file if you change these.

Static Filters

A static filter is an internal condition which can be applied on its own or in conjunction with a user defined filter.

To apply a static filter:

- Click the **Filter dropdown**  button (click the **arrow**) and select one of the following:
 - Exclude NULL and SYSTEM OS Users
 - Exclude parallel slaves

When you select a static filter that filter is marked with a check and the filter icon turns red.

You can select more than one static filter at a time, and they can be combined with a user defined filter (in which case they are included as an AND condition at the end of the [user defined filter](#) expression).

Exclude NULL

```
( (s.USERNAME is not null) and (NVL(s.osuser,'x') <> 'SYSTEM') and (s.type <> 'BACKGROUND') )
```

Exclude slaves

```
(s.ownerid = 2147483644)
```

For a definition of parallel slaves, please see the topic on [parallel slave processes](#).

Parallel Slave Processes

Oracle can parallelize certain SQL operations. This involves breaking the task into smaller units, each of which are handled by a separate process. These separate processes show up in the V\$SESSION view yet they cannot be killed or traced, as they are owned by the processes which spawned them. On the left side tree view they appear as subnodes under the process which owns them.

Parallel slave processes are the only nodes which appear on the third level in the tree.

Note: When a top-level node in the treeview (such as program name) is selected, the detail tabs do not automatically show information for the sessions for parallel slaves. If you want to see details for a parallel slave, you will need to select the master session or the slave itself.

When a parallel slave process is fetched from the pool of available slaves, they appear in V\$SESSION until the task is complete and then they return to the pool.

An example query which creates these processes might be:

```
select /*+ parallel(x,4) parallel(y,4) */ * from all_objects x, all_objects y;
```

Slaves appear in V\$SESSION with an ownerid which is not equal to 2147483644. That is, all non-slave sessions have an ownerid of 2147483644. For slaves, the value of ownerid is a 4 byte value, the low-order 2 bytes of which represent the session number of the owning session and the high order bytes are the query coordinator.

There is a static filter which can prevent these from appearing in the tree (see [Static Filters](#)).

Viewing Information

Sessions

Selecting Columns to Display

Most of the columns from V\$SESSION can be included for display in the left side tree view of the Session Browser.

If you have selected more than one column, you may need to scroll to view them. Columns may be rearranged by dragging and dropping them in the location you want. However, the first column cannot be repositioned, and you cannot drag a column to replace the first column.

To display V\$SESSION columns

1. Select the **Sessions** tab.
2. Follow one of the methods listed below:
3. Right-click in the top panel tree view, select **Visible Columns** and then select the column you want to display. From the right-click menu, columns must be selected individually.
4. Click the **Visible Columns**  button on the toolbar to select multiple columns at once.

Calculated V\$SESSION column

Included in the list is one calculated column as well: Last_call. This is computed as:

```
SYSDATE-Last_call_et
```

Last_call_et is the number of seconds since the last session call and Last_call is a more useful presentation of this value. Last_call essentially tells you how idle a connection has been.

Viewing Sessions Detail Information

The right side of the Session Browser reflects detail information for the selected sessions on the left side. You can select one session, or multiple sessions to view aggregate information.

To view sessions information

- In the top panel, click the **Sessions** tab. Select one or more sessions.

The right side displays tabbed pages that let you see detail information on the following subjects:

- [Session](#)
 - [Locks](#)
 - [Long_Ops](#)
 - [RBS Usage](#)
 - [Statistics](#)
 - [Waits](#)
 - [Process](#)
 - [IO](#)
 - [Current Statement](#) (only available if you select a single session)
 - [Open Cursors](#)
 - [Access](#)
-

Session Details

Session details are provided using the following query:

```
SELECT * FROM V$SESSION WHERE {currently selected left side SIDs}
```

You can use the tabs at the bottom of the Session page to select single view or multi- view.

Single Record View

The single SID view provides you with more columns of information about the selected session.

To view information for a single record

1. In the top panel, select the **session** you want to view.
2. On the bottom panel, click the **Session** tab.
3. At the bottom of the page, click the **Single** tab.

Multi Record View

The multi-record view provides you with aggregate information for all selected sessions.

To view information for multiple records

1. In the top panel, multi-select the **sessions** you want to view. All sessions must be within the same node.
 2. On the bottom panel, click the **Session** tab.
 3. At the bottom of the page, click the **Multi** tab.
-

Process Details

Process details are provided using the following query:

```
SELECT * FROM V$PROCESS WHERE {currently selected left side process addresses}
```

If you select a single session from the top panel, you can use the tabs at the bottom of the Process page to select single view or multiple view.

Single Record View

The single record view provides you with more columns of information about the selected session.

To view information for a single record

1. In the top panel, select the **session** you want to view.
2. On the bottom panel, click the **Process** tab.
3. At the bottom of the page, click the **Single** tab.

Multi Record View

The multiple record view provides you with aggregate information for all selected sessions.

To view information for multiple records

1. In the top panel, multi-select the **sessions** you want to view. All sessions must be within the same node.
 2. On the bottom panel, click the **Process** tab.
 3. At the bottom of the page, click the **Multi** tab.
-

Related Topics

[Session Browser overview](#)

IO Details

IO details are provided using the following query:

```
SELECT * FROM V$SESS_IO WHERE {currently selected left side SIDs}
```

If you select a single session from the top panel, you can use the tabs at the bottom of the IO page to select single view or multi- view.

Single Record View

The single record view provides you with more columns of information about the selected session.

To view information for a single record

1. In the top panel, select the **session** you want to view.
2. On the bottom panel, click the **IO** tab.
3. At the bottom of the page, click the **Single** tab.

Multi Record View

The multi- record view provides you with aggregate information for all selected sessions.

To view information for multiple records

1. In the top panel, multi-select the **sessions** you want to view. All sessions must be within the same node.
 2. On the bottom panel, click the **IO** tab.
 3. At the bottom of the page, click the **Multi** tab.
-

Waits Details

You can use the waits details to provide possible tuning considerations for your database.

The page consists of various columns selected from V\$SESSION_WAIT and V\$SESSION_EVENT.

Note: The WAIT_TIME column will contain a value of -2 on platforms that do not support a fast timing mechanism. If you are running on one of these platforms and you want this column to reflect true wait times, you must set the TIMED_STATISTICS parameter to TRUE. Remember that doing this has a small negative effect on system performance

To view details about waits

1. Select a **session** or **multiple sessions**.
2. Click the **Waits** tab to view the resources or events for which the selected sessions are waiting.

You can sort the waits data by clicking in the column header.

Current Statement Details

Use this page of the [Session Browser](#) to see the current SQL statement for the selected session. You can only view data for one selected session at a time. If you select more than one session, the message "Multiple sessions selected" will appear in the data area.

Current Statement toolbar

The toolbar on the Current Statement tab lets you manipulate the statement in several ways.

Button	Command
	Copy script to Clipboard
	Load script in Editor
	Tune Statement using SQL Tuning/Optimizer

Viewing Statement Details

To view statement details

1. Select a **session** from the top panel.
 2. Click the **Current Statement** tab to display the current statement for the selected session.
 3. Click the **Explain Plan** tab to display the explain plan for the current statement, for tuning or troubleshooting purposes.
 4. Click the **Information** tab to display data from the V\$SQL view, which contains statistical data on the shared SQL area.
-

Open Cursors Details

Use this page to see data from V\$OPEN_CURSOR, which lists cursors which each selected session has opened and parsed. It can show data from multiple sessions at once.

To view open cursors details

1. Select one or more sessions in the top panel tree view. The statements containing the cursors opened and parsed display in the bottom panel.
 2. Click the **Explain Plan** tab to see an explain plan for the currently selected statement in the **Open Cursor** data grid above it, for tuning or troubleshooting considerations.
 3. Click the **Information** tab to see data from the V\$SQL view, which contains statistical data on the shared SQL area.
-

Access Details

This page displays data from V\$ACCESS, and lists objects in the database currently locked by the selected sessions.

To view access details

1. Select one or more sessions in the top panel tree view.

2. Click the **Access** tab.
-

Locks Details

User locks and system locks are displayed here. For user locks, transaction, user and blocking locks are shown. This data is queried from V\$LOCK.

Note: Information displayed by the following procedure is individual database information. For information about viewing aggregate locks details, see the [Viewing Locks Aggregate Information](#) topic.

Types of Locks

In the locks page, locks are separated into two groups: Transaction, DML & PL/SQL locks; and Blocked or Blocking locks. Blocking and Blocked locks are dependent upon the transaction selected in the top area.

In the bottom part of the page you can choose to see locks that are blocking you or locks that are blocked by you for the selected user.

To view lock details

1. Click on the **Sessions** tab, if it has not been selected.
2. Select one or more sessions from the sessions tree view in the top panel.
3. In the bottom panel, click the **Locks** tab.

Note: You may have to scroll through the tabs on the bottom panel to see the Locks tab.

To view user locks

- At the bottom of the Locks page, select the **User** tab.

To view system locks

- At the bottom of the Locks page, select the **System** tab.
-

RBS Usage Details

Select this tab to display transaction information for online rollback segments for the selected sessions. It is queried from SYS.V_\$TRANSACTION and SYS.V_\$ROLLNAME.

Information provided by this procedure is for individual RBS usage information. For aggregate information, see [Viewing RBS Usage Aggregate Information](#).

To view RBS usage details

1. Click on the **Sessions** tab, if it has not been selected.
2. Select one session from the sessions tree view in the top panel.
3. In the right hand panel, click the **RBS Usage** tab.

Note: You may have to scroll through the tabs on the right hand side to see the RBS usage tab.

Long Ops Details

This is data from V\$SESSION_LONGOPS for the currently selected sessions. Oracle defines long ops as operations that run for longer than six seconds in absolute time, including some backup and recovery functions, statistics gathering, and query execution. For more information about what is included in Long Ops, please see your Oracle documentation.

To view Long Ops details

1. Click on the **Sessions** tab, if it has not been selected.
2. Select one or more sessions from the sessions tree view in the top panel.
3. In the bottom panel, click the **Long Ops** tab.

Note: You may have to scroll through the tabs in the bottom panel to see the Long Ops tab.

Percent Column Calculation

The **Percent** column is calculated as:

```
decode(totalwork, 0, 0, round(100 * sofar/totalwork, 2))
```

Statistics Details

This tab displays data from V\$SESSTAT, which is session statistics for the currently selected sessions.

To view statistics details

1. Click on the **Sessions** tab, if it has not been selected.
2. Select one or more sessions from the sessions tree view in the top panel.
3. In the bottom panel, click the **Statistics** tab.

Note: You may have to scroll through the tabs on the bottom panel to see the Statistics tab.

You can sort the waits data by clicking in the column header.

Locks

Viewing Locks Aggregate Information

User locks and system locks are displayed here, depending on the tab you select at the bottom of the page.

Note: Information displayed here is aggregate database information. For information about viewing locks details for individual sessions, see the [Locks Details](#) topic.

Types of Locks

In the locks page, locks are separated into two groups: Transaction, DML & PL/SQL locks; and Blocked or Blocking Locks. Blocking and Blocked locks are dependent upon the transaction selected in the top area.

In the bottom part of the page you can choose to see locks that are blocking you or locks that are blocked by you for the selected user.

User Locks

For user locks, transaction, user and blocking locks are shown. This data is queried from V\$LOCK. As the row in the Transaction Lock grid changes, the user and blocking lock grids are updated for the selection.

To view user locks

1. At the top of the top panel, click the **Locks** tab.
2. At the bottom of the panel that appears, click the **User** tab.

System Locks

To view system locks

1. At the top of the top panel, click the **Locks** tab.
 2. At the bottom of the panel that appears, click the **Session** tab.
-

RBS Usage

Viewing RBS Usage Aggregate Information

This page displays transaction information for online rollback segments, queried from SYS.V_\$TRANSACTION and SYS.V_\$ROLLNAME.

NOTE: Information on RBS Usage presented here is aggregate database information. For information on individual RBS Usage, see [RBS Usage details](#).

To view RBS usage information

- At the top of the top panel, click the **RBS Usage** tab.
-

Performing Actions on Sessions

Kill Sessions

Your ability to kill sessions depends on your permissions status. For most non-slave sessions, you can kill sessions in one of the following ways.

- Kill a selected session
 - Use multi-select and kill multiple sessions at once
 - Kill a top level node, which kills all sessions below it
- For example, you can kill all sessions for a selected user. You can even multi-select top level nodes and kill all those and their sub-nodes.

See [Parallel Slave Processes](#) for more information on slave sessions.

To kill a session

1. [Filter](#) and/or [group](#) the sessions so you can easily see the sessions you want to kill.
2. In the top panel tree view, select the **session**, **multiple sessions**, or **node** you want to kill.

3. Do one of the following:
4. In the toolbar, click the **Kill Session**  button.
5. Right-click and select **Kill Sessions**.
4. Click **OK** to confirm your choice and kill the sessions.

Queries Used to Kill Sessions

For later versions of Oracle, the following query is used:

```
ALTER SYSTEM DISCONNECT SESSION <sid, serial#> IMMEDIATE
```

For earlier versions of Oracle the syntax is:

```
ALTER SYSTEM KILL SESSION <sid, serial#>
```

Trace Sessions

You can turn tracing on or off for the selected sessions in the Session Browser.

Toad uses the following procedure to trace sessions:

```
SYS.DBMS_SYSTEM.SET_SQL_TRACE_IN_SESSION( sid, serial#, TRUE/FALSE )
```

Note: The trace file is written to the `INIT.ORA` parameter `user_dump_dest` which is typically the `bdump` directory on the server. If you cannot locate them there, check your Oracle Parameters to see if the pathname for `user_dump_dest` has been changed.

To turn trace on

1. [Filter](#) and/or [group](#) the sessions so you can easily see the sessions you want to trace.
2. In the top panel tree view, select the **session**, **multiple sessions**, or **node**.
3. Do one of the following:
4. In the toolbar, click the **Trace On** button.
5. Right-click and select **Start Trace**.
4. In the confirmation window, click **OK**.

To turn trace off

1. [Filter](#) and/or [group](#) the sessions so you can easily see the sessions you want to trace.
 2. In the top panel tree view, select the **session**, **multiple sessions**, or **node**.
 3. Do one of the following:
 4. In the toolbar, click the **Trace Off** button.
 5. Right-click and select **Stop Trace**.
 4. In the confirmation window, click **OK**.
-

SGA Trace/Optimization

Window Bar

A window bar appears at the bottom of the main window to display what windows are currently open in Toad. The tooltips on the window bar display the full window caption.

Options for the window bar appear under Toad Options|[Toolbars/Menus](#).

To turn off the window bar

- Right-click over it and clear the Window Bar check box.

Note: If you are using a read only toolbar configuration and you want the window bar to remain turned off, check **Options**|[Toolbars/Menus](#)|**Allow docking/hiding of read only toolbars**.

To turn on the window bar

- Right-click over the **main toolbar** and check **Window Bar**.

To change windows

- In the **window bar**, click the **window name** you want to activate.
-

SGA Trace/Optimization

The SGA Trace/Optimization window displays SGA information for you so that you can easily optimize your database.

You can view information, utilize client-side filtering of the grid, and check session currently executing the selected query.

To access SGA Trace/Optimization

- Select the **Database|Monitor|SGA Trace/Optimization** menu item.

Use this window to view information about SQLs executed and how they performed.

Requires access to the V\$ Oracle Dictionary views. For a list of required permissions, see [V& Tables Required - SGA/Trace](#).

There are four tabs in this dialog box:

- SQL Shared Pool
- Execution Stats
- SQL
- Explain Plan

Statistics Area

In the statistics area you can view Execution stats and the SQL within the shared pool. In addition, you can:

- Search for SQL - enter text of the SQL you want to limit the shared pool area to SQL starting with the letters you enter.

- Hide Zero Stats - when checked any stats with a value of 0 are hidden in the execution stats area.
- Select an Instance - if you are on a RAC system, you can limit the display to a particular RAC instance.

Execution Stats

Execution stats are displayed in the left side panel. This panel shows information about the selected SQL statement in the **SQL Shared Pool** tab.

SQL Shared Pool

The Shared Pool SQL is displayed at the top of the right hand side. This panel shows information about the SQL Shared Pool. You can also filter the SQL statements you want to view using the [SGA Trace Toolbar](#).

SQL tab

This shows the entire SQL for the selected SQL statement in the **SQL Shared Pool** tab.

If you get the "SQL Body Unavailable" message when clicking on the **SQL** tab, then the SQL is not present in Oracle's SGA (System Global Area), which is a pool of the most recently used SQL statements. Not all SQL statements can be retained in the SGA forever, because it is a limited size. The least frequently used statements are discarded in favor of new ones.

From the toolbar on this tab you can do the following:

Button	Command
	Copy script to Clipboard
	Load script in Editor
	Tune Statement using SQL Tuning/Optimizer

Explain Plan tab

This shows the Explain Plan for the selected SQL statement in the **SQL Shared Pool** tab. The total cost of the statement is displayed in the **Total cost for statement** label. If the cost information is not available because of rule-based optimization, then this label will be blank. You can also right-click and select Explain Plan options for this Explain Plan. See [Explain Plan Options](#).

Sessions tab

The sessions tab displays any active sessions that remain in the SGA pool.

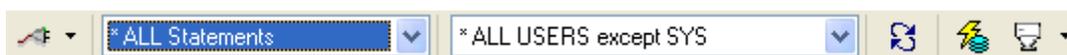
Related Topics

[Explain Plan Overview](#)

[SGA Trace Explain Plan Options](#)

SGA Trace Toolbar

You can perform several commonly used commands from the SGA Trace Toolbar.



Icon	Command
	Change active session.
 *ALL Statements	Filter by statement type, grants or parameters.
 *ALL USERS except SYS	Filter by users or cursors.
	Refresh grids
	Load selected statement in Editor
	Flush SGA

SGA Trace Explain Plan Options

There are two special options for using the Explain Plan that appear on the right-click menu of the Explain Plan tab in the [SGA Trace window](#).

Always set session to statement user

This option performs an "ALTER SESSION SET CURRENT_USER=..." before it runs the Explain Plan.

Use connected user/schema

This does not perform the ALTER SESSION command.

Example

You are logged in as user DBAUSER and select a session belonging to the SCOTT user in the Kill/Trace window. You see that SCOTT has run the statement "Select * from EMP". Under [Toad Options|Oracle|General|Table name](#), you have set the name to Toad_PLAN_TABLE.

Always set session to statement user

Set this option and do an Explain Plan. When Toad does the Explain Plan, Oracle makes the following two assumptions:

- The EMP table belongs to SCOTT.
- The Toad_PLAN_TABLE also belongs to SCOTT, unless there is a public synonym called Toad_PLAN_TABLE and SCOTT does not have a Toad_PLAN_TABLE. The Server Side Objects wizard creates a public synonym to Toad_PLAN_TABLE when it installs the Explain Plan objects to the Toad schema, but not when it installs the Explain Plan objects to a private user schema.

If you don't have a Toad_PLAN_TABLE public synonym but you want to make sure that Oracle always looks for the plan table in a certain schema, you can include the user name with the plan table in the options – for example, DBAUSER.Toad_PLAN_TABLE. Use connected user/schema

Use connected user/schema

Set this option and do an Explain Plan. When Toad does the Explain Plan, Oracle also makes two assumptions.

- The EMP table belongs to you (DBAUSER in this example).
- The Toad_PLAN_TABLE belongs to DBAUSER.

If you are explaining the statement "SELECT * FROM SCOTT.EMP", then Oracle knows that the EMP table belongs to SCOTT, regardless of the option you choose.

StatsPack Browser

StatsPack Overview

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Toad Statspack Browser supports Statspack in Oracle 8i and newer. It displays performance metrics between statspack snapshots in great detail. You can use this ability to track, compare and organize your statistics.

From the Statspack browser window, you can select snapshots, create new snapshots, select, display and print charts, program custom charts, and various other combinations. The browser window makes it easy to access the power of the data collected by Oracle's Statspack feature.

Using the Statspack Browser

In order to use the Statspack Browser in Toad, you must have Oracle's Statspack package installed on the database in question. It is not automatically installed with Oracle, so you may need to install it. Please see your Oracle documentation for information about how to accomplish this.

If you do not have the privileges on the PERFSTAT schema, or the PERFSTAT schema does not exist, Toad will notify you when you try to open the Statspack Browser.

The Browser window

The Statspack Browser window is divided into three areas, including a list of snapshots, a list of charts, and an area where the charts are displayed. These areas work together to display the metrics you need to see.

Snapshot List Area

The snapshot list area lists the snapshots that have been collected by the Statspack. To create charts based on these snapshots, you can select or clear the checkbox to the left of the snapshot name. By default, the Statspack browser will select up to the most recent 24 hours worth of snapshots with the same database start time.

Chart List Area

Several charts and grids have been built into the window, or you can easily add your own in addition to those provided. Select or clear the checkbox to the left of the chart you want to view or hide. Selected charts are created for the selected snapshots. Right-click to select all, none, and so on.

Chart Display

You can display up to nine charts at a time, in a three by three chart area. See [Displaying Charts](#) for information on configuring the viewing area.

Working with Statspack Snapshots

The Snapshots area of the Statspack browser gives you the power to select, create, group and schedule snapshots.

Statspack Snapshots Toolbar



Button	Command
	Change active session.
	New snapshot.
	Change snapshot parameters.
	Find snapshot job in Schema Browser, or schedule the job.
	Save selected snapshot group.
	Load a snapshot group.
	Refresh just the snapshot listing.
	Refresh the entire browser.
	Refresh just the charts.

Viewing snapshot information

You can view groups of snapshot information using the charts provided, or charts and datagrids you program yourself. For more information, please see [Generating Programmed Charts and Datagrids](#).

You can adjust the visible columns in the snapshot display by right-clicking the column header and choosing the columns you want to see. The columns can be reordered by dragging and dropping. In addition, you can sort by any column: click the column by which you want to sort.

In addition, you can see more detailed information for a specific chart using the Detailed Hint command. Hover your cursor over the snapshot you want to see and the hint will display detailed information. If it does not, check to make sure detailed hints are activated as described below.

To activate detailed hints

- Right-click in the Snapshot area and select Detailed hints from the popup menu.

A checkbox will display beside the command when this feature is active.

Selecting Groups of Snapshots

You can select groups of snapshots in multiple ways. In order to save a group, snapshots must be chosen by selecting the check box to the right of the snapshot in the list.

You can select groups of snapshots by:

- automatically by right-clicking over the list of snapshots and choosing a pre-defined grouping.
 - by selecting the check box to the left of the snapshot entry.
-

Creating a New Snapshot

You can create a new Statspack snapshot directly from the Statspack Browser.

Snapshots created in this manner take a single snapshot. Parameter value fields display the default values for each parameter. These are either the values set by Oracle, or the default values you have set using the [Change Statpack Parameters](#) command.

To create a new snapshot

1. Open the **StatsPack Browser**.
2. In the **Snapshots area** (upper left corner) select **New Snapshot** from the toolbar.
3. Make any necessary changes to the default parameters.
4. Click **OK**.

The snapshot is added to the bottom of the snapshot list and can now be used to view data and trends.

Deleting a Snapshot

You can delete a snapshot that you no longer need.

To delete a snapshot

1. In the **Snapshot tree**, select the **Snapshots** you want to delete.
*Note: The delete is performed on **selected** snapshots, not on **checked** snapshots.*
 2. Right-click and select **Delete selected snapshots**.
-

Commenting on Snapshots

You can add comments to snapshots, which are displayed in the [Detailed Hints](#), and in the comments field of the snapshot.

To comment on snapshots

1. Select the snapshots you want to comment.

Note: The snapshots that will be commented are those that are selected by highlighting, not those that have check marks.

2. Right-click and select **Comment Selected Snapshots**.
 3. Enter a **comment** and then click **OK**.
-

Changing the Statspack Parameters

Oracle sets basic thresholds for Statspack Snapshots. These are described in detail in your Oracle documentation. Within Toad you can change these default parameters so that each time you create a snapshot your custom parameters are set without needing to reset them.

For information about each individual parameter, please see your Oracle documentation.

To change Statspack parameters

1. From the snapshot area of the [Statspack Browser](#), click the **Change Parameters**  button.
 2. Click on the value you want to change and make your changes.
 3. Click **OK** to save your new defaults.
-

Finding Job Schedules

You can use Toad to find a scheduled Statspack job within the Schema Browser, where you can then work with them and edit, reschedule, and so on.

Toad searches procedures for the string STATSPACK.SNAP within the code, allowing you to name your job in a way meaningful to you.

- If there are statspack collection jobs in multiple connections, Toad will find the one in the connected session and stop looking.
 - If Toad cannot find a statspack collection job, Toad will open the [Create Scheduler Job](#) window, pre-filled in for a collection job that runs every half hour on the half hour.
-

Saving a Selected Snapshot Group

It can be beneficial to save groups of selected snapshots. When you do this, you can come back to charts created from these snapshots easily and quickly. For example, you might save a group called "Peak hours: Date" You could have several of Peak Hours charts over several weeks, and later come back to compare the different groups.

To save a snapshot group

1. Select the snapshots you want to group together.
 2. Click the **Save Snapshot Group**  button on the toolbar.
 3. Name your group and click **OK**.
-

Loading Saved Snapshot Groups

You can load snapshot groups that you have previously saved.

When you load a snapshot group, all snapshots remain available, but the loaded snapshots are selected and the remainder are cleared.

To load a saved snapshot group

- In the snapshot area of the **Statspack Browser**, click the **Load Snapshots** button.



Working with Charts and Datagrids

Generating Programmed Charts and Datagrids

Several popular charts and datagrids are programmed into Toad. You can choose one chart or you can choose multiple charts to view at one time. (See [Displaying Charts and Datagrids](#) to learn about the effects of viewing multiple charts.)

To generate a programmed chart or datagrid

1. From the snapshot area, select the snapshots you want to include in your chart. (See [Viewing Snapshot information](#) and [Loading Saved Snapshot Groups](#).)
2. Select the charts you want to see for this group from the list in the **Charts and Datagrids** area.
3. As you select charts, the charts will display in the Chart area to the right. See [Displaying Charts and Datagrids](#) for customizing this view.

Displaying Charts

There are several ways you can configure charts and datagrids.

You can generate and display as many charts as you have available, but you can configure the window to display a total of nine at a time. Any more and scrolling is necessary to view them.

If you have many charts open in the viewing area, you can double-click the chart name in the tree view. Toad will navigate to the chart in the display area.

Configuring the viewing area

The more charts or datagrids you view per screen, the smaller the actual chart. If the charts you want to see are very detailed, you may want to configure your viewing area to only display two or even one chart at a time.

Charts are displayed in the order in which they were checked. Newly checked items are added to the end of the display.

You can change the order of the chart/grid display.

To configure the viewing area

- In the **Chart display toolbar**, select the number of columns and rows you want to display. Each of these values may be from 1 to 3.

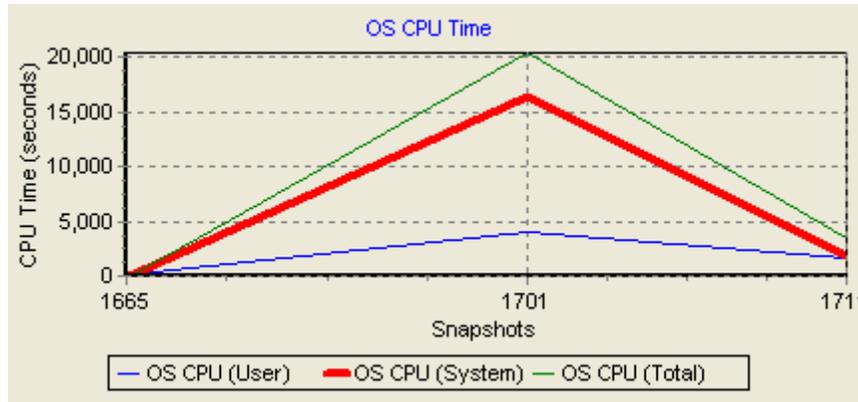
To change the order of the chart/grid display

- In the chart display area, right-click and select **Change Chart Order**.

Viewing Series within Charts

Some charts can be very complicated, depicting many different series of data within them. In such a case, you can click the name of a series in the legend and that data will be highlighted in the chart.

For example, in this image, the OS CPU (System) series is selected, and the corresponding line in the chart is bold.



To restore it to normal display mode, click the item in the chart again.

Synchronizing Wait Times Charts

The Top Waits grid will synchronize with the Wait times by Event chart. When both are displayed in the display panel, the Wait times chart graphs whatever is selected in the Top Waits grid.

Refreshing the viewing area

You can add snapshots to your chart view at any time. Select them from the chart list.

To display the data including the new snapshot data

- Click the **Refresh right hand side**  button on the chart display toolbar.

Creating New Charts

You can develop new charts and grids that reflect the information you need to extract from statspack snapshots.

To create new charts

1. At the bottom of the Chart area, select the sub-node where you want the chart or datagrid to reside.

If you do not choose a node, the new chart will be created directly in the Custom node. You can then drag it to its final category.

2. Enter a name for the chart or grid in the **Node Name** box.

The parent node is displayed. This is the node that you have selected in step 1. If it is not correct, you can drag the chart to the correct parent node later.

3. Select the type of output:
 - single-series chart
 - multi-series chart
 - grid
 4. Select the minimum version of Oracle.
 5. Click **Next**.
 6. Enter the **query** you want to use to base your chart upon. Click **Example** to see an example query for the chart type you have selected.
 7. Click **Next**.
 8. Enter the titles for your chart: which information is required will differ depending on the type of chart or grid you have selected.
 9. Click **Next**.
 10. Check the preview output. This should display the chart the way you want it.
 11. If the chart is incorrect, click **Back** and make changes.
 12. In the chart is correct, click **Finish** to create it.
-

Reorganizing the Custom Tree View

The custom node of the chart and datagrid area can be organized and reorganized as you want it.

You can add categories (sub-nodes); edit them; drag and drop charts and datagrids between them; and delete them altogether.

To add a category

1. Select a node in which to create the category and then click the **Add Category**  button.

If you do not select a custom node, or you have a built-in category selected, the new category will be created within the main Custom node.

2. Enter a name for the category in the **Name** box and click **OK**.

To edit a category name

1. Select a category in the Custom node, and then click the Edit  button.
2. Make changes and then click **OK**.

To Reorder categories in the Custom Node

- Drag and drop categories to the node where you want them to reside.

To delete a category

1. Select the **category** you want to delete.
2. Click the **Delete** button and then click **OK**.

Caution: If you delete a category with charts in it, all charts will be deleted as well. There is no undo option.

Printing and Exporting Charts and Grids

You can print or export created charts and grids. You can export grid or chart information directly to MS Excel, or copy to the clipboard to paste it elsewhere.

To print charts or grids

- In the **Chart and Grid** display area, right-click and select **Print**.

To export charts or data to Excel

- In the Chart and Grid display area, right-click over the chart you want to export and select either:
 - Send data to Excel - Sends the data for the selected chart to an Excel worksheet.
 - Send all charts to Excel - Opens Excel and sends the data for all active charts to a worksheet.
-

Top Session Finder

Top Session Finder

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you find the sessions in the database that are consuming the most resources. Oracle tracks hundreds of statistics for each session in the database, and the Top Session Finder lets you easily sort the sessions by their usage of any combination of parameters.

You can operate the Top Session Finder in single parameter select mode or multiple parameter select mode. Single parameter select mode lists sessions in order of resource usage. You click the name of the resource of interest. Multiple parameter select mode lets you assign weights to two or more parameters, and the sessions are sorted by the weighted sum of the statistics.

To access the top session finder

From the **Database** menu, select **Monitor|Top Session Finder**.

Options

You can configure the Top Session Finder several ways. A small options panel at the top of the window controls these options.

To display the options for the window

- Click the **Top Session Finder Options**  button.

Single Parameter Select

If selected, this puts the screen in single parameter select mode. Clicking the parameter name will list each database session in descending usage order of the selected parameter. Weights for parameters are not used in this mode.

Multiple Parameter Select

If selected, this puts the screen in multiple parameter select mode. Multiple parameter select mode is discussed later in this section.

Short Parameter List

If selected, the parameter list is shortened to approximately 35 statistics that will be checked more often such as CPU and cursors. This provides an alternative to going through the entire list of parameters. When cleared, the parameter list includes everything in the v\$statname (292 items as of Oracle 9.0).

Exclude System Sessions

If selected, Oracle's background sessions will not be included in the list.

Exclude Inactive Sessions

If selected, only sessions marked as "ACTIVE" in v\$session will be included.

Exclude Sessions Inactive for the past ___ Minutes

If selected, only sessions that have been active within the specified time period will be included. This can be used to exclude "idle" connections.

Multiple Parameter Select Mode

The multiple parameter select mode includes a **Stored Profile** dropdown and a **Weight** column next to the parameter column. You assign weights to two or more parameters, and the sessions are sorted by the weighted sum of the statistics

The weights help reflect a true picture of resource usage. For example, if you are doing a session run on sorts, you might want to assign a weight of 100 to the resource intensive disk sorts and a weight of 1 to memory sorts. To assign or change a weight, click in the weight column and type the new weight. Click the List Sessions green arrow button at the top of the window, and the sessions will be listed in order of the weighted usage of the selected (weighted) parameters.

A right-click menu lets you **Reset all weights to zero**.

Limit Pie Chart to top ___ sessions

Use this option to limit the pie chart to show only a portion of sessions. The pie chart can handle a maximum of 1050 sessions.

The default is 50 sessions.

Stored Profile dropdown

The Stored Profile dropdown lets you recall and store profiles. Some profiles are already included.

When you first enter the multiple parameter select mode, the **Overall** profile is selected by default. It has weights assigned to CPU usage, memory usage, session logical reads, network traffic, and redo usage. The dropdown includes other built-in profiles including CPU, Cursors, Memory, Network Traffic, and Redo. These profiles can easily be modified.

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You can create new profiles using the Create New Profile button and save profile settings using the Save Profile Settings button. You can save the current settings to a new profile by clicking the Create New Profile button and then saving the settings to the new name. The Delete button lets you delete the selected profile. The profiles are stored in a file called Topsess.ini, so if you want to revert to the default settings, just delete that file.

Data

The data can be displayed in a Dataset (data grid) or a Pie Chart.

Dataset tab

In single parameter select mode, click a parameter from the list, and the grid displays each database session in descending usage of the selected parameter. It also displays session specific information such as machine name and logon time.

In multiple parameter select mode, after you press the List Sessions button, the grid displays a list of SIDs (System Identifier Names) that are connected to the database instance, session specific information for each SID listed, and it also displays the unweighted value of each statistic along with the weighted sum of all statistics.

Some columns might not be populated. For example, you could optionally populate the action column if you have populated the module column. In the following:

```
dbms_application_info.set_module('abc', 'def')
```

"abc" would display under the Module column and "def" would display under the Action column.

Right-click options

If you right-click in the dataset grid the menu includes:

- Print Grid
- Export Grid

Pie Chart tab

The biggest slice of the pie chart protrudes slightly from the rest of the pie for easy identification.

- In single parameter select mode the pie chart displays the percentage of selected resource usage.
- In multiple-parameter select mode the pie chart displays the percentage of weighted resources. If you left-click a slice, information for that session will display.

Right-click options

If you right-click a slice, a right-click menu includes:

- Print.
- Save As Bitmap File.
- Copy image to clipboard.
- Find selected session in Session Browser.
- Info on session, info on another session (useful for when a slice is too thin to click).
- Remove skinny slices.

The Remove skinny slices item will prompt you for a percentage. Any session using less than that percentage of the pie will be removed from the pie. However, this does not actually remove rows from the data grid.

Top Session Finder toolbar

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.



Icon	Command
	Top Session Finder Options
	List Sessions
	New Profile
	Save Profile Options
	Drop Profile
Instance	Select RAC Instance (only available if you are connected to a RAC instance)

Finding a Specific Session

From the Top Session Finder, you may want to locate a specific session in the Session Browser. You can do this easily.

To find a specific session

1. In the Top Session Finder, select the session you want to locate.
2. Right-click and select **Find Selected Session in Session Browser**.

The Session Browser will open with the session selected.

Related Topics

[Top Session Finder](#)

[Session Browser](#)

Unix Monitor

Toad UNIX Monitor

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Access this window from the **Database|Monitor|UNIX Monitor** menu item.

The UNIX Monitor lets you monitor database performance with three charts and a grid:

- CPU Usage - tracks CPU usage by system and user

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- Process Queues - monitors runnable and blocked/waiting processes (these vary by UNIX system; they may be blocked on I/O wait or timed out of CPU usage for its timeslice)
- Disk IO in Kb/Sec (for the top 10 devices)
- Process list grid - breaks the information down by user. The process list displays the top 20 CPU usage processes, sorted by %CPU as a default. Click a column header to sort that column.

You can sort, zoom and print grid columns. UNIX Monitor fully supports AIX, HP, Linux, and Solaris. UNIX Monitor supports TRU64; however, the Disk I/O Graph will remain empty for this UNIX version.

For configuration options for the UNIX Monitor, please see [View|Toad Options|Monitors](#).

Note: The server must be running Rexecd in order to use this utility. For more information about RExec, see [Network Utilities|Rexec](#) or your UNIX administrator.

The UNIX Monitor must be launched and connected in order to work. So, you can launch it in the morning, minimize the window, and later in the day if a threshold is crossed you will be alerted.

Requirements

To use the UNIX Monitor, no special permissions are required. However, the user must be able to get through any firewall present.

The following commands are used, and need to be installed and enabled on the UNIX machine:

- RExec Used to drive the monitor.

Note: The server must be running Rexecd in order to use this utility. In addition, some variants of UNIX may handle an rexec as an rlogin. These may automatically execute login files such as ".profile". In this case, extraneous output commands such as echoing "motd" (message of the day) may interfere with Toad's parsing of the output.

- iostat Used to get the disk io information.
- vmstat Used to obtain cpu information
- ps Used to process queues and lists.

Refresh rate

To automatically refresh the data in the charts, you must do two things.

To set the automatic refresh

1. Check the **Auto refresh** check box.
2. Select a refresh interval from the **Refresh rate** dropdown menu.

You can manually refresh the data by clicking the **Refresh** button.

Connecting

In order to use the UNIX monitor, you must be connected to the UNIX server you want to monitor.

To connect to the UNIX server

1. To connect, click the **Connect** button.
2. Enter the appropriate information in the [Server Settings](#) dialog.
3. Click **OK** to connect.

The graphs take two or three iterations of the selected refresh cycle to initialize and then quickly fill in. After the graphs are full (one hour), the data scrolls off screen but is not cleared. You can see a two hour history using **right-click|Zoom**. (This is also true for the [Database Monitor](#).) Select **Zoom**.

If you are having trouble connecting with the UNIX Monitor, please see the topic [Troubleshooting a UNIX Monitor Connection](#) for more information.

Troubleshooting a Unix Monitor Connection

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

There are potential connection issues with UNIX that are beyond our control.

As part of the connection process, the rexecd daemon performs a "reverse name lookup" by default. This means the server verifies the rexec source machine's IP address against its own/etc/hosts file, and denies the connection if the source IP address is not found. For server-to-server rexecs, this makes sense because the servers often have hard coded and well known IP addresses. For network clients, this is often not the case. Few companies want to deal with placing the IP addresses of every PC in each server's/etc/hosts file. Many companies use DHCP for their network clients. The IP addresses are not well known and are not constant.

The solution is to turn off "reverse name lookup" by editing the /etc/inetd.conf file and adding the `-c` parameter to the rexecd command. Then either reboot the server or refresh `-s inetd`.

Optimizing (Tuning)

DBMS_REDEFINITION Wizard

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

DBMS_REDEFINITION is a package supplied by Oracle. Using DBMS_REDEFINITION you can redefine and rebuild tables online. See your Oracle documentation for details on the package.

The DBMS_REDEFINITION Wizard is an interface to DBMS_REDEFINITION. The Toad interface is limited to Oracle 10 and newer.

All portions of the wizard directly relate to the Oracle package. For information on the parameters you supply, please see your Oracle documentation.

To use the DBMS_REDEFINITION wizard:

1. From the **Database** menu, select **Optimize|DBMS_REDEFINITION wizard**.

2. Either Select Tables and specify how to redefine

Or

Select a Redefinition Already in progress by clicking the **Select** button.

3. Click **Next**.
4. Define your column mapping and then click **Next**.
5. Set the columns in the order you want them. You can move selected columns from panel to panel, or move them up and down in the Desired Order list.
6. Click **Next**.
7. Select **Degree of Parallelism** at the bottom of the screen.
8. Choose to Start Redefinition Process (Click **Start**).

Or

Synchronize Interim Table (Click **Sync**).

9. Click **Next**.
10. Select automatic copying and registration of objects:
11. Indexes
12. Triggers
13. Constraints
14. Grants
15. Statistics

Click **Copy and Register checked object types**.

Or

Choose to manually register/unregister interim table objects.

Or

View copied/registered objects.

11. Click **Next**.
12. Review errors and then click **Next**.

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13. Choose to either Abort Redefinition Process

Or

Finish Redefinition Process.

14. Click **Restart Wizard** to repeat the process.

Or

Click **Close** to close the wizard and return to Toad.

Estimate Index Size

You get to this dialog box using the **Database|Optimize|Estimate Index Size** menu item.

Use this dialog box to estimate how much disk space a particular index occupies. You can enter indexes into the grid and then choose to estimate the size of all or some of them.

Note: Estimates can be done on bitmap indexes as well. However, if the column used is not a good candidate for bitmap indices, the estimate will be several times too small. This occurs because the bitmap indices columns are much larger than they should be. You should attempt to choose good candidate columns to achieve accurate bitmap index results.

Load and Scan Indexes

When you load indexes, the `avr_row_len` column in `dba_indexes` (if your indexes have been analyzed), and the DDL row size are loaded into the grid automatically. If you want indexes scanned to achieve those averages, you will need to see step 4 below. Scans can be slow, so it is not done automatically.

Note: These estimation values are based on how much disk space the index data occupies. These values differ from the EXTENTS values displayed on the **Schema Browser|Indexes** page|**Stats/Size** tab, because EXTENTS are containers that store data. Extents are created with a certain container size (for example, 1MB). Each extent could be empty, half full, three quarters full, or full. In all of these cases the EXTENT size remains the same, 1MB, but the amount of disk space occupied by data changes.

To load and scan indexes

1. On the **Estimate Index Size** toolbar, click the dropdown arrow on the **Load indexes**  button.
2. Select either
3. Load my Indexes - loads all indexes from the currently connected schema.
4. Load Indexes Like - lets you add a LIKE clause to the query that selects and loads the indexes.
5. Load Indexes by User - lets you select an index owner and loads the indexes from the appropriate schema.
6. Load Indexes by Tablespace - lets you select a tablespace and load all indexes contained in it.
7. Load Indexes by Table - lets you select a table and load all the indexes for that table.
8. Import Grid from Text file - lets you load indexes and open a grid that you have previously saved.
3. When the indexes are in the grid, check the box next to the indexes you want to estimate.
4. Click the **Scan**  button on the toolbar. A confirmation dialog box appears, letting you change the percentage of rows scanned if necessary. The default is 10 percent. When finished, the Average Row length and the Estimated Size are entered into the grid.

Caution: This may take a while because the virtual storage size for all data must be summed and averaged. The more data you have in the index and the higher the percentage you choose, the longer this will take.

Using the Grid

When you have scanned sizes into it, the grid works like a spreadsheet. You can change the values of:

- num_rows
- pct_free
- ini_trans
- block_size

Estimated index size will update as soon as you click outside of that row on the grid.

Saving the grid

If you need to leave before you are finished, you can save the grid to a text file and reopen it later.

To save the grid to a text file

Click the dropdown arrow on the **Load indexes**  button.

Select **Export grid to text file**.

Enter a name for the file and click **Save**.

Estimate Table Size

Use this dialog box to estimate how much disk space a particular table occupies (or will occupy after more rows are loaded into it). You can enter tables into the grid and then choose to estimate the size of all or some of them.

To access the table size estimator

- Select the **Database|Optimize|Estimate Table Size** menu item.

Load and Scan Tables

When you load tables, the `avr_row_len` column in `dba_tables` (if your tables have been analyzed), and the DDL row size are loaded into the grid automatically. If you want tables scanned to achieve those averages, you will need to see step 4 below. Scans can be slow, so it is not done automatically.

Note: These estimation values are based on how much disk space the table data occupies. These values differ from the EXTENTS values displayed on the **Schema Browser|Tables** page|**Stats/Size** tab, because EXTENTS are containers that store data. Extents are created with a certain container size (for example, 1MB). Each extent could be anywhere between empty and full. In any case, the EXTENT size remains the same, 1MB, but the amount of disk space occupied by data changes.

To load and scan tables

1. On the **Estimate Table Size** toolbar, click the dropdown arrow on the Load tables  button.
2. Select either
 - Load my tables - loads all tables from the currently connected schema.
 - Load tables Like - lets you add a LIKE clause to the query that selects and loads the tables.
 - Load tables by User - lets you select a table owner and loads the tables from that schema.
 - Load tables by Tablespace - lets you select a table and load all the tables contained in it.
 - Import Grid from Text file - lets you load tables and open a grid that you have previously saved.
3. When the tables are in the grid, check the box next to the tables you want to estimate.
4. Click the Scan  button on the toolbar. A confirmation dialog box appears, letting you change the percentage of rows scanned if necessary. The default is 10 percent. When finished, the Average Row length and the Estimated Size are entered into the grid.

Caution: This may take a while because the virtual storage size for all data must be summed and averaged. The more data you have in the table and the higher the percentage you choose, the longer this will take.

Using the Grid

There are four ways of estimating table size. These numbers are defined as follows when you click Scan on the toolbar.

- Avg Row Len (Scan) calculates avg row len based on the data that is currently in the table
- Avg Row Len (Stats) pulls the avg row length that stored by Oracle the last time the statistics on the table were gathered (based on data in the table at the time the stats were gathered).
- Max Row Len (DDL) pulls the maximum row length, based on the types and number of columns.
- If none of these methods are applicable, you can enter your own number in the Avg Row Len (User). For example, if you have sample data, but you know that the sample data has values in the fields that are too small, then you might take a scan, and then put a number slightly larger than Avg Row Len (Scan) into Avg Row Len (User).

When you have scanned sizes into it, the grid works like a spreadsheet. You can change the values of:

- Num Rows
- Pct Free
- Ini Trans
- Block Size
- Avg Row Len (User)

Estimated table size will update as soon as you click outside of that row on the grid.

Estimating Index Size

You can easily launch the [Index Size Estimator](#) for checked tables. Simply right-click and select **Launch Index Size Estimator for Indexes on Checked Tables**.

Saving the grid

If you need to leave before you are finished, you can save the grid to a text file and reopen it later.

To save the grid to a text file

1. Click the dropdown arrow on the **Load tables**  button.
 2. Select **Export grid to text file**.
 3. Enter a name for the file and click **Save**.
-

Explain Plan

You can easily view previously run explain plans and compare them against a new one.

In order to view previously run explain plan history you must have [Save previous explain plan results](#) selected in the options page.

The history page is divided into two panels. The top area lists all saved explain plans. When you select one of these plans, it appears in the bottom panel, with the SQL statement directly above it.

The displayed explain plan can be viewed and manipulated in the same way as an explain plan in the editor. (See [Explain Plan Overview](#) and associated topics for more information.)

To display explain plan history

- From the **Database** menu, select **Optimize|Explain Plan**.
-

Related Topics

[Explain Plan Overview](#)

[Explain Plan Options](#)

[Explain Plan Results](#)

[Comparing Explain Plans](#)

Pinned Code

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

When the Oracle SGA fills, Oracle overwrites parts of the buffer with new data. Pinning a PL/SQL object in the SGA will keep Oracle from overwriting it.

If you frequently use a particular PL/SQL object you have loaded from your database, pinning it to the SGA will improve Oracle performance.

To pin an object

1. From the **Database** menu, select **Optimize|Pinned Code**.

Each PL/SQL object in the SGA cache is listed in the upper grid, as well as its owner and whether or not it is pinned.

2. The tree view on the bottom lets you browse all the source code for the schema as displayed in the dropdown. You can select source code for pinning that is not currently in the SGA cache.
3. If the object is in the SGA cache, select the object in the upper grid.

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4. If the object is **not** in the SGA cache, select the appropriate schema from the dropdown in the middle of the page and then select the object from the tree view.
3. Click the **Pin**  button on the toolbar.

To unpin an object

Pinned objects display in the SGA cache grid.

1. Select the **pinned object** in the SGA cache grid.
2. Click the **Unpin**  button on the toolbar. The object is unpinned.

To flush the SGA cache

You can **Flush the SGA** from the toolbar.

- Click the **flush**  button.

The SGA is the shared SQL pool where Oracle caches the most recently executed statements. This results in faster reprocessing. The Flush the SGA button removes everything that is not pinned from the SGA cache.

Refreshing the SGA Cache view

You can choose to refresh the SGA Cache view either manually or automatically.

To refresh manually

- Refresh the SGA Cache view at any time by clicking the refresh  button.

To auto refresh

1. In the **Pinned Code** toolbar, **Refresh (secs)** field, enter the number of seconds you want to wait between refreshes. The default is 5.
 2. Check the **Auto Refresh** box. The cache view will now refresh automatically.
-

Rebuild Table

Use this function to rebuild a table, optionally dropping columns, and/or renaming columns.

This window will create a complete script to rebuild a table, after which you can further edit to customize, if desired.

To rebuild a table

1. Select the **Database|Optimize|Rebuild Table** menu item.
2. Select a table to rebuild. (You must be logged on as the table owner, therefore you cannot change owners from the owners dropdown list.)
3. Check the desired options on the **Options** tab.
4. On the **Table Storage** and **Index Storage** tabs, select the Storage parameters. You can either use the original storage parameters or use the current table size as the initial extent, which will combine all extents together into one extent, for faster disk performance.

5. On the **Columns** tab, double-click a column on the upper list to exclude it (drop it) from the table. To rename a column, click to select it, wait until after the mouse double-click time, then click it again. Enter the new name for the column.
6. Click the **SQL** tab. The rebuild table script will be constructed and displayed. Now you can either save the script to a file, or copy it to the clipboard.

Note: You must own the schema you are browsing in order to rebuild a table from it.

Repair Chained Rows

This window shows tables that have chained rows.

When data for a row in a table cannot fit into a single data block, it is stored in a chain of data blocks (more than one data block). The original row of data points to the new block or blocks of data. A result of chained rows is that Oracle must scan more than one block of data to retrieve information. The repair chained rows function basically rejoins rows of data blocks that were split across more than one block.

In order to use the Repair Chained Rows functionality, you will need to have a Chained Rows table defined as described by Oracle.

To access repair chained rows

- Access this window from the **Database|Optimize|Repair Chained Rows** menu item.

Analyze tab

Click the **ADD** button to bring up a **Select Tables to Analyze** menu where you can select the schema (from dropdown) and tables (from a list of tables in the schema) to analyze. Click the check box preceding the tables to select or unselect the tables. **Select All** and **Select None** buttons help with quick selection.

Caution: The **Chained Rows table** field contains the name of the table where Toad tells Oracle to store the row ids of the chained rows that are found. It is **NOT** the table to analyze. Remember, Toad will truncate the chained rows table before it analyzes the tables in the list.

Data tab

This displays the schema, table name, and the number of rows chained in the table.

Repair tab

This creates an intermediate table, copies chained rows to it, deletes the chained rows from the existing tables, and then copies the rows back into the existing tables. You might need to increase the existing tables' data block size to eliminate chaining completely.

You can also select a rollback segment from the dropdown. Click **Repair** to repair the chained rows.

Results appear beneath each repaired table.

Results tab

The Results tab lists the tables that were not repaired and the reasons.

Schedule Resource Plans

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To schedule resource plans, the schema that you log in with must be connected as **SYSDBA**.

Note: This scheduler creates jobs that are viewable in the Schema Browser under the [Jobs](#) tab. Modifying these jobs is not advisable and may cause the scheduler to perform incorrectly.

To schedule resource plans

1. From the **Schema Browser|Resource Plans** page, click the **Schedule Resource Plan**  button.
 2. From the Daily Resource Plan Schedule that appears, you can:
 3. Add new plans by clicking the **Add Plan**  button.
 4. Remove plans by clicking the **Remove Plan**  button.
 5. Enable plans by selecting the Enabled check boxes in the grid, or by clicking **Enable All**.
 6. Disable plans by deselecting the Enabled check boxes, or by clicking **Disable All**.
 7. Display the SQL that will make the change by clicking **Show SQL**. From this dialog box you can save the SQL to a file to be run later.
 3. Click **OK** to run the SQL, or click **Cancel** to close the window without making changes.
-

Related Topics

[Resource Plans](#)

[Create Resource Plan](#)

[Alter Resource Plan](#)

Unix Kernel ParmS

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

If you are managing a database on a Unix server, updating some critical kernel settings can improve database performance. From this screen you can quickly generate the steps you need to modify your UNIX kernel and the critical kernel parameters to greatly increase Oracle performance. You may recognize these settings as being discussed in Oracle's "UNIX Installation Guide" in the "UNIX Configuration Section" of the "Pre-Installation chapter". This screen simplifies the configuration process.

This screen produces a recipe of what to do and the parameter values to set.

You will need to FTP the output to the UNIX server, paste the parameter values where they need to go, and manually perform the indicated steps to reconfigure the UNIX kernel.

To Access UNIX Kernel ParmS

1. From the **Database** menu, select **Optimize**.
2. Select **UNIX Kernel ParmS**.

Options

UNIX Type

Specify the variant of UNIX your database server is running. This setting directly controls generation of both the steps and parameters. For example, different UNIX variants accomplish kernel configuration differently. Likewise, different UNIX variants implement different parameters and recommended settings.

Concurrently Active Databases

Specify how many databases will be up and running at the same time for that database server. For example, a database server may have production database instances for the following three database applications: Payroll, Accounting and HR. In this example the database server will have three concurrently running database instances.

Concurrent Processes Per Database

Specify the average number of processes will be concurrently active at any given moment per database. For example, the Payroll application may average 40 concurrent users, the Accounting application may average 100 concurrent users, and the HR application may average 100 concurrent users. The average concurrent process count would be 80 ($40 + 100 + 100 = 240 / 3 = 80$).

Average Degree of Parallelism

Specify what degree of parallel operations should be supported. This should only be used on servers with excess CPU bandwidth (for example, SMP, MMP and NUMA architectures) and/or excess disk IO bandwidth (e.g. RAID, SAN and NAS). You must have either tables or indexes with a default degree of parallelism greater than one or DML with hints. Assuming these conditions are met, Oracle will consume much more resources as it spawns additional processes to perform parallel operations. The UNIX kernel must be configured to support these additional needs.

Calculate

Click **Calculate** and Toad will produce the parameter modifications to optimize performance.

Windows Registry Parm

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

If you are managing a database on a Windows NT/2000/XP server, updating some critical registry settings can greatly improve overall database performance. For example, you can run any of the industry standard database benchmarks, such as the TPC, using Quest's Benchmark Factory® for Oracle and obtain a raw score for your Windows server and its Oracle database. Then you can change the settings of the Windows Registry and run the benchmark again so as to obtain a new score- this could be anywhere from 50% to 150% better in terms of Oracle database performance.

You could manually define these settings using REGEDIT, but the registry keys and values are somewhat obscure. The Windows Registry Parm window lets you define these settings easily and quickly. It is recommended that checking all four check boxes (two in Memory Management and two in NTFS fileSystem) and then selecting the IO Page Lock Limit that best corresponds to the size of your Windows server. The more memory your server has, the higher you can set the value. You'll have to experiment to be sure, but most servers should benefit from a value of 8K or larger.

To Access Windows Registry Parm

1. From the **Database** menu, select **Optimize|Windows Registry Parm**.

Reading Registries

This screen works with both local and remote Windows NT/2000/XP registries. Remote registries must be configured to permit remote registry access.

Note: accessing remote registries requires the remote computer name to be entered in the form of [\\computername](#). The double backslash prefix is mandatory.

Updating Registries

You can update registries with changes you have made to these screens.

Note: Changes will not take effect until you reboot your computer.

Registry Export Files

These text files can be opened and modified with any text editor.

Double-clicking on them from within the Windows explorer will update the local registry with their content. This is useful when you want to create the files locally and then copy them to remote servers for manual application.

To create a registry export file

- Click **Create "Reg." file** to produce a Windows standard registry export file.
-

Using Oracle Tuning Advisor

This feature is available only in the Toad professional editions.

If you are using Oracle 10g and higher, you can tune using the Oracle Tuning Advisor. Or, if you have the SQL Optimizer module, you can use [Quest's SQL Optimizer](#).

You can send your SQL statement to the Oracle Tuning advisor. Results are then sent to the Editor window. Formatting and content of these results is provided by Oracle. This feature can be accessed from the:

- Editor window
- Create/alter windows for
- Views
- Triggers
- Snapshots
- Schema Browser
- Views
- Triggers
- Snapshots

To use the Oracle tuning advisor

1. Put your cursor within the statement you wish to turn, or highlight the code you wish to tune.
2. In the toolbar, click the SQL Optimizer  dropdown.

3. Select **SQL Tuner (Oracle)**.

Quest SQL Optimizer

Quest SQL Optimizer Overview

Quest® SQL Optimizer *for Oracle* maximizes SQL performance by automating the manual, time-intensive, and uncertain process of ensuring that SQL statements are performing as fast as possible. Quest SQL Optimizer automatically analyzes, rewrites, and evaluates SQL statements within multiple database objects, files, or collections of SQL statements from the SGA. Quest SQL Optimizer also provides you a complete index optimization and plan change analysis solution, from index recommendations for multiple SQL statements to simulated index impact analysis, through comparison of multiple SQL execution plans.

The complete help file for Quest SQL Optimizer is available when you launch the program or from **Start|All programs|Quest Software|Quest SQL Optimizer for Oracle|Documentation|Help**.

Quest SQL Optimizer consists of the following:

Batch Optimizer (available in version 7.0 and above)

The Batch Optimizer enables you to submit files or database objects for batch processing. It first scans the code to extract the SQL statements, then optimizes each SQL statement and tests the SQL alternatives to find the best performing SQL for your database environment. It provides the replacement code with the optimized SQL statements.

SQL Scanner

The SQL Scanner identifies SQL statements from source code and database objects without requiring the execution of the SQL statements. Once the SQL statements are identified, the SQL Scanner analyzes and categorizes them according to suspected levels of performance problems.

SGA Inspector (formerly called SQL Inspector)

The SGA Inspector offers an easy way to view and analyze previously executed and currently running SQL statements from Oracle's system global area (SGA). You can specify your own criteria to retrieve the SQL statements and their corresponding statistics to review SQL performance.

Tuning Lab

The Tuning Lab contains the SQL Optimizer, the Index Expert, Deploy Outline, Test for Scalability and Best Practices along with the testing of the alternative SQL statements and the index candidates.

Tuning Lab-SQL Optimizer

The SQL Optimizer automates the optimization of SQL statements. It first analyzes the original SQL statement and then uses Artificial Intelligence to exhaustively rewrite the syntax of the SQL statement and apply the Oracle optimization hints. It produces a list of semantically equivalent and syntactically correct SQL statements. By test running these SQL statements, it is then possible to identify which SQL statement best suits the needs of your database environment.

Tuning Lab-Find Best SQL Alternative

The execution of the SQL statements enables you to test run the original and optimized SQL statements to select which SQL statement gives the best performance. The execution times and run time statistics help you identify which SQL statement is most suitable for the needs your database application environment.

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Tuning Lab-Deploy Outline

Deploy Outline stores an Oracle stored outline for a specific SQL statement. Oracle will use the stored outline when executing the SQL statement in place of using the execution plan.

Tuning Lab-Index Expert

The Index Expert enables you to determine the best possible indexes for your SQL statements. It analyzes the syntax of a SQL statement and the relation between tables to generate index alternatives. It provides all the alternative index sets that generate a unique execution plan for a SQL statement. It creates these index sets without physical creating the indexes in your database.

Tuning Lab-Find Best Index Alternative

The performance of a SQL statement can be tested to help you determine which indexes should be permanently created in your database.

Tuning Lab-Best Practices

Best Practices proposes common techniques to improve performance on your database.

Test for Scalability

The user workload that SQL statements may encounter can be simulated with Quest Benchmark Factory to see how the best SQL alternatives will perform under different workload conditions.

Global Indexing (formerly called Cross Index Analysis)

Global Indexing analyzes a group of SQL statements and determines the best common index set for all of those selected SQL statements.

Impact Analyzer (formerly called Plan Change Analyzer)

The Impact Analyzer helps you to ensure reliable database performance by tracking execution plan and Oracle cost changes for SQL statements. It keeps track of execution plan changes to allow you to estimate the impact on the SQL statements' performance due to database changes. You can simulate different database scenarios with a selected group of SQL statements that will give you a good representation of what will happen if a proposed database change actually occurred. Or, you can track the actual changes in the execution plan over time or as the result of actual changes in the database environment.

Outline Manager

The Outline Manager organizes the stored outlines used to improve the performance of SQL statements when you cannot or do not want to change the SQL syntax in the source code.

Using SQL Optimizer with Toad

This feature is available only in Toad Editions that include the SQL Optimizer.

Starting with Toad Xpert 9.5, Quest SQL Optimizer 7.x for Oracle is installed in place of SQL Tuning. SQL Optimizer 7.x is an enhanced version of the previous SQL Tuning for Oracle 6.1.2 (or earlier) with an improved UI, workflow and much more functionality.

To launch Quest SQL Optimizer for Oracle from various places in Toad

- Editor - Click the SQL Optimizer  button on the Editor toolbar.
- Create/Alter windows for:
 - View
 - Trigger
 - Snapshot
- Query Builder - [Generated Query tab](#) toolbar.
- Session Browser - [Current Statement Details](#) tab.
- SGA Trace/Optimization Window - [SQL Tab](#).
- Schema Browser tabs:
 - Views|Select a view|Right-click and select **Optimize View's SQL**.
 - Snapshots|Select a view|Right-click and select **Optimize Snapshot's SQL**.
 - Procedures|Details|Code tab|Highlight the SQL you want to tune|Click the **Optimize SQL** button on the tab's toolbar.
 - Triggers|Details|Code tab|Highlight the SQL you want to tune|Click the **Optimize SQL** button on the tab's toolbar.

To launch Quest SQL Optimizer for Oracle standalone

- Select Start|All programs|Quest Software|Quest SQL Optimizer for Oracle|Quest SQL Optimizer 7.x for Oracle.

Note: SQL Tuning for Oracle 6.1.2 (or earlier) can not be launched as a standalone product.

Switching between versions of SQL Optimizer

You cannot launch both Quest SQL Optimizer (7 or above) and SQL Tuning (6.1.2 or earlier) simultaneously from Toad since there is only one function that calls the SQL optimization program. Therefore, if you have both versions installed you can switch between them by using the SQL Optimizer Version Selector.

To set the active version

1. Close Toad and SQL Optimizer.
2. Select Start | All Programs | Quest Software | Quest SQL Optimizer for Oracle | SQL Optimizer Version Selector.
3. Select the version you want active.
4. Click Set Active.
5. Click Close.

If you select SQL Tuning for Oracle (6.1.2 or earlier), you can still run Quest SQL Optimizer from Start|All programs|Quest Software|Quest SQL Optimizer for Oracle|Quest SQL Optimizer 7.2 for Oracle. SQL Tuning for Oracle can only be launched from within Toad.

DBMS Profiler

DBMS Profiler Analysis Overview

Oracle8i provides a Probe Profiler API to profile existing PL/SQL applications and to identify performance bottlenecks. The collected profiler (performance) data can be used for performance improvement efforts or for determining code coverage for PL/SQL applications. Application developers can use code coverage data to focus their incremental testing efforts.

The profiler API is implemented as a PL/SQL package, `DBMS_PROFILER`, that provides services for collecting and persistently storing PL/SQL profiler data.

Caution: Statistics may not be collected properly if you are running the Profiler on an Oracle server on a Tru64 platform.

Using `DBMS_PROFILER`

Improving application performance is an iterative process. Every iteration involves the following:

- Exercising the application with one or more benchmark tests, with profiler data collection enabled.
- Analyzing the profiler data, and identifying performance problems.
- Fixing the problems.

To support this process, the PL/SQL profiler supports the notion of a run. A run involves running the application through benchmark tests with profiler data collection enabled. You can control the beginning and the end of the run by clicking the **Toggle PL/SQL Profiling** button in the main Toad toolbar. The icon for the button is a stopwatch.

A typical session involves:

- Starting profiler data collection in session.
- Executing PL/SQL code for which profiler/code coverage data is required
- Stopping profiler data collection.

Some PL/SQL operations, such as the very first execution of a PL/SQL unit, may involve I/O to catalog tables to load the byte code for the PL/SQL unit being executed. Also, it may take some time executing package initialization code the first time a package procedure or function is called. To avoid timing this overhead, you should warm up the database before collecting profile data. Warming up involves running the application once without gathering profiler data.

Collected Data

With the Probe Profiler API, you can generate profiling information for all named library units that are executed in a session. The profiler gathers information at the PL/SQL virtual machine level that includes the total number of times each line has been executed, the total amount of time that has been spent executing that line, and the minimum and maximum times that have been spent on a particular execution of that line.

The profiling information is stored in database tables. This enables the ad-hoc querying on the data: It lets you build customizable reports (summary reports, hottest lines, code coverage data, and so on) and analysis capabilities.

With Oracle 8i, a sample textual report writer is provided with the PL/SQL demo scripts.

Using `DBMS_PROFILER` with the Java debugger

Toad lets you use the Profiler in connection with the Java debugger as well as when debugging PL/SQL. Output, however is different.

When you profile Java code, all of the code is wrapped into an Anonymous Block, and then only that block is profiled. When debugging PL/SQL you are given the time per statement. In JDWP debugging, Toad returns the time for the entire procedure.

Setting Up the Profiler

You can set up the profiler to run from the Toad schema, or any private user's schema. Each case has a different script to run, as explained in the steps below.

Note: The minimum Oracle database version required for the PL/SQL Profiler is Oracle8i.

The SYS.DBMS_PROFILER package

Make sure you have the SYS.DBMS_PROFILER package. If this has not been loaded, you will need to create it as follows.

1. Login to Oracle through **Toad** as **SYS**.
2. Load the **Oracle home>\RDBMS\ADMIN\PROFLOAD.SQL** script into the Editor.
3. From the SQL Editor menu, select **Execute as Script** (or press **F5**).
4. Make sure that **GRANT EXECUTE** on the **DBMS_PROFILER** package has been granted to **PUBLIC** or to the users that will use the profiling feature.

Install Profiler Server Side Objects

To install the server side objects required for the profiler, run the [Server Side Objects Install wizard](#).

DBMS Profiler Filters

You get to this window from the [Profiler Analysis](#) window, Filter toolbar button.

This allows the user to filter in or out Oracle 8i Profiler statistics data.

Using the DBMS Profiler

This section explains how the profiler works, and some of the options you can use to filter and delete data to create a customized profile. If you have not yet set up the profiler, see the section on [Setting Up the Profiler](#).

Note: If you are using an Oracle 11g database, you have the option of using the DBMS Profiler or the Hierarchical Profiler. Choose which to use from the **View|Toad Options|Execute/Compile|Behavior - Use hierarchical profiler on Oracle 11g and newer**.

To use the Profiler

1. Start Toad.
2. Click the **Toggle PL/SQL Profiling**  button in the main Toad toolbar.
2. Execute a procedure from the Schema Browser or the Editor using the Execute (lightning bolt) button. Set Profiler descriptions on the Set Parameters window. You will be prompted to enter a description of the procedure being executed. This appears in the Profiler Analysis window or the

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Editor Profiler tab when you are analyzing the results. Run the procedure several times to get some data into the profiling tables.

3. Turn off profiling when you are finished by clicking the **Toggle PL/SQL Profiling**  button.

Note: Be careful to not leave the profiler toggled on when you switch to other Toad windows. Otherwise, profiler data will be collected from the queries Toad performs to populate those windows.

4. Click the **Profiler tab** beneath the editor,

Or

Select the **Database|Profiler Analysis** menu item. The Profiler Analysis window appears. For more information on reading the information provided, see [Profiler Analysis](#).

Profiler Analysis

There are three levels to the data. The top level are the individual "Runs" of each procedure executed while profiling was enabled. Double-click one item for the execution stats for that individual run. At this level, you can double-click to see the line-by-line performance times for individual procs called during profiling.

The top half of the window is a graph of the showing the percent of time required to run each component of the procedure.

If you can see the pie chart labels but not the pie chart itself, resize the window horizontally to give it more space to draw.

In addition, labels on the chart show actual execution time for the fastest, slowest, and average unit or line of code.

The bottom half of the window lists the runs, including Run Number, Procedure, Timestamp, Comment, and Total Time to execute. You can sort on the columns by clicking on the column headers.

Run Details

Opening a run

Drilling down on a run will list the details of the run including Unit Type, Owner, Unit Name, and Total Time to execute.

▲ Unit Type	Owner	Name	Total Time
ANONYMOUS BLOCK	<anonymous>	<anonymous>	0.0117
ANONYMOUS BLOCK	<anonymous>	<anonymous>	0.0245
ANONYMOUS BLOCK	<anonymous>	<anonymous>	0.0095
FUNCTION	SCHAPMAN	F_CALC_COMMISSION	0.0237
FUNCTION	SCHAPMAN	F_CALC_BONUS	0.0931
PACKAGE BODY	SYS	DBMS_PROFILER	0.029
PACKAGE BODY	SYS	DBMS_OUTPUT	0.0099

Opening a unit

When drilling down on this F_CALC_COMMISSION unit, we see the lines of code executed and profiled. The column headers change to Line Number, Passes (how many times each line of code was executed), Total Time to execute the line, Min Time, Max Time, and the line of Code itself.

Li...	Passes	Total Time	Min Time	Max Time	Code
4	2	0.0202	0.0003	0.0199	Commission_Out:= f_calc_bonus(Salary, It
5	1	0.0025	0.0025	0.0025	DBMS_OUTPUT.PUT_LINE ('Inside CAL
6	1	0.0005	0.0005	0.0005	Return Commission_Out;
7	1	0.0006	0.0006	0.0006	END F_CALC_COMMISSION;

Analysis Toolbar

Between the top half of the window and the bottom half, there is a toolbar of functions:



Button	Command
	Drill Down/Drill Up - Select a wedge of the pie and double-click to drill down, showing the amount of time required to execute each statement in the procedure. To drill back up, click the Less Detail Left Arrow button in the Profiler Analysis toolbar. The More Detail Right Arrow button can also be used to drill down.
	Open a selected procedure in the Editor. (This can also be achieved by double-clicking the selected procedure.)
	Refresh data - If you switch to other windows to execute procedures for profile analysis, and switch back to the Profiler Analysis window, click to requery the profiler tables.
	If you want to filter out or hide certain profiler analysis data, perhaps all calls of SYS.DBMS_OUTPUT, click here and select the information to hide in the dialog that appears.
	Delete a selected run from the profiler tables.
	Display as a pie chart.
	Display as a bar chart
	Rotate chart.
	Graph properties - Change the visual display of the graph and/or group together values below a certain percentage or value. This is useful when you have several small pie wedges or bars. In the Graph Properties dialog box, you can also set the background color gradient, for example, from Blue to Black left to right.
Procedure box	Select one or more procedures to display in the grid. Others will be filtered out until you choose another, or all procedures from the drop down list.

Hiding Profiler Data

If you right-click the list, you can temporarily hide some data so that a better analysis of the remaining data can be performed. For example, if a particular statement takes 95% of the overall execution time, hide it, and the remaining statements, which were under 1% each will blow up to a larger relative percentage on the graph.

Editor Profiler Tab

Within the Editor, the Profiler tab displays profiler runs, as root nodes, and profiler units as child nodes. The latter are the actual code units that were executed during a profiler run. They can include anonymous blocks, procedures, functions, and packages executed while the profiler run data was being collected. Child nodes contain the actual line data.

This tab provides an overview of the data, but does not offer the graphs that the Profiler Analysis window does.

When you open a profiler run or unit into the Editor and have the option **show executable line indicators in gutters** selected, executable line indicators will display as follows:

Indicator	Meaning
Blue dot with green square	Line was executed
Blue dot with red circle	Line was not executed

If Toad cannot determine when the unit was last executed, then the standard blue dot line indicators will appear.

Related Topics

[Profiler Analysis](#)

[Procedure Editor Profiler Nodes](#)

[Procedure Editor Profiler Tab Toolbar](#)

Editor Profiler Nodes

Each level of node has a slightly different meaning to the column contents.

For Profiler Runs

Column	Contents
Run Comment	Root node is designated by the profiler run comment, followed by the user that executed the profiler run in parentheses. For example, AA_TEST_1 (MICHAEL).
Total Execution Time (secs)	Total time (in seconds) it took to execute all units included in that run.
Run Object	The object corresponding to the profiler run. This is the object loaded in the Editor when the run  button is clicked.
Run Date	The date and time that the run was completed.

For Profiler Units

Column	Contents
Run Comment	Unit owner followed by the unit name. The unit type is also discernable by the icon for that node. If the unit says anonymous block it is not an object that actually appears in your database.
Total Execution	Total time (in seconds) it took to execute that unit.

Time (secs)	
Run Object	This will be blank for this level.
Run Date	The last DDL time (for non-anonymous blocks only) This is the date and time that the object was last modified and committed to the database. Last DDL time is queried from the ALL_OBJECTS view.

If a unit appears in red, it was last modified after the profiler run was executed, and Toad cannot display the profiler line map in the Editor for that object.

For Profiler Data Lines

Column	Contents
Run Comment	The line number of that line in the unit's source code.
Total Execution Time (secs)	The execution time of that line for all passes (executions) followed by the number of executions in parentheses. For example, if the line in question is within a loop then it may be executed numerous times.
Run Object	Average execution time for one execution of that line.
Run Date	Source text for the line.

Related Topics

[Procedure Editor Profiler Tab](#)

[Procedure Editor Profiler Tab Toolbar](#)

[Setting up the Profiler](#)

Editor Profiler Tab Toolbar

A small toolbar resides on the Editor Profiler tab. The commands let you control how you view Profiler data.



Icon	Command
	Refresh data.
	Collapse all nodes.
	Expand all nodes.

Related Topics

[Procedure Editor Profiler Tab](#)

[Setting up the Profiler](#)

Hierarchical Profiler

Hierarchical Profiler

The hierarchical profiler is available in Oracle 11g. The PL/SQL hierarchical profiler organizes data by subprogram calls, and stores the results in database tables letting you create custom reports.

- Information provided includes:
- Number of calls to the subprogram
- Time spent in the subprogram
- Time spent in the subprogram and descendent subprograms
- Detailed parent-child information

For detailed information about the hierarchical profiler, please see your Oracle documentation.

Setting up the Hierarchical Profiler

You can set up the hierarchical profiler to run from the Toad schema, or any private user's schema. Each case has a different script to run, as explained in the steps below.

Note: The minimum Oracle database version required for the PL/SQL Profiler is Oracle 11g.

The DBMS_HPROF package

Make sure you have the DBMS_HPROF package. If this has not been loaded, please see your Oracle documentation for instructions on where to find it.

1. Login to Oracle through **Toad** as **SYS**.
2. Make sure that **GRANT EXECUTE** on the **DBMS_HPROF** package has been granted to **PUBLIC** or to the users that will use the profiling feature.

Install Profiler Server Side Objects

There are several database tables and other data structures that are required to use the analyzing functionality of the hierarchical profiler.

To install the database objects

1. Login to Oracle through Toad in the schema where you want the database objects created. These can be created in each individual schema, or alternately, this can be executed in a common schema (such as Toad) and synonyms can be made as described in step 4.
2. From the **Oracle home**, **RDBMS/ADMIN** directory, load the **DBMSHPTAB.SQL** script into the Editor.
3. From the SQL Editor menu, select **Execute as Script** (or press **F5**).
4. If you have created them in a common schema, create Synonyms to the following objects and either grant them to each schema requiring them, or make them PUBLIC.
 - DBMSHP_FUNCTION_INFO (table)
 - DBMSHP_PARENT_CHILD_INFO (table)
 - DBMSHP_RUNS (table)
 - DBMSHP_RUNNUMBER (sequence)

5. Check to make sure each schema using the Hierarchical profiler has the WRITE privilege on the directory that specified when you start profiling.

Using the Hierarchical Profiler

If you are working on an 11g database, you can choose to use either the [DBMS profiler](#) or the Hierarchical profiler.

To use the Hierarchical profiler, there are several steps you will need to take:

- [Set up the profiler](#).
- [Set parameters](#) for your code, checking the Hierarchical profiling options as well as code variables.
- Toggle Profiling on (on the main toolbar, make sure that the profiling  button is depressed).
- [Filter](#) and View analysis in the Profiler tab below the Editor.

Note: If the Profiler tab is not visible, you can display it by right-clicking in the tab area and selecting **Desktop Panels|Profiler**.

Setting Hierarchical Profiler Parameters

Like the DBMS Profiler, the Hierarchical profiler has parameters that can be set from the Editor parameter page. Options set here persist on a per object

To view and change parameters

1. From the **Editor**, click the **Parameters**  button on the Debugger toolbar, or execute the procedure to open the parameters window.
2. Click the **Profiler** tab.
3. In the **Hierarchical Profile** area, make changes to the parameters described below.

Directory

Select the directory. This directory is a choice of Oracle directory objects. The list of possible directories is derived directly from your database, and cannot be altered here.

Note: You must have WRITE privileges on the directory you use.

Filename

Enter a filename for the file where Oracle will save the profiler data.

Automatically assign filename using "<object name>_<timestamp>.trc"

When checked, the filename box will be disabled and Toad will automatically assign a filename following the listed format.

The default is checked.

Limit call depth to n levels

If desired, limit the call depth to the specified number. Entering a "1" will give you only a top-level profile. Entering a higher number will give greater depth to your analysis.

Analyze profiler data following execution

When checked, profiler data will be automatically analyzed for you. You can also use several more detailed options as described below.

Run Comment

You can specify a run comment for each entry in the profiler data table. This allows you to more easily find your data later.

Automatically assign run comment using "<object name>_<timestamp>"

If this option is checked, rather than enter a manual run comment, the comment will be created automatically using the above format.

Scope

Choose a scope for your analysis. Options include:

- All routines
- Top-level summary
- Entry Point

Entry point

If you have selected "entry point" for the scope, specify the entry point in this box.

Pass count

Enter a pass count for analysis here. This will limit the number of passes analyzed as the procedure is run.

Collection count

Enter a collection count for the analysis here. This will limit the number of collections analyzed.

Hierarchical Profiler Filters

You can filter the results of your hierarchical profiling session. This can be useful in making sure that you only see the results that are useful for you.

Toad will automatically filter out the system information that is added when the profiler is active. You can manually turn these on if you want to see that information.

To create a filter

1. From the Profiler tab at the bottom of the Editor, right click over the grid and select **Filter**.
2. Click Add to add a new filter to the filter grid. Enter the criteria you want to use to hide data. You may use the % wildcard within the filter.

3. Enable or disable any filters desired by selecting or clearing the **Enable** box.
 4. Repeat steps 1 and 2 if necessary.
 5. Click **OK**. The data in the grid is filtered as you have specified.
-

Rebuild Multiple Objects

Rebuild Multiple Objects Overview

Over time, indexes become fragmented. As the underlying table grows and shrinks, an index's storage parameters sometimes become inappropriate. When this happens, the index no longer enhances the performance of the database. For this reason, indexes need to be periodically rebuilt.

From the Rebuild Multiple Objects window you can analyze indexes in order to determine which ones need to be rebuilt, and then to rebuild those indexes. You can also rebuild multiple tables at a time, if necessary.

To access Rebuild Multiple Objects

- From the **Database|Optimize** menu, select **Rebuild Multiple Objects**.

Indexes

In addition to the basic examine and rebuild features of this window, you can also perform the following on your indexes:

- Move indexes into various tablespaces based on the size of their extents.
- Adjust extent sizes to minimize the number of extents.
- Adjust extent sizes to a standard, to minimize the number of extents and decrease tablespace fragmentation.
- Specify criteria before analysis

When you rebuild multiple indexes, you will generally work in the following order:

1. Load a list of indexes. See [Loading and Clearing Indexes](#).
2. Select criteria and indexes and analyze the index. See [Examining Indexes](#).
3. Rebuild indexes as necessary. See [Index Rebuilding](#).

Tables

You can easily rebuild several tables at once. In addition, you can use [Conditional Thresholds](#) to limit rebuilds to rows that meet certain criteria.

Email Notification - Rebuild Multiple Objects

You can choose to have email notification when you have completed rebuilding indexes. This can be useful if the rebuild will take some time. Set the indexes to rebuild, and Toad will notify the appropriate person when they are complete.

To set email notification

1. Click the **Email Notification** tab, and check the appropriate boxes. Choose to notify by email, and then check either HTML results or plain text summary to specify what to include in the email. HTML email is the default.
 2. Set email options. Select **View|Options|Email Settings** and set the appropriate options for recipients and email accounts as described in [Email Settings](#).
-

Run Rebuild Objects from the Command Prompt

You may find you would like to rebuild indexes or tables at regular intervals, or have them rebuilt during off-hours. With a little preparation, you can do the rebuild indexes from a command prompt. If commands are saved to a batch file, the batch file can be scheduled using the NT scheduler to execute when you are away from your desk. Results are saved to files.

You can both check indexes and rebuild them from the command prompt.

To build the file to run Rebuild Multiple Objects

1. Start **Toad**.
2. From the **Database|Optimize** menu, select **Rebuild Multiple Objects**.
3. Make all settings to perform the comparison (see [Rebuild Indexes](#)), but do not click either Rebuild or Examine indexes.
4. Instead, on the toolbar of one of the options tabs, click the **Save All Settings to File** button. A Save file dialog box appears. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order in which you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Uncomment any or all of the command lines in the settings file for actions to perform. All file names and items in quotes are editable. Do not put more than one command per line. Do not leave spaces before the commands. Email settings are taken from **View|Toad Options|Email Settings**.

Commands go in a logical order, as they are presented in the settings file. You need to load indexes before you rebuild them, and so on.

Comments

Any lines in the file that begin with **#** are comments, and commands contained within will not be performed. To activate a command, remove the **#**.

Commands to load the grid

- `LoadUserIndexes('USERA', 'USERB', 'USERC')` - This command loads the User indexes for the specified users. Change, remove and add users as necessary.
- `LoadTableIndexes(TABLEOWNER='USERA')(TABLES='TABA', 'TABB', 'TABC')` - This command loads indexes for the specified tables. Change,

remove, and add tablename as necessary. Note that you need to specify the tableowner, and then the tables.

- `LoadTablespaceIndexes('TABLESPACEA', 'TABLESPACEB')` - This command loads tablespace indexes. Change, remove, and add tablespacenames as necessary.
- `LoadUserTables('USERA', 'USERB', 'USERC')` - This command loads the User tables for the specified users. Change, remove and add users as necessary.
- `LoadTablespaceTables('TABLESPACEA', 'TABLESPACEB', 'TABLESPACEC')` - This command loads tablespace tables. Change, remove, and add tablespacenames as necessary.
- `ImportTablestFromText('c:\MyTextFile.txt')` - This command lets you import the settings for your tables list from a previously saved text file. You can edit the path and filename.
- `ImportTablesFromBinary('c:\MyBinaryFile.bin');` - This command lets you import the settings for your tables list from a previously saved binary file. You can edit the path and filename.
- `ImportIndexesFromText('c:\MyTextFile.txt')` - This command lets you import the settings for your index list from a previously saved text file. You can edit the path and filename.
- `ImportIndexesFromBinary('c:\MyBinaryFile.bin');` - This command lets you import the settings for your index list from a previously saved binary file. You can edit the path and filename.

Commands to reload

- `ReloadAllIndexes` - This command is reloads information about the currently loaded indexes. You might use it after loading indexes from a text or binary file to make sure all the information is current.
- `ReloadAllTables` - This command is reloads information about the currently loaded tables. You might use it after loading tables from a text or binary file to make sure all the information is current.

Commands to Choose Tables/Indexes to Rebuild or Examine All

- `CheckAllIndexes` - This command marks all indexes with a checkmark. It is used with the ...Selected commands described below.
- `CheckAllTables` - This command marks all tables with a checkmark. It is used with the ...Selected commands described below.
- `CheckUnusable` - This command marks indexes and tables that have a status of Unusable with a checkmark. It is used with the ...Selected commands described below.
- `RemoveIndexConsiderationFailures` - This command checks settings under the **Consider Indexes for Rebuild Only If** section of the **Thresholds and performance options** tab. It removes indexes from the list that do not meet the configured settings. Use this to exclude indexes that are small or do not have very many extents.
- `RemoveTableConsiderationFailures` - This command checks Conditional Threshold settings for tables in the section of the **Thresholds and performance options** tab. It removes tables from the list that do not meet the configured settings. Use this to exclude tables that are small or do not have very many extents.

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Commands to Rebuild or Examining Checked Indexes

- `ExamineSelectedIndexes` - This command examines all selected indexes and marks them if they are recommended for rebuild. It must be performed before a **RebuildRecommended** command can be performed.
- `RebuildRecommendedIndexes` - This command rebuilds all indexes marked as **Rebuild Recommended** by an Examine command.
- `RebuildSelectedIndexes` - This command rebuilds all marked indexes, regardless of whether they have been recommended for rebuild.
- `RebuildSelectedTables` - This command rebuilds all marked tables.

Use Results

This group of commands is for sending the results to file or email.

Note: There is an on-screen option to send results by email. This option is included in the settings file, so if it is checked, results will be sent by email, even if the settings are run from the command line. See [Email Notification - Rebuild Multiple Indexes](#) for more information.

- `ExportIndexesToHtml('c:\MyHTMLFile.htm')` - This command exports the results of the rebuild or examine indexes commands to an HTML file. The path and filename can be edited.
- `ExportIndexesToExcel('c:\MyExcelFile.xls')` - This command exports the results of the rebuild or examine indexes commands to an Excel file. The path and filename can be edited.
- `ExportIndexesToText('c:\MyTextFile.txt')` - This command exports the results of the rebuild or examine indexes commands to a text file. The path and filename can be edited.
- `ExportIndexesToBinary('c:\MyBinaryFile.bin')` - This command exports the results of the rebuild or examine indexes commands to a binary file. The path and filename can be edited.
- `ExportTablesToHtml('c:\MyHTMLFile.htm')` - This command exports the results of the rebuild tables command to an HTML file. The path and filename can be edited.
- `ExportTablesToExcel('c:\MyExcelFile.xls')` - This command exports the results of the rebuild tables command to an Excel file. The path and filename can be edited.
- `ExportTablesToText('c:\MyTextFile.txt')` - This command exports the results of the rebuild tables command to a text file. The path and filename can be edited.
- `ExportTablesToBinary('c:\MyBinaryFile.bin')` - This command exports the results of the rebuild tables command to a binary file. The path and filename can be edited.

Close

- `CloseRMO` - This command closes the Rebuild Multiple Indexes page after the previous commands are completed.
- `CloseToad` - This command closes Toad after all command line activities are completed.

Backwards Compatible commands

If you are using settings files created with older versions of Toad, the following commands apply to indexes only. Quest Software, Inc. strongly suggests using the most current commands available.

- `ImportFromText('c:\MyTextFile.txt')`
- `ImportFromBinary('c:\MyBinaryFile.bin')`
- `ExportToHtml('c:\MyHTMLFile.htm')`
- `ExportToExcel('c:\MyExcelFile.xls')`
- `ExportToText('c:\MyTextFile.txt')`
- `ExportToBinary('c:\MyBinaryFile.bin')`
- `ReloadAll`
- `CheckAll`
- `CheckUnusable`
- `RemoveConsiderationFailures`
- `ExamineSelected`
- `RebuildRecommended`
- `RebuildSelectedInds`
- `CloseRMI`

Run from the Command Prompt

One setting file only

Once your file is ready, you can run the examine/rebuild file from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@mydb RMI c:\thisfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your userid and Oracle database.
- Change `thisfile.txt` to the path of the settings file you saved above.

Multiple setting files

You can call Toad with this command line to run the Rebuild Multiple Indexes function from a command file.

```
Toad.exe -c system/manager@myOradb CmdFile=c:\commandfile.txt
```

You can also call the index rebuild from a command file like this:

```
c:\toad\Toad.exe Connect=system/manager@mydb CMDFILE=c:\mycommandfile.txt
```

In this case, `mycommandfile.txt` will be a separate file containing specific commands. The file might look like this if you are doing 2 index rebuilds, a schema comparison and finally building some html schema documentation.

```
RMI=c:\rebuild1.txt
```

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RMI=c:\rebuild2.txt

COMP=c:\schemacomp1.txt

GENHTML=c:\html1.txt

Here, rebuild1.txt and rebuild2.txt, are the index rebuilds. Schemacomp1.txt is the schema comparison settings files. When Toad is called it will run the two index examination/rebuilds defined by these files, then the schema compare, and then create the HTML files. Toad will close itself when the comparison is finished.

Note: Even if you have a CLOSEToad command in any of the settings files, Toad will not close until all commands from the command file are executed.

Rebuilding Indexes

Loading and Clearing Indexes

You can load indexes into the Index list in several ways. Loading indexes is cumulative. By selecting different **Load Indexes** buttons on the toolbar, you can build a custom index list.

Load My Indexes

This option loads all indexes in the active schema into the Index or Table List. If there are any partitioned indexes, each partition is placed in a separate row of the grid.

To load indexes

1. Click the **Indexes** tab, and then click **Load My...** on the toolbar.
2. When you have loaded the indexes, the button is disabled. You can enable the button again by **Clearing** the entire index list as described below, or by changing active sessions within this window.
3. If you change active sessions within this window, the index list is immediately cleared.

Load Indexes Like

You can choose to load indexes based on a conditional "LIKE" clause.

To create and use a like clause

1. Click the **Indexes** tab, and then click **Load ... Like** on the toolbar. The Load... Like dialog box appears.
2. Choose the Index Owner from the dropdown menu.
3. Enter the condition you want the index or table name to be LIKE. The text you supply will be directly used in an Oracle query. This field is case sensitive, and the following wild card characters apply:
 4. % For multiple characters
 5. _ For a single character
4. Select a **schema**, or multi-select several schemas using the <CTRL> or <SHIFT> keys.
5. Click **OK**. The list of indexes for the Users/Schemas is loaded into the grid.

Load Indexes by User

If you have the DBA role, you can also load indexes belonging to more than one schema.

To load indexes by user

1. Click the **Indexes** tab, and then click **Load ... by User** on the toolbar. The Load... by User window appears.
2. Select a **schema**, or multi-select several schemas using the <CTRL> or <SHIFT> keys.
3. Click **OK**. The list of indexes for the Users/Schemas is loaded into the grid.

Load Indexes by Tablespace

If you have the DBA role, you can load indexes belonging to a particular tablespace.

To load indexes by tablespace

1. Click the **Indexes** tab, and then click **Load ... by Tablespace** on the toolbar. The Load Indexes by Tablespace window appears.
2. Select a **tablespace**, or multi-select several schemas using the <CTRL> or <SHIFT> keys.
3. Click **OK**. The list of indexes for the tablespace you selected is loaded into the grid.

Load Indexes by Table

You can load indexes by selecting their table.

To load indexes by table

1. Click the **Indexes** tab, and then click **Load ... by Table** on the toolbar.
2. Select a **User**, or multi-select several users using the <CTRL> or <SHIFT> keys.
3. Select the appropriate **table** or **tables**.
4. Click **OK**. The list of indexes for the tables you selected is loaded into the grid.

Load Indexes of Loaded and Checked Tables

If you have been rebuilding tables, you can load just the indexes of the tables you have loaded and checked.

1. Click the **Tables** tab, and load some tables as described in [Loading and Clearing Tables](#).
2. Select several of them by clicking in the check box to the left of the table name.
3. Click the **Indexes** tab and then click **Load Indexes of Loaded and Checked Tables** on the toolbar.
4. Click **OK**. The list of indexes or tables for the tables you selected is loaded into the grid.

Reload Indexes

You can reload all the storage information for the indexes and tables you have loaded. You might use it after loading indexes from a text or binary file to make sure all the information is current.

To reload indexes

1. Click the **Indexes** tab, and then, from the **grid**, right-click and select **Reload all**.
2. All storage information is reloaded and updated to its current state.

Clear Selected Rows

You can select rows and delete them from the index or table list.

To clear selected rows

1. In either the table or index grid, select the indexes you want to remove. Use <CTRL> or <SHIFT> to multi-select.
2. Right-click the grid and select **Remove Selected Rows** from the menu. A confirmation dialog box appears.
3. Click **Yes** to remove the rows.

Clear Entire Index List

You can clear the entire index list.

To clear entire index list

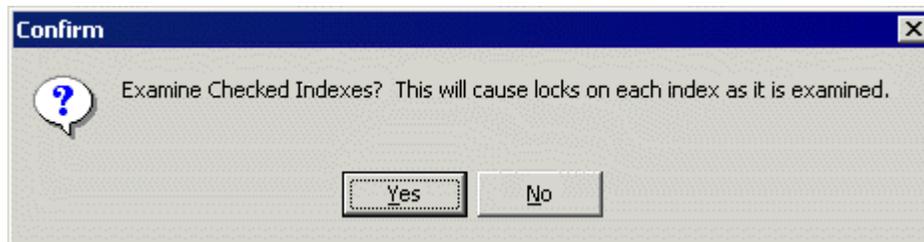
- Click the **Indexes** tab and then click the **Clear ... List**  button. The index is cleared, and the **Load my ...** button is enabled, if it had been disabled.
-

Examining Indexes

Once you have selected a list of indexes in the grid, you can examine them to determine if they need rebuilding. Tables do not need examining, however, you can set [Conditional Thresholds](#) to limit the number of tables you look at for rebuilding purposes.

To examine indexes

1. Select the **indexes** you want to examine. Click a grid row to check the boxes to the left of the index owner.
2. Click the **Thresholds and Performance Options** tab and set any standard [thresholds](#). These define when an index needs rebuilding. This tells Toad what parameters to look for in the index.
3. Click the **Examine Checked Indexes**  button on the toolbar. A confirmation dialog box appears.



4. Click **Yes** to continue. Toad examines your indexes to make sure they conform to threshold conditions.

When Toad is finished examining your indexes, it displays a recommendation in the index list, in the row under the index listing. These recommendations appear as follows:

No Rebuild Recommended

Rebuild Recommended - and a description of why

You can now rebuild some or all of the indexes. See [Index Rebuilding](#).

Index Rebuilding

Once you have examined your indexes, or if you know already which ones you want to rebuild, you can rebuild the indexes. When you rebuild indexes, you can also change storage clause parameters. See [Storage Clauses](#) for more information.

Rebuild Recommended Indexes

When you examine the indexes in your index list, some of them may be marked Rebuild Recommended. These can be rebuilt at one time, with no other marking necessary.

To rebuild recommended indexes

- From the **Indexes tab** toolbar, click the **Rebuild Recommended Indexes**  button.

The indexes that have been analyzed and marked for rebuild are rebuilt and the status of the index is displayed below the index name in the grid.

Create Script to Rebuild Recommended Indexes

You do not have to rebuild indexes immediately. You can create a script to do it for you later.

To create script to rebuild recommended indexes

- From the Indexes tab toolbar, click the **Create Script to Rebuild Recommended indexes**  button . The script is copied to the clipboard. You can paste it into the Editor and save it for use later, if you want to run the rebuild from the [command prompt](#).

Rebuild Checked Indexes

You can also select indexes manually to be rebuilt.

To rebuild checked indexes

- On the Indexes tab, select the indexes to rebuild, by checking the box in the left-hand column of the grid.
- On the toolbar, click the **Rebuild Checked Indexes**  button.

The indexes that have been checked for rebuild are rebuilt and the status of the index is displayed below the index name in the grid.

Create Script to Rebuild Checked Indexes

You do not have to rebuild indexes immediately. You can create a script to do it for you later.

To create script to rebuild checked indexes

- From the Indexes tab toolbar, click the **Create Script to Rebuild Checked Indexes**  button. The script is copied to the clipboard. You can paste it into the Editor and save it for use later, if you want to run the rebuild from the [command prompt](#).
-

Rebuilding Tables

Loading and Clearing Tables

You can load indexes into the Table list in several ways. Loading indexes is cumulative. By selecting different **Load Tables** buttons on the toolbar, you can build a custom index list.

Load My Tables

This option loads all tables in the active schema into the Table list. If there are any partitioned indexes, each partition is placed in a separate row of the grid.

To load indexes

1. Click either the **Tables** tab, and then click **Load My...** on the toolbar.
2. When you have loaded the indexes, the button is disabled. You can enable the button again by **Clearing** the entire index list as described below, or by changing active sessions within this window.
3. If you change active sessions within this window, the index list is immediately cleared.

Load Tables Like

You can choose to load tables based on a conditional "LIKE" clause.

To create and use a like clause

1. Click either the **Tables** tab, and then click **Load ... Like** on the toolbar. The Load... Like dialog box appears.
2. Choose the Table Owner from the dropdown menu.
3. Enter the condition you want the index or table name to be LIKE. The text you supply will be directly used in an Oracle query. This field is case sensitive, and the following wildcards characters apply:
 4. % For multiple characters
 5. _ For a single character
4. Select a **schema**, or multi-select several schemas using the <CTRL> or <SHIFT> keys.
5. Click **OK**. The list of tables for the Users/Schemas is loaded into the grid.

Load Tables by User

If you have the DBA role, you can also load tables belonging to more than one schema.

To load indexes by user

1. Click either the **Tables** tab, and then click **Load ... by User** on the toolbar. The Load... by User window appears.
2. Select a **schema**, or multi-select several schemas using the <CTRL> or <SHIFT> keys.
3. Click **OK**. The list of tables for the Users/Schemas is loaded into the grid.

Load Tables by Tablespace

If you have the DBA role, you can load indexes belonging to a particular tablespace.

To load indexes by tablespace

1. Click either the **Tables** tab, and then click **Load ... by Tablespace** on the toolbar. The Load Tables by Tablespace window appears.
2. Select a **tablespace**, or multi-select several schemas using the <CTRL> or <SHIFT> keys.
3. Click **OK**. The list of tables for the tablespace you selected is loaded into the grid.

Reload Tables

You can reload all the storage information for the indexes and tables you have loaded. You might use it after loading indexes from a text or binary file to make sure all the information is current.

To reload indexes

1. Click the **Tables** tab.
2. From the **grid**, right-click and select **Reload all**.
3. All storage information is reloaded and updated to its current state.

Clear Selected Rows

You can select rows and delete them from the index or table list.

To clear selected rows

1. In either the table or index grid, select the indexes you want to remove. Use <CTRL> or <SHIFT> to multi-select.
2. Right-click the grid and select **Remove Selected Rows** from the menu. A confirmation dialog box appears.
3. Click **Yes** to remove the rows.

Clear Entire Table List

You can clear the entire index list.

To clear entire index list

- Click either the **Tables** tab and then click the **Clear ... List**  button. The index is cleared, and the **Load my ...** button is enabled, if it had been disabled.

Table Rebuilding

After you have loaded and selected your tables, you can either rebuild them immediately or create a script to rebuild them later.

To rebuild selected tables

- After selecting your tables, click the **Rebuild Tables**  button.

Toad will display a status report in the grid when finished. Status for tables that were rebuilt successfully displays in green, while if there were problems, the status report will be in red.

To create a rebuild script

- After selecting your tables, click the **Create Script to Rebuild Tables**  button. The script is copied to the clipboard, and you can paste it in the editor.
-

Thresholds and Performance Options

Standard Thresholds

You can set thresholds for your examinations. There are two types of thresholds: standard and conditional. For information about conditional thresholds used to limit the Index list, see [Conditional Thresholds](#).

At least one standard threshold must be set in order to [Examine](#) the selected indexes.

Standard thresholds are found in the middle of the Thresholds tab, in the area labeled **Mark Indexes for Rebuild only if:**. By default, all three thresholds are marked.

Height >

Height grows when there are splits to the index. If the height is high, consider rebuilding the index to reduce these splits.

The default for this option is 4, but Toad can look for a height greater than any number you specify.

? Deleted Rows >

If you have deleted rows in the database, the markers for those deleted rows still take up space in the index. Rebuilding the index to eliminate these markers can speed up usage.

The default percentage is set to 25. You can adjust this up or down as needed.

% Storage used < and % Storage used >

If your index has too much storage space for the amount of information it stores, or if it uses too much of the storage space it has, it can also slow down database performance. Use these two options to select an optimum range for storage space for your index, and mark those indexes that do not comply with your choice for rebuilding.

Conditional Thresholds

Conditional thresholds let you eliminate indexes in your index list from consideration before you analyze them. This lets you shorten your index list immediately, without taking the time to run a full analysis on every index.

To use conditional thresholds

1. From the **Thresholds** tab, set conditional thresholds as described above.
2. Click the **Indexes** or **Tables** tab, right-click the grid and select **Remove items that fail consideration thresholds**. Failed items are removed from the grid, letting you analyze only the indexes you want to analyze (See [Examining Indexes](#)).

Setting Conditional Thresholds

In the Thresholds tab area labeled "**Consider Objects for Rebuild only if:**" select one or more of the following options.

Size is greater than

This option lets you eliminate any tables or indexes where the size of the index is less than the specific amounts. Toad will only analyze sizes greater than what you specify. You can specify this number in MB or KB.

Extents is greater than

This option lets you eliminate any indexes where the number of extents is lower than the specified amount.

Using Conditional Thresholds

Use conditional thresholds when you have a long index list and you don't want to run a full analysis on the entire list.

Performance Options

The Performance options let you set parameters that affect the performance of your object rebuilding session. Performance options are located in the bottom section of the **Thresholds and Performance Options** tab.

Tables and Indexes

Use 'Online' option

If you check this option, Toad can rebuild or move the table or index while it is in use.

Parallel

Check this command to use the PARALLEL keyword when rebuilding indexes. When checked, the following check boxes become active.

- Degree - Check this box and set the degree in the number field beside it.

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- Alter indexes to noparallel after rebuild - When checked, Toad issues an "alter index ... no parallel command" after the index has been rebuilt.

Refresh Index Data

These radio buttons allow you to choose how you refresh the index data after a rebuild.

- Do not refresh index info after rebuilds - This option does not reload the index data at all.
- Refresh info for each index after each rebuild - This option reloads the data for one index immediately after that index has been rebuilt.
- Refresh info for all indexes after all rebuilds are complete - This option reloads index data for all rebuilt indexes after all the selected indexes have been rebuilt. This is the equivalent of choosing "Reload all" from the right-click menu.
- Rebuild associated indexes with tables - Select this box if you want to rebuild any indexes that are associated with the tables you have selected.

Indexes Only

Nologging

Check this command to use the NOLOGGING keyword when rebuilding indexes. When checked, the following check box becomes active.

Alter indexes to logging after rebuild

When checked, Toad issues an "alter index ... logging command" after the index has been rebuilt.

Change Sort Area Size for this session to:

This command allows you to set the index sort area size for the rebuild session. This can be set in KB or MB, and set in increments of one. The default is 10 MB.

After Rebuilds, change sort area size to:

This check box lets you set the sort area size to a specified size after the rebuild session.

Storage Clauses

During any rebuild, whether it was a recommended or a manual rebuild, you can change storage clause parameters. Use this to keep extent sizes fairly uniform and appropriately sized or to move indexes to another tablespace.

You can adjust the storage clause as follows:

- Specify the PCTINCREASE
- Set Next Extent = Initial Extent
- Scale Extent Sizes by a specified percentage, specifying the minimum and maximum sizes
- Define Extent Size

Change Extent Sizes

In addition, you can Change Extent Sizes. If you opt to use this feature, make sure you examine the index before you use it. Because the %used is a factor, this value can only be obtained by examining the indexes. Note that this is not the PCTUSED storage parameter. This refers to the actual percentage of allocated storage space for the index being used.

This option overrides any options set in the top part of the window.

To adjust extent size to minimize # of extents

When this option is selected, the new extent size for each index is calculated as follows:

1. Working size=total size * % used.
 2. This working size is then passed through the "Make Extent this size, or "Just Round All Extent Sizes to the Nearest Power of..." algorithm, as selected. The resulting value is the new initial_extent size. It is also the new next_extent size. Pctincrease is set to zero.
- If you do not want to run the working value through either algorithm, select the "Just Round" and set the number to use as the closest power of 1. This is not recommended however, as it will result in each index being a different size, and this is a good way to fragment your tablespaces.
 - If you have configured to adjust tablespaces base on extent sizes, Toad uses the new calculated size, not the original size.

Caution: If some indexed tables are used as large temporary tables, and are usually empty, but are sometimes filled, they may be marked as "rebuild recommended" when you examine them, because they have zero percent used. In this case, if you use **Adjust Extent Sizes** during the rebuild, the index will be built with small extents that may not hold all your data later. Avoid this by either using global temporary tables, or do not rebuild indexes with a percent used of zero.

Tablespaces

From this tab, you can choose to move all indexes to different tablespaces, or selectively dependent upon their size.

- If you choose to move indexes to a tablespace based upon the size of the index, and have chosen "**By Index Size**" on the **Extents tab**, size is based on the total size of the index.
- If you choose to move indexes to a tablespace based upon the size of the index, and you have chosen "**By Extent Size**" on the **Extents tab**, then the size is based on the INITIAL extent size, as opposed to the NEXT extent size.

Analyze All Objects

Analyze All Objects

Open this dialog box from the **Database|Optimize|Analyze All Objects** menu item.

You can analyze multiple tables, indexes, and partitions, see chained rows, and see the data Oracle stores as the result of the analysis. If you are using Oracle 10g or above, you can lock and unlock the table and schema stats that you are working with. You can override the lock by using the Force option.

When using this dialog box to analyze selected tables from the tables object list, this collects statistics so that COST based query optimization can be used and the optimizer can run better queries.

When you first open this window, the grids in the tabs are empty.

Analyze Tables and Indexes

You can easily analyze objects from this screen.

Note: See [Set Options](#) below for information on the default settings for this basic analysis, and information on how to personalize this analysis.

To analyze tables or indexes

1. Click the correct tab, and load the grid by clicking on the Load button, or selecting a method for loading data from the dropdown beside it.
2. Select one or more objects in the grid using the check boxes. (Alternately, you can right-click and choose check all, uncheck all, remove, and so on.)
3. On the toolbar, click the **Analyze selected objects**  button.
4. The grid is populated with the analysis data.

Columns(Histograms)

From this window you can:

- Delete statistics using dbms_stats
- Export/import/copy statistics

Chained Rows

You can see chained rows on this window.

- On the toolbar, click the **Load Data from CHAINED_ROWS Table**  button.
The grid populates with the chained rows information.

Note: You must have select privileges on the CHAINED_ROWS table to use this feature.

When the information is displayed, you can move to the repair chained rows feature. On the toolbar, click the **Go to Repair Chained Rows**  button.

Set Options

Analysis of objects can be customized. Click the **Options** tab to customize them and select **Use Analyze** or **Use DBMS_STATS**.

Toad saves the options you set in this window so if you do the same Analyze or DBMS_STATS command repetitively; you do not have to reset all of your options each time. For details on these options see either:

- [Analyze Functions](#)
- [DBMS_STATS Functions](#)

Analyze Options

The analyze functions area lets you choose what type of analyze statement you want to create. Some of these allow you to include a "For Clause" and some do not.

Use Analyze Use DBMS_STATS

Analyze Functions

Compute Statistics List Chained Rows
 Estimate Statistics Validate Structure
 Delete Statistics

Sample : Rows Percent

Include For Clause with Analyze Table Commands

For Table
 For All Columns
 For All Indexed Columns
 For All Indexes

Compute Statistics

This is the most detailed and accurate method of analyzing a table. Statistics are computed from data in the table.

Estimate Statistics

You can use Estimate Statistics to save the time and resources required to compute them. Some statistics may be slightly different than their computed counterparts.

You can change the number of the sample Oracle uses to create that estimate and whether that refers to rows or percentages in the boxes beneath the Analyze Functions area.

This is the default setting.

Delete Statistics

Use Delete Statistics to delete all analyze statistics from your table. This leaves the table as if it had never been analyzed.

List Chained Rows

If a table has chained rows, select the table and analyze using this function to display the chained rows in the Chained Rows tab.

Note: This feature requires you have an appropriate Chained Rows table defined.

Validate Structure

Select this option to validate the structure of a table or index. If all is well, the analyze command proceeds. If there is a problem, Toad will display the ORA- error.

DBMS_STATS functions

The DBMS_STATS functions area lets you choose what to collect and how to arrange and organize the DBMS_STATS you collect.

Using DBMS_STATS gives you many options for collecting information.

Gather Index Stats When Gathering Table Stats

This lets you gather both table stats and the index stats that are connected with that table.

Do not invalidate dependent cursors

If this is unchecked, and Oracle has execution plans for queries against tables you analyze, it will discard them and create a new execution plan. When checked, it will keep and use the old execution plans.

Mode

Select the mode.

Delete

Deletes statistics.

Estimate

Estimates statistics, using a portion of the table's data.

Compute

Gathers statistics by looking at all the data for the entire table (or index).

Estimate

The estimate area has options that are only valid when you estimate statistics.

Block Sample

Oracle will randomly sample blocks of data as opposed to rows. Random block sampling is more efficient, but if the data is not randomly distributed on disk, then the sample values may be somewhat correlated. This option is only pertinent when doing estimate statistics.

AutoSample

Oracle will determine what % of rows (or blocks) to sample when gathering statistics.

Sample x%

Specify what % of blocks (or rows) to sample.

Degree of Parallelism

DBMS_STATS can use parallel processes to sample your data. In this area, select the process you want to use.

Same as Object

Oracle uses the same number of parallel processes as the value for degree that is assigned to the table.

Init.ora based value

Oracle uses the default parallelism specified in the database initialization parameters.

Specify

You assign the degree of parallelism in the box below.

Collect Histograms with Tables

When this box is checked, select from the following options:

For all ... Hidden ... Indexed Columns

- Indexed columns - Collects data on all indexed columns.
- Hidden columns - A table can have a maximum of 1000 columns. When you create an object table (or a relational table with columns of object, nested table, varray, or REF type), Oracle maps the columns of the user-defined types to relational columns. This creates the effect of "hidden columns" that count toward the 1000-column limit.

If you select Hidden Columns here, Toad will gather data on these columns.

Repeat

Collects histograms only on the columns that already have histograms

Auto

Oracle determines the columns to use to collect histograms based on data distribution and the workload of the columns.

Skew Only

Oracle determines the columns to use to collect histograms based on the data distribution of the columns.

Specify

Specify in the provided box how many histogram buckets to create.

When Deleting Table, Index, or Column Stats, Cascade...

Columns

Column stats will be deleted when table stats are deleted.

Indexes

Index stats will be deleted when table stats are deleted.

Partitions

Partition stats will be deleted when the stats for the table (or index) is deleted

Use Stats Table

A stats table can have more than one set of statistics. Each set is labeled by the Stats ID (which you can leave blank).

For Deleting/Estimating/Computing stats

If checked and filled in the stats will be written or deleted from the specified stats table.

For Importing/Exporting stats

This is the stats table where the statistics will be exported to (or imported from).

Copying Statistics

If you have two or more identical schemas that take a long time to gather stats, you can copy the stats from the one to the other instead of gathering them on the second schema.

On different databases

If the schemas are on different databases, then Toad uses the following procedure to copy statistics.

1. Creates a temporary table to hold stats
2. Exports the stats to that table
3. Copies the stats to the other database
4. Imports the stats from the table to the schema (Use the dropdowns to choose a tablespace.)

On the same database

If the schemas are on the same database, then Toad does not create a temporary table. The entire copy can be done with PL/SQL blocks.

Options

Formatting Options

You can set how Toad formats code when you select [Formatting Tools](#).

To set formatting options

1. From the **View** menu, select **Formatting Options**.
2. In the left panel, select the node that corresponds with what you want to set.
3. If you select a high-level node, the right panel will display a description of the kind of formatting included under that node. If you select a detail node, the settings will display in the right panel.
4. Make your changes. Option nodes that have been changed are displayed in **bold** type.
5. Click the **Save**  button.
6. Close the window.

To clear changes to formatting options

- Before you have saved your options, click the **Undo Option Changes**  button.

To reset all options to default settings

- Click the **Reset all Options**  button.

Related Topics

[Formatting Tools](#)

[Formatting Files](#)

Toad Options

Toad Options

From the **View** menu, select **Toad Options**.

To use options

- Select a category on the list at the left, and the detail panel on the right lists the options for that selected tab.

Option settings are saved in TOAD.INI and restored the next time Toad is opened. Some of these options are set when you first create the TOAD.INI file (when you open Toad for the first time).

You can also search the options as described in [Searching Options](#).

Searching Options

You can search the options lists for the option you want. This can be useful if you remember a basic option, but can't remember where it falls in the categories.

To search for an option

1. From the **View** menu, select **Options**.
2. At the bottom of the Options window is a Find box. Enter several characters from a keyword in this box.
3. Click **Search**.
4. Click a search result or select a result and press **<ENTER>** and the options window displays the page with that option, with the option in bold. The Option Window search dialog box remains open so you can look at all the results before moving on.
5. If you want, you can close the search results area by clicking the arrow beside the **Search** button.

Example

You know there is an option for making your passwords default to the username. But you can't remember where it is in the Options windows.

1. In the **Find** box, enter **pass**. Hit **<Enter>** or click **Search**.
 2. The search results window displays the following options:
 3. Save passwords for Oracle connections
 4. Encrypt saved passwords
 5. Default passwords to User name
 3. Select the appropriate option, in this case Default Passwords to User name. Hit **<Enter>** or **click** the option. The Options window displays the option.
-

Data Grids - Data

Note: Dates can only be entered in mm/dd/yy, mm/dd/yyyy, or the Windows Control Panel, Regional Settings, Date, Short Date Style format. For example, in French, date entry of dd/mm/yy or dd/mm/yyyy is acceptable. Dates entered in dd-mon-yy format will be rejected.

Behavior

Use Read-Only Queries

This option controls the ability to fetch updatable result sets in the Schema Browser and Master/Detail Browser windows.

If unchecked, then you automatically get editable grids in the Schema Browser and Master/Detail Browser.

If checked, then grids are not editable in the Schema Browser and Master/Detail Browser.

Note: Grids in the Editor are editable only if you include ROWID in the query or run an EDIT statement. See [Editable Resultsets](#) for more information.

The default is unchecked.

Confirm record deletions

If checked, will confirm each record deletion before deleting the record. This option also affects the data grids on the Schema Browser "Data" tabs.

The default is unchecked.

Warn of cascading constraints on deletions

This option applies only to the Schema Browser. If checked, when you attempt to delete a row from a grid, Toad will check for an "ON CASCADE DELETE" foreign key constraint. This constraint may cause rows from other tables to be deleted as well. If it is present, Toad will warn you before deleting.

The default is unchecked.

Stop data fetches when available memory becomes less than n MB

You can change the number of megabytes that triggers Toad stopping data fetches. This number includes all available memory, both physical and pagefile.

Display

Use legacy Print Grid

When checked, this tells Toad to use the old Toad print grid dialog box. Unchecked, the print defaults to the newer Report Link Designer.

The default is unchecked.

Font

This option lets you change the font used if you are using the legacy Print Grid.

Show RowID in editable grids

If checked, the row id will display in data grids.

The default is unchecked.

Trim string data in CHAR and NCHAR columns

If checked, for CHAR and NCHAR columns, when data is retrieved from Oracle, any trailing spaces will be trimmed off, showing only actual data.

The default is unchecked.

Display large numbers in Scientific Notation

If checked, then numbers with over 15 digits are displayed in scientific notation in the data grids, and numbers with more than 15 decimal places are displayed rounded to the 16th place.

If unchecked, then all numbers in the data grids are fully displayed and the **Calculator** drop down will be disabled in number cells.

This option is set at the time that you establish your connection in Toad, so if you change the option, you will need to log off and make a new connection in order to see it in effect.

This option can affect exporting to MS Excel. When checked, numbers are sent to excel formatted as numbers, with a possible loss of precision. When unchecked, numbers are sent formatted as strings, and

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with no loss of precision (# of Decimals for Numbers option is ignored). Toad exports numbers up to 15 digits in Number format, and exports anything over as a string format to maintain precision.

Note: If you have the "use only general cell formatting" option selected, then all datatypes are exported as strings.

The default is checked. Keeping this default is recommended.

Date format: (dropdown list)

Normally, the data in Toad for date columns will display in the format selected in the Windows Control Panel. Selecting a different format will override the Windows Control Panel setting.

The default is your Windows Control Panel, Regional Settings, Short Date Style Format.

Time format: (dropdown list)

Select a different time format if desired.

The default is h:mm:ss AMPM.

Sliding window for entering two digit years

This option lets you change the sliding window value for using the current century in two-digit dates. It is the current system date minus the number of years specified in the sliding window option. The range of choice is 0 to 49.

For example, if you specify a 30 year window (which is the Toad default) and enter 1/1/87, the date produced will be Jan. 1, 1987; if you enter 1/1/57 that is outside of the 30 year window so the date produced will be Jan. 1, 2057.

Related Topics

[Data Grids - Visual](#)

Data Grids - Visual

The Data Grid – Visual options control how the grid appears and works visually.

Behavior

Tabs

When checked, the tabs option allows you to tab through one record.

The default is checked.

Note: You cannot tab through multiple records unless Tab Through is also selected.

Tab Through

When checked you can tab through more than one record.

The default is unchecked.

NOTE: In order to tab through the records you must also have Tabs checked.

Row Select

With the Row Select option checked, clicking in a cell in the data grid will select the entire row rather than only one cell.

Unchecked, clicking will select one cell only.

The default is unchecked.

Multi Select

Checking the Multi Select box automatically engages row select. Multi select allows you to select more than one row at a time, using the <shift> or <ctrl> keys to select while clicking on rows.

Unchecked, only one row at a time may be selected.

The default is unchecked.

Immediate Edit

If this option is checked, as soon as you click a data cell in the grid, the grid will enter edit mode. If unchecked, you must select the cell twice to place the grid in edit mode.

If the data grid is not editable, and the option is checked, it will still appear to enter edit mode but the data will not be editable.

If this option is unchecked, you must double-click a data cell to make it editable.

The default is unchecked.

Confirm sorts when clicking on column header

With this option selected, the Sort Options box appears when you click a column header. This allows you to select how you want to sort the data in that column.

Unchecked, the column is sorted immediately without displaying any options.

The default is checked.

Default to Excel style filtering headers

When this option is checked, you can filter the data grid in the same way you can filter an Excel worksheet, with dropdown filtering arrows on each column heading. For more information on Excel style filtering, see the [Filter Results](#) topic.

Note: If Excel Style filtering is enabled for a grid then Grid|Filter Data will be disabled.

The default is unchecked.

Keep Focused Column in View

When this option is checked, if you scroll horizontally using the scrollbar a column still on the screen will become the focused column when the original column scrolls out of view. This way, when you scroll down (or up), there is no horizontal jumping: the data grid remains where you put it.

When the option is not checked, if you scroll horizontally using the scrollbar, the focused column can go out of view. When you scroll up or down, the grid will jump horizontally so that the focused column is back in view.

The default is checked.

Column Sizing

Size to header

Checking this option sizes all columns to the width of the column headers. So if the data is wider than the header, it will be truncated.

The default is unselected.

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Size to data

Checking this option sizes all columns to the width of the data contained in them, rather than to the size of the column header. This allows you to see even the widest data in the table.

Unless "Allow columns to be less than the header width" is checked (see below), the column will never be narrower than the column header.

The default is selected.

Allow columns narrower than header width

If this option is checked, you can make columns narrower than the width of the column header. This can allow you to fit more data on the screen. If this option is not checked, columns will never be narrower than the header for the column, although this may be narrower than the data contained in it.

The default is unchecked.

Preview column height n

Changing the number of lines included in the preview column. Select any number of extra lines from zero to five (0-5).

The default is 1.

Display

Show Focus Rectangle

When this selection is checked, if you select an item in the data grid and then click outside the grid, the item you selected is marked with a black rectangle.

Unchecked, the selected item is no longer selected or marked in any way when you click outside the grid.

The default is unchecked.

Show grid selection

When checked, if you select an item in the data grid and then click outside the grid, the item remains highlighted.

If unchecked, the selected item is no longer selected when you click outside the grid.

The default is checked.

Show grid lines

When selected, a grid appears around data in the results grid: lines divide rows and columns. If left unchecked, the grid lines do not display.

The default is checked.

Grid line width n

This option controls the thickness of the lines between rows on the data grid. The measurement is in points.

The default is 1.

Show row numbers

When this option is checked, a column containing the row numbers is displayed as the first column of the data grid.

The default is unchecked.

Use grid border color

With this option checked, the row numbers are shaded in the same color as the lines in the grid.

The default is unchecked.

Null columns

You can select how null columns are displayed. Options include:

- Blank - null columns display as a blank cell. This is the default.
- {null} - null columns contain the word {null}.
- Yellow - null columns display in yellow.

Data font

Clicking **Grid** in this area displays the font selection dialog box. Changing the font here affects the entire data grid, with the exception of the preview column and headers. All data grids will have the same font. The default is MS Sands Serif 8 point.

Data Background

Select a color from the drop down menu for the background to the data. This will affect all data grids within Toad.

Header font

Clicking **Header** in this area displays the font selection dialog box. Changing the font here only affects the font displayed in the headers of the Data grids. The default is MS Sands Serif 8 point.

Header Background

Select a color from the drop down menu for the background to the header. This will affect all data grids within Toad.

Preview Column font

Clicking **Font** in this area displays the font selection dialog box. Changing the font here only affects the font displayed in the preview column.

The default is MS Sands Serif 8 point.

Related Topics

[Data Grids - Data](#)

Data Types

The Data Types Options page is accessed through the **View|Toad Options|Data Types** item. The options that are checked will appear as items in the Data Types dropdown in the Create Table and Alter Table windows.

Types are listed in the Native Oracle Types panel and the ANSI Types panel. Select **All** and Select **None** buttons are in each panel. You can check and uncheck the individual types. The types checked are the only ones that will be included in the Table Data Types dropdown.

In addition, there are check boxes for:

Include Object Types (Oracle 8)

This option is available on Oracle 8 databases and above.

The default is unchecked.

Cache Object Type list per Connection

Caching the object type list prevents Toad from having to query and load everything in DBA_TYPES whenever you open the create/alter table (or index) screen. Memory usage of this cache should be insignificant. You may want to clear the cache manually if you just created some new object type and want to start using it in the create table screen. The cache automatically clears when the session is ended.

Include Byte/Char spec when creating DDL scripts from 9i databases

This option is available on Oracle 9i databases and above. For example, the script generated from SCOTT.EMP would have these differences:

Checked	Unchecked
<pre>CREATE TABLE EMP (EMPNO NUMBER(4), ENAME VARCHAR2(10 BYTE), JOB VARCHAR2(9 BYTE), MGR NUMBER(4), HIREDATE DATE, SAL NUMBER(7,2), COMM NUMBER(7,2), DEPTNO NUMBER(2))</pre>	<pre>CREATE TABLE EMP (EMPNO NUMBER(4), ENAME VARCHAR2(10), JOB VARCHAR2(9), MGR NUMBER(4), HIREDATE DATE, SAL NUMBER(7,2), COMM NUMBER(7,2), DEPTNO NUMBER(2))</pre>

The default is checked.

DBA

Access this window through the **View|Toad Options|DBA** menu item.

Tablespace map

This area allows you to modify colors and set fragmentation levels used on the [Tablespace Map](#). You can add multiple fragmentation levels

To add new fragmentation levels

1. Click **Add** to add a new Fragmentation level.
2. Select the **fragmentation percentage**. You can either type the number in the box or select it by clicking the up and down arrows until the correct number appears. The cells whose segments equal to or exceeding this fragmentation level will be colored the color you choose.
3. Click the **drilldown**  button to select the color to highlight cells whose segments equal to or exceeding the fragmentation level you have set. The color selection dialog box appears. Click the **color** you want to use and click **OK**.

4. Click **OK** to add the level and close the Add Level dialog box.

To edit colors or fragmentation levels

1. To edit a color choice or fragmentation level, click the item you want to change and click **Edit**.
2. If you have selected a fragmentation level, the Add Level dialog box appears.
3. If you have selected another option, the Color Selection dialog box displays.
4. Make the desired changes and click **OK**.

Delete

You can delete Fragmentation Levels that you have added. You must retain at least one fragmentation level. You will not be able to delete the last fragmentation level.

To delete fragmentation levels

- Select the level you want to delete and click **Delete**.

No warning will display. The fragmentation level is simply removed from the list.

Show segment names on grid hint

If this box is checked, the segment names will display when you run your mouse over the Tablespace Map.

The default is checked.

Remember legend window state

Check this box to remember the state of the legend window when you close the Tablespace map. When checked, opening the map again will leave the legend where you had it last. (Visible or hidden).

The default is checked.

Remember segments window state

Check this box to remember the state of the segments window when you close the Tablespace map. When checked, opening the map again will leave the segments window where you had it last, either visible or hidden.

The default is checked.

Remember filters window state

Check this box to remember the state of the filters window when you close the Tablespace map. When checked, opening the map again will leave the filters window where you had it last, either visible or hidden.

The default is checked.

Confirm before overwriting Export/Import Files

When these options are checked, Toad will prompt you to confirm that you want to overwrite a file when you Export or Import.

Unchecked, Toad will overwrite the file without asking.

The defaults are checked.

Refresh Instance Manager database version during every poll

This determines whether the Instance Manager queries for the database version every time it polls a database. Normally, the database version for a database does not change, so there is no need to refresh it once it has been retrieved. However, this option will allow you to refresh the database version in case of a database upgrade.

The default is unchecked.

Chained row Schema Tablename

This option allows you to choose the tablename for chained rows by entering it in the box.

The default tablename is CHAINED_ROWS. See also [Repair Chained Rows](#).

Caution: The Chained Rows table is where Toad tells Oracle to store the row ids of the chained rows that are found. It is NOT the table that you are supposed to analyze. Remember, Toad will truncate the chained rows table before it analyzes the tables in the list.

Debugger

Note: Since this is an optional Toad feature, it is only available in the commercial version of Toad with the optional PL/SQL Debugger.

All the Option settings are saved in TOAD.INI and restored the next time Toad is opened.

Allow watches on package variables

Provided because the Oracle Probe API call for watching package variables acts differently on Oracle7 and Oracle8 databases. On Oracle7 databases, you have to step into the procedure BEFORE adding a watch on a package variable. On Oracle8, you can set up the watch on the package variable before or after stepping into the procedure. If you do not want to inspect package variables, then uncheck this option.

The default is checked.

Enable Trace Output while debugging

Creates trace information while the Debugger is running, which will help debug the Debugger interactions with the database. This is normally unchecked and is used for tech support or DBA.

The default is unchecked.

Enable DBMS_OUTPUT before debug session

If this box is checked, then DBMS_OUTPUT will be made available for your debug session. If the DBMS_OUTPUT window is not visible and there is DBMS output data, you will need to open it to view your output.

If this box is unchecked, DBMS_OUTPUT will not be displayed.

The default is checked.

This option can also be enabled/disabled from the DBMS Output window in the Debugger.

Step through package initialization

When you have a package that includes package variables, the first time you execute a procedure in the package the variables are initialized. If this option is checked, the Debugger will step to the lines of code where the variables are declared and initialized. If the option is unchecked, the Debugger will never step into the package initialization.

The default is unchecked.

Notify when debugging terminated

If checked, when debugging execution has terminated a message box with confirmation will display indicating Execution has terminated. If unchecked, no message will display at the end of debugging execution.

The default is checked.

Break on exceptions

This option causes the Debugger to stop when it hits a procedure exception (such as zero divide) and display a message. You can then continue debugging the exception handler code or stop.

The default is checked.

Debugger

Choose the debugging package you want to use.

DBMS

Selected, Toad will use the DBMS debugging package.

JDWP

Selected, Toad will use the JDWP debugging package.

- **Host** - Enter the host used by JDWP.
- **Port** - Select the port you want to use for Java debugging.
- **Allow stepping into Java Source** - When selected, you can step into Java source. Unchecked, Java source will be executed but not stepped through.

Script

Selected, Toad will use its internal script debugging abilities.

Transaction Control

These buttons let you choose how Toad deals with transactions in the Editor.

- **Commit** – a COMMIT statement is added to the anonymous block that is used to execute or debug code in the Debugger. Triggers do not default to rollback: they obey the settings for this option.
- **Rollback** – a ROLLBACK statement is added to the anonymous block that is used to execute or debug code in the Debugger.
- **Prompt** – when you finish executing/debugging code in the Debugger, Toad will prompt you to answer the question "Commit changes to debug session?" Answer Yes to commit, No to rollback.

The default is Commit.

Note: If the object has its own rollbacks/commits, the Debugger can only Rollback or Commit anything done since the last commit was performed.

Compile Dependencies Yes/No/Prompt

This will conditionally compile procedures called by your procedure with debug information just before the debugging begins.

- YES compiles all procedures that your procedure calls with debug information.
- NO does not compile those procedures with debug info.
- PROMPT prompts you before debugging each time.

The default is Prompt.

Enable DBMS_JAVA Output

Default Buffer size

Select the buffer size when DBMS_Java output is enabled. The default is 20000.

Display

Use this area to specify how debugging items will display. Select the item in the box at the left, and then specify foreground and background colors for that object.

Debug session timeout (in seconds) box

This option limits the amount of time that the Debugger will wait for the database to respond with debug information. You can enter the number of seconds.

For a slow database, poor network speeds, or connection by modem, increase the number of seconds.

The default is 180 seconds.

Date format for Watches dropdown list

Allows you to select the date format for watched variables. Options are DD/MON/YY, MON/DD/YY, and MON/DD/YYYY.

The default is DD/MON/YY.

NOTE: Date format does not affect the NLS DATE FORMAT for the Toad sessions/ connections. It only affects the Debugger session.

Editor - Behavior

General

Apply commit/rollback to all tabs (threaded queries)

When selected, any commit or rollback selections made in the Editor will apply to all tabs, not just the active one. When unchecked, commit and rollback will only apply to the active tab.

The default is unchecked.

Auto Indent

When selected, Toad will automatically indent lines after you have indented the first. Use this option with optimal fill and Tab Stop settings to specify how the indent is created.

The default is checked.

Backspace Unindent

When selected, you can use the backspace to unindent a selection. When unselected, pressing the backspace key will delete the selected text.

The default is unchecked.

Block Select

When selected, you can select a block of text anywhere on the screen by using your mouse to drag a box around it.

When unchecked, text selection works in the standard manner.

The default is checked.

Clear Grid on editor clear

If checked, when you clear the grid using the Edit menu or <F7>, the query grid will also be cleared.

Note: This does not clear the grid if you select all text and press DELETE, BACKSPACE, or perform a CUT operation.

The default is checked.

Collapse empty lines

When selected, any lines that are empty of text are collapsed to save screen space. Unchecked, these empty lines are displayed.

The default is checked.

Confirm Clear All Text

If clear, you can press the F7 key to clear all text from the Editor window without a confirmation dialog box.

If selected, Clear All will prompt for confirmation from both F7 and the Edit menu.

The default is unchecked.

Copy text in rich text format

When checked, when you copy text formatting will be preserved, and it will be pasted in RTF format. When unchecked, all formatting is stripped and the code you have selected is pasted as plain text.

The default is checked.

Cursor beyond end of line

When checked, the cursor can extend beyond the end of line. This is especially useful when using the block select option, as you can make your block as large as you need it. When unchecked, the selection will not extend beyond the end of the first section you have selected.

The default is unchecked.

Double click line select

When checked, you can select a line by double-clicking on it. When unchecked, you must drag to select the entire line.

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The default is unchecked.

Enable code folding

When checked, code folding will be enabled. Nodes will then be visible at the sides of the code that let you easily collapse or expand the code as desired.

The default is checked.

Find text at cursor

If checked, when opening a Find and Replace dialog box, Toad will automatically look for the word currently under the cursor. Otherwise, Toad will default to the word you searched for most recently.

The default is unchecked.

Group redo/undo

When selected, Toad will redo or undo text changes in groups of keystrokes. Groups are marked by a carriage return or by the change from typing to backspacing.

When unselected, Toad redoes or undoes items one at a time.

The default on both these options is unchecked.

Hide cursor when typing

When selected, Toad will hide the cursor when you are typing. When you stop typing and move your mouse, the cursor reappears.

When unselected, the cursor is visible at all times.

The default is unchecked.

Load Snippets/MakeCode from network server

When selected, Toad will load code snippets from the network server rather than your User Files.

The default is unchecked.

Preload objects on "Load Object from DB" window

If checked, the Object Type filter is bypassed, and all objects from all object types are displayed right away.

The default is checked.

Scroll past last line

When this option is checked, you can scroll until the last line in the editor is at the top of the editor.

Unchecked, Toad stops scrolling as soon as the last line is visible in the editor.

The default is checked.

Treat underscore char as part of object name

If selected, Toad treats all underbar characters, "_", as part of the object name. This can be useful if you often double click object names. With this option checked, a name such as ALL_TAB_COLUMNS will be highlighted. With it unchecked, only the word you click is highlighted (for example: COLUMNS).

The default is unchecked.

Use lower case object names from select windows

If checked, will return selected column names into the editors in lowercase. Otherwise they are returned in uppercase.

The default is unchecked.

Note: Only uppercase object names obey this option. Mixed-case and lowercase object names do not change case, regardless of the option.

- Lowercase object names are, of course, already in lowercase.
- Mixed case names must be double-quoted and cased correctly, as opposed to the situation where an uppercase name is submitted to Oracle in lowercase and automatically interpreted as uppercase.

Use lower case object names from select windows

When checked, returning an object name from a select window will display in lower case (unless the object name has mixed cases).

When unchecked, it will display as it is entered in the object.

The default is unchecked.

Use single Editor instance for PL/SQL if possible

Toad can attempt to locate an editor that contains PL/SQL when loading it from outside of the Editor.

This will cycle through all open Editors and find one that contains PL/SQL. If found then Toad will use that Editor. PL/SQL is determined to exist in an Editor if the parser has successfully identified a procedure, function, package, package body, type, type body, trigger, or Java source object within it. If multiple Editor windows contain PL/SQL then the first one found is the one chosen. If no editor is found Toad will open a new Editor window.

The default is unchecked.

Word wrap

When selected, the editor will use word wrap on long lines, wrapping the text to the next line in the editor.

When unchecked, the editor will place all text on one long line.

The default is unchecked.

Word break on right margin

When checked, if word wrap is selected, the line wraps at the right margin (light gray line in the editor) if it is too long. When unchecked, the line wraps at the end of the visible editor.

The default is checked.

Tabs

Mode

Select the mode you want to use for tabs (spaces, tabs, or smart tab).

The default is Spaces.

Tab Stops

Select the number of tab stops you want to use.

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The default is four.

Optimal fill

When checked, Toad begins every auto indented line with the minimum number of characters possible, using tabs and spaces as necessary.

When unchecked, Toad begins every auto indented line with enough spaces to move the cursor where it needs to be.

The default is unchecked.

Block indent

Enter the number of spaces you want to use for an indent when you use the block indent command. The default is 3.

Languages

The Languages area allows you access to the language management windows, where you can make changes to the language parsers in the Toad editor. (See [Language Management Overview](#).)

Key Mapping

Click the Key Mapping button to select shortcut keys for various editor commands. These shortcuts, limited to the editor commands, are superceded by any shortcuts set in the [Toolbars/Menus|Shortcuts](#) section. If you want to use the navigation keys as shortcuts, uncheck the **Enable Navigation Keys in the Grid** box.

Auto Replace

Click the Auto Replace button to set up options for auto replace. The grid provided lets you specify what keystrokes should be replaced by what text. For example, you can choose to replace all instances of "teh" with "the" automatically. When you have finished making changes and additions, click OK to return to the options page.

Editor - Code Assist

Make Code

You can change the language used when you select Make Code from the toolbar. You also can create your own language template for use in the Editor.

MakeCode format list

From this list, you can select the language syntax for Toad to convert a SQL statement into (Make Code Statement function) and out of (Strip Code Statement function). Currently, Delphi, VB, C++, Java, and Perl are automatically supported.

The default is VB.

MakeCode Variable Name

Enter the Variable name you want to use for MakeCode commands. The default is SQL.

Creating and Editing MakeCode languages

You can create your own templates so that you can switch between more languages than Toad automatically provides, or you can change our own with the Make Code command. Templates are stored with the Code Snippets options in the file templates.xml. For examples of Make Code language, see [Creating Make Code Templates](#).

To create your own language template

1. From the **Options** page, select **Editor|Make Code**.
2. Click **Add**.
3. Enter a name for the template in the Name box.

Note: Toad uses the basic language name for this name, but if you wanted to make slightly different templates for the same language you can name them as desired.

4. Enter the Escape character (if any) that you want to use.
5. Enter the delimiter required by the language you are using.
6. Enter the codes for the language template as described in Creating Make Code templates.

To edit a language template

1. From the Options page, select **Editor|Make Code**.
2. Click **Edit**.
3. Make your changes and click **OK**.

Select Statement based on cursor position

When selected, Toad will parse the code and select the statement residing at the cursor position.

Strip Code copies to clipboard

When selected, if you choose to strip code, the code you strip is copied to the clipboard so that you can easily undo the operation. If you go on to strip additional statements, or perform other tasks that place data on the clipboard, the code is overwritten: only the most recent action is saved.

The default is unselected.

Code Snippets

You can use the Code Snippets area to add, edit, or remove any of the code snippets.

See Editors|Code Snippets for more details about maintaining snippets.

Toad Insight

Display parameter hints after typing open paren "("

If checked, when you are entering parameters in your code, and type the first paren "(", Toad will display hints for the parameter as described.

The default is checked.

Display pick list after typing object name followed by a period

If checked, will display the columns dropdown list. If unchecked, will not display the columns dropdown list.

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The default is checked.

Sort alphabetically

If checked, columns popups are sorted alphabetically.

The default is checked.

Delay for popups ... milliseconds

Use this to select the number of milliseconds Toad should wait before displaying popup hints.

The default is 1500 milliseconds.

Ctrl-Click jumps to PLSQL objects

This option enables the <CTRL><Click> functionality in all PL/SQL Objects. When the hotkey is activated, clicking on the object name will load that object in the editor.

The default is checked.

Ctrl-Click package/type procedure jumps to body

Use this option to enable the <CTRL><Click> functionality in package or type specs. Using this hotkey will take you directly to the body of the selected package, type or procedure.

The default is checked.

Ctrl-Click describes objects

When this is checked, objects are described when you press <CTRL> and click on them. If both this option and Ctrl-Click jumps to PLSQL objects are checked, then Toad first attempts to load the object into the Editor. Failing that, the object will be described.

The default is checked.

SQL Recall

Save only valid statements

When checked, only valid SQL statements are saved in the [SQL Recall](#) area. Unchecked, all SQL statements, valid or invalid, are saved.

The default is checked.

Show only statements for the active session

When checked, only statements associated with the active session will be displayed.

The default is unchecked.

Statements to save:

Enter the number of statements Toad should save to SQL Recall. When the number of statements exceeds this number, the oldest ones will be deleted as new statements are added.

The default is 100.

Limit per connection

When checked, the option to limit saved statements will affect history per session. If it is set to 40, then the active session can have 40 saved statements. There may be more saved statements associated with other sessions.

The default is unchecked.

Write statements to disk prior to execution

When checked, Toad will write SQL statements to the disk before it executes them. This allows you to keep your SQL statement and recall it if something goes wrong in the execution.

The default is unchecked.

Editor - Display

General

Highlight execution line when not debugging

When selected, the line being executed will be highlighted as it is executed. This can be very useful when stepping through code. If unchecked, execution will occur without highlighting the entire line.

The default is unchecked.

Lock results tab

When selected, the active results tab will remain active between editor tabs.

When unchecked, each editor tab can have a different results tab active.

For example:

You have an Editor opened with two tabs. You make the Data Grid results tab active on Tab 1 and switch to Tab 2 and make DBMS Output results tab active on there.

- If Lock Results Tab is selected, when you switch back to Tab 1 the DBMS Output results tab is active, since it was locked as the focused tab.
- If Lock Results Tab is not selected, when you switch to Tab 1 the Data Grid tab is active because it was the last used results tab for Tab 1.

The default is checked.

Persist display of execution time

When checked, the leftmost area of the status bar displays the execution time of the last executed query. If this option is cleared, the execution time is shown until the caret position is changed in the editor. At that time the display changes from execution time to the LINE:COL position of the caret.

The default is unchecked.

Persist dynamic highlighting when not focused

When checked, Toad will keep dynamic highlighting when you move focus into another panel or window within Toad.

When unchecked, dynamic highlighting will not be applied when you are not actively using the code that is highlighted.

The default is checked.

Persist selection when not focused

When checked, Toad will keep selected code highlighted when you move focus into another panel or window within Toad.

When unchecked, selected code will not be highlighted when you are not actively using the code.

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The default is checked.

Persist selection when using navigation keys

When checked, Toad will keep selected code highlighted when you use arrow keys to navigate.

When unchecked, selected code will not be highlighted when you arrow keys to navigate..

The default is unchecked.

Show word wrap indicator

When selected, visual indicators (arrows) display at the end of lines that have been wrapped to the next line in the editor .

When unselected, no indicators are present.

The default is unchecked.

Show control characters

When selected, control characters (such as spaces, tabs, carriage returns) are displayed within your code.

When unselected, no control characters are displayed.

The default is unchecked.

Show current line focus rectangle

When selected, in PL/SQL tab the line of code that has focus will also have a rectangle around it.

When unselected, the rectangle will not display.

The default is unchecked.

Show executable line indicators in gutter

When this option is checked, a blue dot appears in the gutter of lines that have executable code.

The default is checked.

Show line numbers

When checked, line numbers will display to the left of your code. When unchecked, no line numbers will display.

The default is checked.

Show results tab toolbars

If checked then any toolbars that results tabs have will show. If clear then they are not shown.

When checked, this option displays the toolbars in the Debug windows. Uncheck this option to hide the toolbars in the Debug windows.

For example, the Editor Data Grid tab has a toolbar with VCR style navigation bars and this toolbar will be shown or not shown based on this option.

The default is checked.

Use multi-line editor tabs

This option lets you choose whether all of the tabs will appear in one line (unchecked) or whether they will be shown in multiple rows when the list of tabs is too wide for the window (checked).

The default is unchecked.

Syntax Highlighting

Highlight table names

If checked, will show table names in the Editor window, and other editors, using the syntax-highlighting feature. If unchecked, table names will appear in black text.

The default is checked.

Highlight view names

When checked, view names will be highlighted.

The default is unchecked.

Highlight stored procedure names

When checked, stored procedure names will be highlighted.

The default is checked.

Use when printing

When checked, syntax highlighting will be printed.

Unchecked, code will be printed in plain text.

The default is checked.

Fonts

Line number

Use this to set the font for line number display.

Hex font

Use this to set the font for the middle (hex) column in the hex editor.

Offset font

Use this to set the font for the leftmost (offset) column in the hex editor.

Text font

Use this to set the font for the rightmost (text) column in the hex editor.

Gutter and Margin

Use these to set the width and position of visible gutters and right margins.

Visible gutter width:

Specify the width of the gutter you see to the left of your code. The default is 50.

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Visible right margin position:

Specify the position of the right margin on your screen to make your coding area wider or narrower.

The default is 80.

Background Color

Set the background color for the windows in your editor. You can select from any of the default Windows settings or specify your own color scheme.

The default is Window background, which corresponds to the Window Background setting for Windows.

Hex Editor Bytes per line: n

Use this option to specify how many bytes per line will display.

The default is 20.

Editor - Open/Save

Opening Files

File splitting was designed to accommodate users with multiple PL/SQL objects in a single file. This feature lets you load multiple objects from one file and save package specs and bodies to one file.

When a file is loaded, the procedure editor checks to see whether more than one PL/SQL object is created in the file. If so, the procedure editor takes action depending upon which of the options listed below is set.

The default is Prompt to split files.

Automatically split files when multiple objects separated by "/"

This option will automatically split files when Toad comes across a "/". Toad assumes you want to split different objects onto different tabs.

Each section divided by a forward slash will be placed in a separate tab. This could become a difficulty if you ever load and edit files that are not packages, for example, using the editor to edit HTML files as described in Syntax Highlighting.

See [Save to separate files after splitting](#) below for more information about saving files that Toad has split.

Prompt to split files

When this option is checked, Toad will ask if you want to split a file into separate tabs. Splitting the file is recommended, but you can choose at the prompt to keep the file as one.

Note: If you do not split the file, compiling will be disabled.

Never split files

When this option is checked, Toad will always load files into one tab and never split a file into body and spec.

Note: This option disables compiling.

Saving Files

When a package spec and body are both loaded from database into the procedure editor, and you choose to save to file, Toad's behavior depends on these options.

If only the spec or only the body is loaded, then only the object that is loaded will be saved to file.

The default is Never combine spec/body.

Automatically combine spec/body when saving object to file

Puts spec and body into the same file.

Prompt to combine spec/body

Prompts you every time you close the files.

Never combine spec/body

Saves only the object on the current tab.

Use file splitting tags `"/* <toad_file_chunk */`

This option lets you resave your split files into one file. Toad inserts the tag in the location where the file was split as a remark, so that it can easily split the file back out into separate tabs later. This allows you to save your files as single files, but still compile them and work in separate tabs within Toad.

The default is checked.

Save to separate files after splitting

If you have chosen to split a file into multiple tabs, Toad's treatment of the file depends upon this option to separate files after splitting.

- **Unchecked:** Keeps the original filename and load the contents of the file into separate tabs, so that there is one tab per object. Toad then keeps track of the fact that the tabs are all associated with the same file. You can choose whether or not to use "Toad file splitting tags (see above option). If you aren't using the "Toad file splitting tags", Toad assumes that any single "/" on a line by itself separates objects.
- **Checked:** Split the contents of the file into separate tabs so that there is one tab per object, but don't associate the tabs with any filename. This lets the user specify the filename when saving the tab.

The default is unchecked.

File Loading/saving

Prompt for reload on activation if timestamp has changed

If checked, this allows editing in an external editor. When an Editor window containing a file is reactivated (gets focus), Toad will check the date stamp of the file to see if it was modified by the external program. If the file was modified, Toad will display a prompt dialog box that will say that the file date/time has changed and ask you if you want to reload it. Select Yes, and the file will reload.

The default is unchecked.

Prompt to save on editor close

If checked, Toad will prompt you to save any text you typed in the editor.

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Note: Even if this option is cleared, a loaded and modified file will always prompt you to save the contents.

The default is checked.

Format files when opened

If selected, this option will automatically format any file opened in the Editor, using Toad's built-in formatting capabilities. Formats can be customized using the View|Formatting Options window.

The default is unchecked.

Object Loading

Owner Name

Select when to include the owner name when listing an object.

- Always include - always include the owner name automatically. For example, JSMITH.TABLENAME. This is the default.
- Never include - never include the owner name automatically. For example, TABLENAME.
- Include on loads from other schemas - include the owner name automatically only when the object is loaded from a different schema.

Packages/Types

Load Spec and Body as pair (Package or User Type)

If this option is checked, when you load a package or a type spec or body into the Editor, the associated spec or body will also be loaded.

The default is checked.

Separate Tabs

When checked, the spec and body will be loaded in separate tabs. When unchecked, the associated spec or body will be loaded into the same tab.

The default is checked.

Editor - Printing

Use the Printing options to specify how the editor contents are printed.

Options

Word wrap

When selected, text entered into the Editor will wrap to the next line when it reaches the margin.

When unchecked, text will not wrap, but remain on the same line until it reaches an end of line code (line feed, carriage return, and so on).

The default is checked.

Hide collapsed

When selected, collapsed (folded) text will not be printed.

When unchecked, all text prints.

The default is unchecked.

Transparent

When selected, if you have line highlighting selected in [Language Management|Highlighting](#), the highlighting will not print.

When unchecked, line highlighting will be printed.

The default is unchecked.

Colors

Select the color scheme you want to use to print: RGB (color), Gray-scale, or black and white.

The default is RGB.

Line Numbers

Select whether to print line numbers, and where they should be placed.

The default is None.

Fonts

Use the fonts area to set the printing fonts for specific parts of the editor printout.

- Header - sets the font for printing the header.
- Footer - sets the font for printing the footer.
- Line Numbers - sets the font for printing line numbers.

Header and footer

Use these areas to set a header or a footer to print when you print the editor contents. You can include tags to specify that certain things should be included.

They are:

- #page# - Include the page number.
- #title# - Include the filename.
- #date# - Include the date.
- #time# - Include the time.
- #datetime# - Include both date and time.

Both header and footer can contain multiple lines. They are saved in EditorHeader.txt and EditorFooter.txt, in the \User Files folder.

By default, the header contains #title# and the footer #datetime# and Page #page#.

Email Settings

Set email options globally for the various Toad tools and managers that allow email notification from this options page. These tools and managers include:

- [Instance Manager](#)
- [Database Health Check](#)
- [Database Monitor](#)
- [Rebuild Multiple Indexes](#)
- [Compare Schemas](#)

Global Settings

These are the settings that are applicable for all of the email windows. Enter your SMTP server information and user name here. The default port number is 25. You can change it if the port you use is different from the standard. If a password is required you can select that and enter it as well.

You can also send test email to test settings you have configured.

To send Test Mail

1. Fill out your email settings. All required fields (*) must be entered.
2. Click the **Send Test Mail** button. Toad will either send the test mail, or notify you as to why it could not be sent.

Window Settings

To select settings

1. In the **Windows** box, click the **Toad window** you want to adjust. For example, click Health Check. Health check is highlighted, and the rest of the boxes display the options for the Health Check window.
2. The **Subject** and the **From Name** boxes have default entries. These can be changed.
3. You will need to enter the **Reply To** address and the **From Address**.
4. You can also change the priority from **Normal**.

To add recipients

You can add an email address to the To, CC or BCC boxes.

1. Click the "+" (plus) button.
Or

Press <**Insert**> on the keyboard. An Add Recipient dialog box appears.

2. Enter the address and click **OK**. The address appears.

To delete recipients

1. Highlight one or more email addresses in the To, CC or BCC box and click the "-" (minus) button.
Or

Press **Delete** on the keyboard. A confirmation dialog box appears.

2. Click **Yes** and the addresses are removed.

To copy settings

You can copy all of the settings from one window to another:

1. In the **Window** box, select the **name** of the window that has the appropriate settings.
2. Drag it to the name of the window you where you want to assign those settings. A confirmation dialog box appears.
3. If the windows are correct, click **Yes** to copy the settings. This copies all setting except the Subject line.

In addition, you can copy any of the recipient addresses between the To: , CC: , or BCC: boxes by clicking and dragging them.

To clone settings

You can copy all settings except the subject from one window to all other windows that require email settings.

- From the Toad Options|Email Settings page, click **Clone Settings**. A confirmation dialog box appears.
-

Executables

Access this page from the **View|Toad Options|Executables** menu item.

It contains boxes for the paths of the following executables:

- SQL*Plus
- SQL*Loader
- Import (used in the Import Utility Wizard)
- Export (used in the Export Utility Wizard)
- TKProf
- TNS Ping (used in the Database Monitor window)
- Wrap
- Export Pump
- Import Pump
- Ping (used in the Database Monitor window)
- Editor (external editor)

You can click the find icons to use the autofind feature and the executable location will be filled in or you can click the drilldown button to search through your directories.

Execute/Compile

Behavior

Poll for DBMS Output when detected

When selected, Toad will automatically poll for DBMS Output if output is detected when executing a script. If unchecked, you must tell Toad to poll for DBMS output.

The default is checked.

Prompt for substitution variables

When checked, the Editor will prompt you for variable values when it encounters a substitution variable in the SQL to be executed. Variable formats are: &VAR, &&VAR, and :VAR.

The default is checked.

Always open Parameters window

When checked, the parameters window will open for changes whenever you debug or execute a procedure.

When unchecked, the parameters window will not open automatically, but can be opened manually using

the Set Parameters  button on the debugger toolbar.

The default is checked.

Save proc parameters between sessions

When checked, the parameters you enter for PL/SQL objects are saved to your ToadParams.ini file when you set parameters for debugging and are restored from the ToadParams.ini file for your next debugging session.

The default is checked.

Compiling

Allow compiling when source is loaded from database

If checked, this allows you to compile the code immediately when source is loaded from the database.

If unchecked, you must first save it to disk before recompiling, and a dialog box will display, announcing, "You may not recompile directly from database."

The default is checked.

Compile Spec and Body as pair (Package or User Type)

If you have both spec and body loaded in the editor, when you press Compile (<F9>), this option compiles the spec and then the body.

This option is especially useful if you use file-splitting for packages and want to compile both objects at the same time.

The default is unchecked.

Default to "Compile with Debug"

If this option is checked, the Toggle button will begin in the on position each session.

The default is checked.

Use "CREATE" instead of "CREATE OR REPLACE" when loading database objects

If this option is checked, the Create Procedure will not overwrite an existing object. When loading PL/SQL into the Editor, the Create clause will read, "Create Procedure/Function/Package ...". This is useful if, when compiling this procedure, a different object of the same name already exists in the database, hence the compile will fail, instead of overwriting it.

If unchecked, the Create clause will read, "Create or Replace Procedure/Function/Package" and overwrite any existing objects that have the same name.

The default is unchecked.

Notification when compile process is complete

When checked, this plays the ToadLOAD.WAV (croak sound) when the compile of a procedure has completed.

The default is unchecked.

Set optimizing compiler value (10g only)

Enter a 0, 1, or a 2 in the box. If checked, Toad executes the following query on a new connection and also when the options window options are applied for any 10g connections:

```
ALTER SESSION SET plsql_optimize_level=X
```

where X is the value entered in the dropdown.

The values set the level of optimization that Oracle uses to compile PL/SQL library units. For more information, see your Oracle documentation.

2 is the Oracle default.

Set Modified Flag off after compiling from database

When checked, whenever you compile source from the database, Toad will toggle the Modified flag, allowing you to tell when source has been modified.

Note: It is strongly recommended that if you are using Team Coding features you leave this checked.

The default is checked.

Login Scripts

Glogin.sql (traditionally for group login settings) and login.sql (user's personal login settings) are Oracle standards and used by SQL Plus as well as other applications. TOAD supports these for Editor script executions. These boxes are read-only. Toad uses a SQL Plus algorithm to locate them.

Note: glogin.sql is executed first and then login.sql is executed. Therefore, any settings in login.sql will take precedence over any settings that coexist in glogin.sql.

For example, if SET LINESIZE 100; resides in glogin.sql and SET LINESIZE 150; resides in login.sql then 150 will be used for LINESIZE.

glogin.sql

glogin.sql is most often located in the ORACLE_HOME\sqlplus\admin folder.

You can edit this file by clicking the Edit File button. The file will open in your selected text editor.

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login.sql

Login.sql can be used to store initial settings for a script execution session. Toad finds login.sql by first searching the initial working directory of Toad upon startup. This is usually the installation folder, but may be another if you have changed the start location.

If login.sql is not found there Toad searches the SQLPATH for the active home. SQLPATH, like a PC's PATH variable, can contain many directories each separated by a semi-colon. For example:

```
'C:\Oracle\dbs;C:\MyPersonalOracleScripts;C:\TOAD\User Files'
```

In this example, Toad first searches C:\Oracle\dbs is searched for login.sql then continues on to C:\MyPersonalOracleScripts and so on. When login.sql is found, searching is aborted and that is the one used.

Execute login scripts

When this option is selected, login scripts will be executed. When clear, they will be bypassed.

The default is unselected.

Restore SET defaults prior to script execution

When checked, the settings in the default settings file will be restored prior to every execution of a script in the Editor. If unchecked, they are loaded at Editor startup and any changes persist for all executions that follow.

The default is selected.

Script Output

Limit results to

Selecting this option and entering a number in this box will limit your SELECT to that number of rows. Any results beyond that number of rows will be truncated. Entering 0 in the box will show all rows.

The default is unchecked.

Warn when available memory becomes less than n MB

When selected, if the result set takes up too much memory, Toad will warn you and give you the option of continuing or ending your query.

The default is checked and 50 MB.

Show Script Grids

When checked, script queries that return row results (for example: Select * from MyTable) send results to the Script output tab and a Grid.

To disable the Grid output, clear this check box.

The default is checked.

Maintain Script History

When checked, Toad will maintain a script history. When clear, Toad will not maintain one.

The default is unchecked.

Show Script Start/End times

When checked, the start and end times of the script are displayed in the output area.

The default is unchecked.

Font

Select the font you want to use for script output. The default is Courier.

Error Font

Select the font you want to use for script errors. The default is Courier in red. Using this you can see the error message within the script output much easier than if the same font is used.

Files - General

File Types:

Nearly all - but not all - of the File Open, File Save and Export file dialog windows displayed through Toad are for the purpose of manipulating SQL files. The grid dialog box lets you customize the file extensions that display in the system dialog box windows. To add another filter, begin typing in a blank row. To delete a filter, highlight the text and press the <DELETE> key.

The default filters include:

File Type	Filter
Function	*.fnc
HTML	*.html, *.htm, *.asp, *.xml, *.xsl, *.xsd
Ini	*.ini
Java Source	*.jvs
Java	*.java, *.jvs
Package Body	*.pkb
Package	*.pks
PL/SQL	*.sql, *.prc, *.fnc, *.pks, *.trg, *.vw, *.tps, *.tpb
Procedure	*.prc
SQL	*.sql
Text Files	*.txt
Text	*.txt
Trigger	*.trg
Type Body	*.tpb
Type	*.tps
View	*.vw
All Files	*.*

To create a file association

1. Click **Add**.

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2. Enter a description in the type box.
3. Enter the extensions you want associated with that type in the Extensions box.
4. If you want these associated with Toad on a windows level, check the "Open with Toad" check box.

*This creates a windows file association for the specified file extensions. If you double-click in the file explorer on a *.SQL file, for example, then Toad will startup automatically.*

5. Click **OK**.

Save source files in Unix format

When this is checked, CR-LF character pairs are saved as LF, making the source compatible with Unix.

The default is unchecked.

Use Universal Naming Convention (UNC) for file and folder names

If checked, Toad will convert file and folder names to UNC. This affects all open/save dialogs and the Project Manager.

The default is checked.

Number of files to save in recently used file lists

This option designates how many recently used files to maintain in the files list. Less recently used files over this number of files will drop off the list.

The default is ten.

Files - Open/Save Dialogs

This screen controls the "Favorites" box on the open/save dialogs. You can specify favorites or remove them from your list here as well as from an Open/Save dialog.

Favorite Folders

Manage your favorite directories from this option window.

You can Add, Edit, or Delete entries. If Sort alphabetically is not checked, you can select a directory and move it up or down in the list.

Sort Alphabetically

If this is checked, all directories will be listed in alphabetical order. This makes them easier to organize. If unchecked, entries are listed in the order in which they were added, and you can rearrange the order

The default is checked.

General

Confirm before closing Toad

If checked, will you with <YES> or <NO> buttons when you either click the control box close Toad application button or select menu item File|Exit.

The default is checked.

Flash TOAD when inactive and messages are written to the output window

When this option is checked, if Toad is inactive Toad's taskbar icon will flash when output messages are written.

The default is unchecked.

Flash the output window when messages are written to it

When this option is checked, if Toad is the active application the output window will flash when messages are written to it.

The default is unchecked.

Display units for extents

Select the type of units you want to use to display extents: Bytes, Kilobytes, Megabytes.

The default is kilobytes.

Save Settings every n minutes

When selected, Toad will save your settings at the interval you set. Choose a number of minutes to save settings.

The default is unchecked.

When selected, the default is 3 minutes.

Save n Toad Actions per action type

Use this option to limit the number of actions of each type (email, export ddl, and so on) Toad saves.

The default is 10.

Exception Logging

Log File

Enter the full path and filename for the log file. If you leave this blank, the log file will be sent to the main TOAD.EXE directory.

Number of errors to log

Specify the number of errors you want to maintain in the log file. The last *n* errors are saved. The default is 10.

Numeric characters

Use these options to set the decimal and thousands separator for display purposes. Both must be set, and they must be different. Options in the dropdowns for both include:

- , (comma)
- . (period)
- (space)

User Files Directory

Use this to set the directory used to load your user files. The default is the Toad\User Files directory. Enter the pathname of the directory you want to use.

Temp Files Directory

Use this to set the directory Toad uses to store your temporary files. The default is the Windows temporary file folder.

Related Topics

[Toad Options|Oracle|Transactions](#)

Instance Manager

Use the Instance Manager options to select which servers to poll, and which servers should alert you when they go down.

Servers to Poll

In the Servers to poll area, you can select servers in one of three ways.

- To select all servers, click **All**.
- To clear the entire server list, click **None**.
- To select or clear individual servers, click in the **check box** next to the name of the server.

Alert when down on

In the Alert when down on area, you can select servers in the same manner you do for Servers to Poll.

- To select all servers, click **All**.
- To clear the entire server list, click **None**.
- To select or deselect individual servers, click in the **check box** next to the name of the server.

Note: If Enable Alerts (see below) is not checked, no alert will be sent, regardless of which servers are selected in this area.

Enable Email Alerts

Select this check box to enable alerts to you when one of the servers goes down. Unchecked, no alerts will be sent.

Alerts are sent whenever Toad polls a server, listener, node or database and finds it down or inaccessible.

If you choose to enable email alerts, you will need to set up your email settings. See Toad Options|[Email](#). All email settings must be present (User ID, Server, From, To) for an email to be sent.

The default is checked.

Use Tray Icon

Check this box to open a tray icon for alerts. When this box is checked, an icon of a Toad will appear in your system tray. As long as Instance Manager is open, the icon will remain.

When there is an alert, if the Enable Alerts check box has been marked (see above) AND the instance manager is in the background, the toad will blink, alerting you to the server, database or listener failure.

The default is checked.

Poll upon Opening

When this option is checked, Toad will immediately poll the selected servers when Instance Manager is first opened.

The default is checked.

Monitors

Database Monitor

This lets you set up numerous thresholds and alerts. Each item in the series list corresponds to one line on the graph. You can enter the minimum and maximum threshold values.

Enable alerts

If **Enable alerts** is checked, Toad alerts you when a threshold has been exceeded. The Database Monitor window must be open for alerts to be enabled. (In Windows NT you can click the blinking Toad and the Database Monitor window will display in the foreground.) You can also have alerts emailed to you or saved to a file (see below).

Enable Scripts

If **Enable scripts** is checked, when an alert is triggered on a data series, the script that is listed for that data series will be loaded into an Editor and run.

Use Tray Icon

Use Tray Icon will display a blinking Toad icon in your system tray if you have an alert and you have enabled alerts.

Alert file

Enter a path and filename in this box to send any alerts to the named file. New alerts are appended to the file, creating a log of alerts received.

Clear

Click the clear button to clear any alerts you have set in the grid.

Unix Monitor

Options for the Unix Monitor window let you save the various sizes and positions of columns, as well as the window size, making it easier to just set the view you want and come back to it later.

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Save process list column sizes

When this box is checked, you can set process list column sizes and Toad will remember them from session to session.

Unchecked, Toad restores process list columns to their default size when the Unix Monitor window is closed.

The default is unchecked.

Save process list column positions

When this box is checked, you can move the process list columns around and Toad will remember their positions from session to session.

Unchecked, Toad restores columns to their default positions when the Unix Monitor window is closed.

The default is unchecked.

Network Utilities

Network Utilities Options allow you to set some of the parameters for using the tools provided by the Network Utilities window.

Adding and Editing Host , User names, and Default Directories

You can add, edit and delete Host and User names for use in several windows. These names will appear in the dropdown menus in Telnet, Rexec, and Ping. You can set a default directory for each host.

- Click **Add** to add new host information. Add your host, user name and directory and then click **OK**. You can have more than one user per server host.
- Select an existing **Host name** and click **Edit** to change it. The host information dialog box appears. Make changes and click **OK**.
- Select an existing Host name and click **Delete** to delete it. The name is deleted.

Caution: When deleting an existing Host and User name, there is no warning. If you click Delete, the selected name will be deleted immediately.

FTP ASCII Extensions

You can define FTP extensions for ASCII files to control the transfer mode while using FTP. If you have listed an extension under ASCII, then files of that type by default will be sent using ASCII. Any extensions not listed in this box will be sent using binary. Add additional extensions by clicking **Configure** and selecting from the list. You can also add new extensions by clicking **Configure|Add New**.

FTP View Extensions

You can assign extensions that will open in the Editor when you fetch them using the FTP feature. Any extensions not listed will be sent but not opened in the editor. Add additional extensions by clicking **Configure** and selecting from the list. You can also add new extensions by clicking **Configure|Add New**.

Telnet and SSH

Font

You can change the font used for the telnet utilities.

1. In the appropriate area (Telnet or SSH), next to the Sample Telnet font, click **Font**.
2. Select the **font formats** you want to use when using the telnet utility. Click **OK**. The sample Telnet font changes to the font you have chosen, and the next time you telnet, this font will be used.

Background Color

You can change the background color used for the telnet utilities.

1. In the appropriate area (Telnet or SSH), next to the Sample Telnet font, click **Color**.
 2. Select the **background color** you want to use when using the telnet utility. Click **OK**. The background of the sample Telnet font changes to the color you have chosen, and the next time you telnet, this color will be used.
-

Oracle - General

Passwords

Save passwords for all Oracle connections

Normally, only the schema and database are saved to the TOAD.INI file for each new Oracle connection. Checking this option will save the passwords, too. Be sure you work in a secure environment where your TOAD.INI file will not fall into the wrong hands. All passwords in Toad are encrypted using AES encryption.

This option can be toggled from the [Save Passwords](#) check box on the [Server Login](#) window as well.

The default is unchecked.

Remember passwords for Oracle reconnects

If this option is checked, then **Session|Test Connections** will not prompt for a password. To remember passwords when you close Toad, see [Save passwords for Oracle connections](#), above.

If this option is unchecked, then **Session|Test Connections** will prompt for a password, and the Server Login window will prompt for a password every time you connect, unless Save passwords for Oracle connections is checked.

Checking this option keeps your passwords in Toad's memory if a connection is broken. This may be a security risk.

The default is checked.

Newline format for character data

These options apply to the [Popup Text Editor](#) in the data grids.

Windows style (convert all newlines to CR/LF)

If selected, when Toad reads data from Oracle into the data grids, it will retrieve it without converting LF's or CRLF's. But when the text from a column is opened in the popup text editor, any linefeeds found in the text will be converted to CRLF's, and if the data is altered, Toad will post any CRLF's or LF's it finds in that data as CRLF's.

The default is cleared.

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Unix style (convert all newlines to LF)

If selected, when Toad reads data from Oracle into the data grids and the popup text editor, it will read linefeeds (LF) as carriage return-linefeed pairs (CRLF). Then if data in the text columns is altered, Toad will post any CRLF's or LF's it finds in that data as LF's.

The default is selected.

Explain plan

Schema

This is the schema name that will be used when writing out and fetching Explain Plan data.

The default is the windows logon name.

Table

This is the table name you want Toad to use when saving Explain Plan results. See the [Server Side Install Wizard](#) topic for more information.

The default is "Toad_PLAN_TABLE".

Save previous Explain Plan results (requires Toad tables)

If checked, will save the Explain Plan outputs in the Toad tables, viewable in the "Database|Optimize|Explain Plan" window.

The default is unchecked.

DBMS Output

DBMS Buffer Size

Set the size of the DBMS buffer here. When the buffer exceeds this size you will receive a buffer overflow error. If you are using Oracle 10g, this buffer size is automatically set to unlimited and disabled from change.

DBMS Output Font

Click this button to set the font for [DBMS output](#) displays.

Default Schema

Default schema for connections to: current connection

You can enter a default schema in this box. When a connection is made to this database, the Schema Browser will open to this default schema if it exists on the Database.

If the schema does not exist on the connected database, the Schema Browser will open to the connected schema.

This option can also be changed using the Schema Browser popup menu|**Set current schema as default** or **Clear default schema**.

The default is no schema selected.

Default schema for connections to: [current schema@current connection](#)

You can enter a default schema in this box. When a connection is made to the database, the Schema Browser will open to the specified schema if it exists on the Database.

If the schema does not exist on the connected database, the Schema Browser will open to the connected schema.

This option can also be changed using the Schema Browser Popup menu|**Set current schema as default** or **Clear default schema**.

The default is no schema selected.

Used in

Click the **Used in** button to specify which windows will obey the default schema options. All default to OFF except the Schema Browser.

OCI Array Buffer size number box

This option lets you set the size of the OCI Array buffer.

When a SELECT query is executed, Toad retrieves the rows from the Oracle server. Toad retrieves the rows in blocks. The number of rows retrieved in each block is the number of rows you specify with the OCI Array Buffer Size option.

You can set the buffer up to a value of 999. The disadvantage to a higher setting of OCI Array Buffer Size is that Toad must allocate memory to hold that many rows prior to each fetch. If that many rows are actually fetched, there is no loss. On the other hand, if not that many rows are retrieved, then some memory is allocated that will not be released until the cursor is freed. Overall, this amount of allocated memory is generally unnoticeable.

The default is 500.

Single-step when spooling SQL to screen

If checked, Toad will put each SQL step it uses into a separate Debug Output screen. You must close each output dialog box one at a time in order to continue. This gives you a way to step through the code that Toad creates and see what Toad is doing in more detail.

The default is unchecked.

Related Topics

[Oracle Optimizer Hints](#)

CR/LF Example

You can use the following script to demonstrate the [Newline options](#):

```
CREATE TABLE crlf_comp
(textcol VARCHAR2(20));

INSERT INTO crlf_comp VALUES ('crlf' || CHR(13) || CHR(10) || 'char'); /*Carriage return
linefeed combo*/

INSERT INTO crlf_comp VALUES ('line' || CHR(10) || 'feed'); /*Linefeed only*/

COMMIT;
```

Windows style

- The cells in the grid will show two black characters for a CrLF, and one black character for a LF.
- The memo editor will start a new line when it encounters a CrLF, but will just show a black character when it encounters a LF.
- When you post data from the memo editor, the line separator will be a carriage return + linefeed.

Unix style

With the option checked:

- The cells in the grid will show two black characters for a CrLF or a LF.
 - The memo editor will go to a new line whenever it encounters a CrLF or a LF.
 - When you post data from the memo editor, the line separator will be just a linefeed.
-

Oracle Optimizer Hints

This option screen lets you select the best optimizer hint for the DDL queries that Toad executes. You can choose between Default, /*+ CHOOSE */, /*+ RULE */, and /*+ FIRST_ROWS */.

Optimizer hints for several DDLs are built into Toad. You can edit these, or add others if necessary.

The screen is laid out in grid format, with the DDL, Oracle version and rule.

All Others

At the bottom of the window is a dropdown field. Use this to select an optimizer hint to use for any view not specified in the main Optimizer hint grid. For example:

- Toad is about to run a query against DBA_TABLES on Oracle 8i.
- First it looks in the grid: if dba_tables for 8i is specified in the grid, then it will use the hint specified there.
- If dba_tables for 8i is NOT specified, Toad will use the hint specified by the "all others" combo box.

To edit an optimizer hint

1. Click in the **Optimizer Hint** column of the record you want to edit.
2. From the **dropdown**, select the hint you want to use.

To add an optimizer hint

1. Put the grid into **Edit** mode by checking the **Edit** check box at the bottom of the window.
2. Click the **Insert Record**  button at the top of the window. A new record is inserted above the location of your cursor in the grid.
3. Click in the **View Name** column of the new record and then select the **view name** from the dropdown list.

4. Click in the **Oracle Version** column of the new record and then select the **Oracle version** from the dropdown list.
 5. Click in the **Optimizer Hint** column of the new record and then select the optimizer hint you want to use from the dropdown.
 6. Click the **Post Edit** button at the top of the window to complete your edit.
-

Related Topics

[Oracle Options](#)

Oracle - Transactions

Execute queries in threads (Creates a separate session)

When checked, Toad will create a separate session specifically to execute queries. A new session will be created for each query being run from the Editor, Schema Browser, or Object Search window.

The default is unchecked.

Execute scripts in Toad session

When unchecked, Toad will create a separate session specifically to execute scripts.

When checked, Toad will execute scripts within the main session.

This provides considerably more flexibility for how scripts perform. For example, you can now execute a script with a DISCONNECT command in it:

- If the option is checked, it will disconnect the Main Toad session.
- If the option is unchecked, the disconnect will execute correctly in its separate session, having no adverse affect on the main Toad session.

The default is unchecked.

Commit after every statement

When checked, Toad will commit every time a statement is run, after any posted edits are made in the grid, and after a row is deleted in the grid.

The default is unchecked.

Use a separate connection when Toad itself is generating transactions

When Toad is putting data into the Explain Plan tables, this setting will force Toad to use a separate connection.

Note: When using this option and connecting to a RAC instance, you must have the TNSNAMES entry for the instance where the server directed the transaction. Or, you must connect directly to an instance of the cluster without letting the server assign an instance.

The default is unchecked.

When Closing Connections

Commit

When selected, Toad will automatically commit when closing a connection.

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Rollback

When selected, Toad will automatically roll back any changes before closing a connection.

Prompt For Commit/Rollback when changes detected, or detection is not possible due to lack of privileges on dbms_transaction

When selected, Toad will always prompt you when you close a connection if any changes are detected, or if detection is not possible.

This is the default.

Reminder: Oracle will perform a commit after any DDL modifications.

Proc Templates

This option lets you add and remove templates. You can add as many or as few as you need.

To access proc templates

- Access this option from **View|Toad Options|Proc Templates**.

To add a template

1. Click **Add**. The "Choose a DB Option File" dialog box displays only SQL files.
2. Select the **SQL file** that contains your template and then click **Open**. The file is included on a new line.
3. Click in the **Display Name** field for the new template and edit the name to something descriptive.

Templates must be created before you add them. Include the CREATE OR REPLACE statement. The macro %TriggerOpts% will receive the trigger options you select when creating a new trigger.

Note: There are two template types that you can use only within packages. These are Package Function and Package Procedure. You can create and edit these templates from the Toad Options|Proc Templates page, but you cannot access them from the [Create PL/SQL Object window](#). See [Using Templates from within Packages](#) for more information.

To delete a template

1. Select the **template** you want to remove by clicking on it.
2. Click **Delete**. A confirmation dialog box appears.
3. Click **OK** to remove the template.

To edit a template

You can easily edit a template through an external editor (configure from [Toad Options|Proc Templates](#)).

1. Select the **template** you want to edit by clicking on its name.
2. Click **Edit File**. The external editor opens with the template loaded.

Note: you must have an external editor specified in Toad Options|[Executables](#) to use the edit feature.

3. Edit your template and save it.

Substitution variables

This lets you add and remove template substitution variables. These variables are used to populate the New Procedure templates with default values or values in addition to the Toad defined variables (for example, %DATE%, %TIME%). You can add any substitution string you like and a default value for that string.

Value for %username% variable

This value you enter in the box will be substituted automatically for %USERNAME% when new procedure templates are read up into the Editor.

The default is blank.

Related Topics

[Create New PL/SQL Object](#)

[Using Templates within Packages](#)

Query Builder

Behavior

Automatic AutoJoin

When selected, this feature will automatically check foreign key constraints and join tables that are dropped into a model with other tables. If this option is unchecked, then you can manually join tables with the table popup menu.

The default is checked.

Include schema in generated SQL

When checked, this feature will always precede the table name with the schema name (such as, myschema.mytable) in the generated SQL. Schema names are always used if the table belongs to a different login.

The default is unchecked.

Automatically Select All Columns

When checked, this feature automatically selects all columns when a table is added to the Query Builder. If unchecked, no columns are selected, and must be selected manually.

The default is unchecked.

Allow Cartesian Joins

This option, when checked, lets you allow cartesian joins between tables.

The default is unchecked.

Warn

When selected, Toad will warn you when you have created a cartesian join.

The default is selected, but only in effect if Allow Cartesian Joins is selected.

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Use ANSI Syntax

If checked, the join syntax will be ANSI if the database is 9i or higher.

If the database is less than 9i, ANSI syntax will not be used in any case as versions earlier than 9i do not support ANSI syntax.

The default is checked.

Open full screen from Schema Browser

This option, when checked, has Toad open the Modeler in full screen mode instead of minimized when opened from the Schema Browser.

The default is unchecked.

Limit visible columns to n when adding tables to the model area

When checked, this option limits how many columns display in the table model at one time. Other columns are available by scrolling. This can be useful if you want to model large numbers of tables.

The default is unchecked.

Display

Use these dropdown boxes to change the color of the joins in your model. In this way you can easily view join types:

- Inner join
- Outer join
- Auto join

Object Font

Click this option to change the font used in the Query Builder for displaying the names of objects.

Functions

This is the list of functions displayed in the Field Definition dialog boxes.

- To add a function to the list, enter it in the box and click the **Add** button. Added functions appear at the bottom of the list.
- To remove a function from the list, select it and click the **Remove** button.

Caution: Removing a Function happens immediately, without warning. However, the text remains in the box. If you click **ADD** immediately after removing a function you can restore it.

Related Topics

[Query Builder - Functions](#)

Schema Browser - Data

Refresh Schema Browser

After an object is created

When checked, if you create a new object from the Schema Browser window, Toad will refresh the window after the object has been created, listing the object in the Object Panel.

The default is unchecked.

After an object is altered

When checked, if you create a new object from the Schema Browser window, Toad will refresh the window after the object has been created, listing the object in the Object Panel with any changes made to it.

The default is unchecked.

User/Schema Lists

Show All Users

This is the default. All users are displayed in the user list.

Only Show Users That Own Objects

If checked, Toad will only show users who own objects. This is an alternative to the [Oracle User List](#) selection process. For example, if your environment includes only a few schemas that own objects granted to hundreds of schema names for security reasons, then checking this option will list only the few schemas that own objects instead of a long list of all the schemas. So, this filter makes the list more manageable.

The default is unchecked.

Only show users that own objects excluding Synonyms

If checked, Toad will only show users who own objects, but exclude synonyms. So if any user owns synonyms, but nothing else, that user will not be displayed.

Only show users that own objects excluding Synonyms and Temporary Tables

If checked, Toad will only show users who own objects, but exclude synonyms and temporary tables. So if any user owns synonyms and/or temporary tables, but nothing else, that user will not be displayed.

The default is Show All Users.

Left side Copy to Clipboard mode

You can select multiple objects on the left hand side, and press <CTRL><C>; the list is then copied to the clipboard and you can paste it into your Editor or such.

Items separated by commas

When this option is selected, the list of objects will be pasted all on one line, separated by commas.

One item per line

When this option is selected, the list of objects will be pasted on multiple lines, one object to a line. This is the default.

Right side Copy to clipboard mode

You can select multiple objects on the right hand side, and press <CTRL><C>; the list is then copied to the clipboard and you can paste it into your Editor or such.

Items separated by commas

When this option is selected, the list of objects will be pasted all on one line, separated by commas.

One item per line

When this option is selected, the list of objects will be pasted on multiple lines, one object to a line. This is the default behavior.

Other options

Use same schema after changing sessions

If checked, when you change sessions the schema will be the same.

The default is unchecked.

Omit SYS objects from the Procedure Dependencies List

If checked, Toad will omit SYS owned objects from the Procedure Dependencies list, such as standard packages, DBMS_STANDARD, DBMS_UTILITY, and so on.

The default is checked.

Show Body when Package Name is Selected

If checked, when you select just the package name in the Objects list (rather than the body or spec node), the body of the package will display in the details panel. When unchecked, the Spec is displayed.

The default is unchecked.

Show Filter dialog before refreshing

If checked, before the Schema Browser window is loaded, a Filter dialog box appears. Enter filter criteria, and then the Schema Browser will load with only those objects matching the filter.

The default is unchecked.

Save Filters for lists

If checked, Toad will save the browser filters to disk, in files named SCHEMA.FLT in the \Toad for Oracle\Temps folder.

If you want to reset your Schema Browser filters each time you close and open Toad, then uncheck this option.

The default is checked.

Auto refresh detail tabs

If this option is selected, when you select an object from the Objects panel, Toad will automatically refresh the details in the Details panel. If this is unchecked, details will not be refreshed until you refresh them manually.

The default is checked.

Fetch table names from Oracle as needed

If this option is selected, when you change a detail, Toad will automatically refresh the table name list in the Object list. If left unchecked, table name lists will not be refreshed until you refresh them manually.

The default is unchecked.

Include "Set Define Off" in scripts

If checked, and if Team Coding is not enabled, then **SET DEFINE OFF** will appear at the beginning of scripts generated from the schema browser.

If it is unchecked, or if Team Coding IS enabled, then **SET DEFINE OFF** will NOT appear at the beginning of scripts in the schema browser.

If you add SET DEFINE OFF to the beginning of a script, you will not be prompted for a substitution variable if there is an ampersand somewhere in the script. Otherwise, you will be prompted. Using the SET DEFINE OFF command can cause problems for Team Coding.

Milliseconds for list search timer on LHS lists

The number entered in this spinner sets the amount of time that Toad waits between keystrokes when you type an object name and before it goes to it on the left hand side. This option applies to tabs that allow multi-selection of objects and are not tree views.

The default is 900 milliseconds.

Schema Browser - Data and Grids

Data grids

Save layouts

When checked, Toad automatically saves the Data tab grid layouts with respect to column order, and columns to exclude.

Note: Sorting and Filtering are a function of the data filters and are automatically saved, whether or not this option is checked.

The default is unchecked.

Wrap INSERT statements when exporting table data

If checked, Toad will wrap the insert statements when you export table data.

The default is checked.

Set focus to table data grid after selecting table

If this option is selected and you have the data tab selected in the right hand side, when you change tables in the Schema Browser focus will remain on the table data grid.

The default is unchecked.

Limit grid fetch ____ fetches (500 records)

This option will limit the number of records Toad will fetch in a data grid. This gives you the option of stopping if you do a scrollbar drag to the end of an extremely large dataset. If a value is entered, Toad fetches only that number times the [OCI Array Buffer size](#) (defaults to 500) of results to the SQL results

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grids at a time. This option applies to the Tables|Data tab, Snapshots|Data tab, Views|Data tab, and the Editor Data Grids.

Note: The limit grid fetch value is always a multiple of OCI Array Buffer Size

For example if you have entered a "2", and a default OCI Array Buffer size, Toad fetches 1000 records and prompts you to ask if you want to fetch more.

If you respond **Yes**, Toad fetches *n* more rows and then prompts again. The results are not displayed until you click **No**.

This option does not affect the SQL results grid on the SQL Editor window.

The default is 1 (500 records).

Use NOPARALLEL hint

On tables that have parallelism (degree or instances $< > 1$), Oracle runs multiple processes when you query them. In this case, the processes are not removed until the cursor is closed (in other words until you close the Schema Browser or move to a different table). Since the Schema Browser Tables Data page does not do any heavy processing, these processes can be better used elsewhere.

When checked, Toad will use the NOPARALLEL hint in the data grids, making the queries consume less of Oracle's resources.

The default is unchecked.

Don't select BLOB/CLOB fields in data grids

When checked, the data panel of the data grids will not display BLOB or CLOB fields. This can save loading time. When unchecked, the field is selected and displayed.

The default is unchecked.

Enable FK Lookup

When checked, you can look up foreign keys in the data grids.

The default is checked.

Include disabled FK constraints

This option is only available when Enable FK lookup is checked.

When checked, this option includes disabled Foreign Key constraints in the [data grid lookup](#) window. If unchecked, only enabled constraints will display when you perform a look up.

The default is checked.

Info Grids

Allow extra lines for column comments

If checked, the comments are shown in the grid and are wrapped so that you can see the full text of the comments. The rows of the grid are resized so that the full column comments are shown.

If unchecked, the columns take up one row each, and are no longer wrapped, so only what fits on one line is shown.

The default is checked.

Only show top-level grants for Users, Roles, Sys Privs, and Resource Groups tabs

When unchecked, the entire hierarchy of dependencies is displayed for all grants, regardless of level. For example, if you have been granted a DBA role, you will be able to expand that role and see the grants indirectly provided by this role (for example, CONNECT).

If this option is checked, only grants that have been directly granted to the user are shown. Checking this option greatly improves the loading time of those Schema Browser tabs, but clearing it gives you a detailed view of what privileges a user/role has been given.

The default is unchecked.

Auto-size columns

If checked, Toad will automatically size the width of the column lists to the width of the text.

The default is checked.

Show Column length info with Column data type

If checked, columns will show, in the columns tab, in the format "VARCHAR2(20)" including max length, scale, and precision (if applicable). If unchecked, length, scale, and precision will display in separate columns in the grid.

The default is checked.

Show Table Stats (on the Tables -> Stats/Size tab)

If checked, will show the table stats information. You can also check this ON or OFF using check boxes on the **Stats/Size** tab.

The default is checked.

Schema Browser - Visual

Behavior

Sort package procedures

If this is checked, when you expand the hierarchical view of packages in the Schema Browser, procedures and functions in the specification and body display in alphabetical order.

When unchecked, they display in the order they appear in the code.

The default is unchecked.

Enable DROP-ALL buttons

Each object list tab in the Schema Browser has a Drop button that allows fast dropping of database objects. **The Drop-All buttons are never enabled unless you check this option.** Toad will not save this option and will revert to disabled Drop-All buttons. So, checking this option is temporary for the current Toad session only.

The default is unchecked.

Compile Mode...

Click this button to set the compile mode with the following options:

Display

Left side

You can select from the following options:

Toolbars above object lists

When checked, the toolbar of commands appears above the object lists in the left hand side of the Schema Browser.

When unchecked, the toolbar is hidden. The default is checked.

Tab/Drop-Down Icons

When checked, the icon associated with the object in question is displayed on the object tab or beside the name in the drop-down object list.

Unchecked, the graphic is hidden. The default is checked.

Item Hints

When checked, hovering your pointer over an object on the left hand side provides a pop up hint describing the object.

The default is checked.

Font & Color

Use the font and color buttons to change the font and set a background color for the Schema Browser left hand side.

Right side

Object Create/alter dates

If checked, create and update dates for an object selected on the left panel in the Schema Browser will display at the top of the right panel. Unchecked, these dates do not display.

The default is checked.

Primary Key columns for tables

When checked, Toad will display the list of Primary Key columns, on the Tables/Columns tab, to the right of the **Show Comments** drop down list. For some tables with long column names, and/or compound primary keys, this label might not be long enough. Toad now places a small black triangle next to each column in the columns list that is a Primary Key column.

The default is checked.

Include hidden columns for tables

When checked, Toad will display hidden columns as well.

The default is unchecked.

Font & Color

Use the font and color buttons to change the font and set a background color for the Schema Browser left hand side.

Browser Style

Tabbed Object Type Selection

If selected, the Schema Browser object types will display in a tabbed interface.

The default is unchecked.

Drop-down Object Type Selection

If selected, the Schema Browser object types will display in a dropdown box.

The default is unselected.

Tree View

If selected, Schema Browser object types will display in a tree view in a left hand panel. In this view, you can configure what nodes display by right-clicking and choosing them.

The default is unchecked.

Multi-line tabs

When selected, tabs on the Schema Browser left side (objects panel) will display on multiple lines, sized to the panel width.

When unselected, tabs on the Schema Browser left side will display in one row, and you can scroll through them horizontally.

The default is unchecked.

History

Limit to nn Items

Use this box to select the number of items the browser history will remember. For information about the Browser History, see [Schema Browser Toolbars](#) | [Details Panel Toolbars](#).

The default is 25 items.

Restore History on connection

If this option is checked, if you disconnect and reconnect Toad will remember your Browser history. If unchecked, when you end the connection the Browser history will be lost.

The default is checked.

Schema Browser - Types Tab

Capitalize keywords during code generation

If checked, when code is generated to create the objects, keywords will be capitalized.

The default is checked.

Autoload Tables Based On Object

If checked, will automatically load and display the tables based on the selected object and display them on the Properties tab.

The default is unchecked.

Autoload Columns Implementing Object

If checked, will automatically load and display the columns implementing the selected object on the Properties tab.

The default is unchecked.

Autoload Dependencies

If checked, will automatically load and display the objects that the selected object is dependent upon.

The default is unchecked.

Name New Objects

This is the name that will be given to a new object, until you rename it to something more meaningful. For each successive object, a number will be appended to this name, for example, NEWOBJECT1, NEWOBJECT2, and so on.

Name New Attributes

This is the name that will be given to a new attribute within a given object, until you rename it to something more meaningful. For each successive attribute, a number will be appended to this name, e.g., NEWATTRIB1, NEWATTRIB2, etc.

Name New Methods

This is the name that will be given to a new method within a given object, until you rename it to something more meaningful. For each successive method, a number will be appended to this name, e.g., NEWMETHOD1, NEWMETHOD2, etc.

Name New Collections

This is the name that will be given to a new collection of objects, until you rename it something more meaningful. For each successive collection, a number will be appended to this name, e.g.: NEWCOLLECTION1, NEWCOLLECTION2, etc.

Default Method Restrictions

Select the desired method restrictions: WNDS, WNPS, RNDS, and/or RNPS.

The default is all items unselected.

Default Attribute Type

This is the default data type for a new attribute.

The default is VARCHAR2.

Default Method Type

This is the default method type for a new method when the **New Method** button is clicked. Alternate method types can be selected from the drop down menu.

The default is Procedure.

Default Function type

This is the default function type for a new function.

The default is INTEGER.

Startup

Show login window

When checked, the login window is displayed at startup to let you log in to an Oracle instance.

The default is checked.

Allow multiple copies of TOAD to be loaded

When checked, you can open multiple copies of Toad at one time.

Unchecked, only one copy of Toad can be open on your desktop at any one time.

The default is checked.

Check for Access to DBA Views

If you have access to the DBA views, such as DBA_TAB_COLUMNS, then check this option. At session startup, Toad will see if DBA views are available to that particular user schema. If so, Toad will query the Oracle Dictionary using the DBA views instead of the ALL views such as ALL_TAB_COLUMNS. DBA views are much faster than ALL views because the DBA views do not have the security checks. No security checks means faster queries.

Note: If you are running the Quest DBA Module, Toad will always query to see if you have the DBA role, SELECT ANY TABLE, or specific access to the DBA view.

The default is checked.

Play Toad Wave File

If checked, Toad will "croak" when starting. If you are having sound card problems, uncheck this option.

The default is checked.

File To AutoLoad on startup

This file will automatically be loaded into the first Editor window that appears after a database Login. Click



to choose a file.

The default is blank (display no file).

File to AutoExecute on new connections

This lets you set application info upon startup. The selected script file will execute after each new connection and the output displays after the normal "do you want to see output" prompt.

Related Topics

[Windows](#)

Team Coding/Source Control Options

Access this window from **View|Toad Options|Team Coding**. This is where you set up the user parameters for using Team Coding with Toad. In addition, there are some options that relate only to Toad's legacy source control functionality.

Team Coding

Disable login prompt on connection

This option is applicable only when Team Coding is configured to work with a third-party provider. It prevents the VCS provider login from displaying when you connect to a Team Coding enabled database.

The default is unchecked.

Automatic Check-Out

Select automatic check-out to force developers to check out an item when they open it.

The default is unchecked.

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Automatic Check-In

Select automatic check-in to force developers to check in an item when they close it.

The default is unchecked.

Prompt for Check Out Comment

The default is checked.

Prompt for Check In Comment

The default is checked.

Prompt for Check In All on Exit

The default is checked.

Schema Replacement for Stored Code, Triggers and Views

These options work in two ways. When checked:

1. When you use the [Import to database](#) function to import code from one schema to another in the Code Control Groups window anywhere the original schema's name appears in the code, Toad replaces it with the destination schema.
2. If you have a user mapped to a code control group, where the master owner's schema appears in the code, Toad replaces it with the mapped user's schema name in the mapped user's schema.

For example, If you check out an object into the mapped user's schema and change it, then check it in, the copy in the version control repository will be updated, with the master user's schema instead of the mapped user's schema.

Schema replacement defaults are as follows:

- Schema Replacement for Stored Code - The default is checked.
- Schema Replacement for Triggers - The default is checked.
- Schema Replacement for Views - The default is checked.

Enable Actions in Schema Browser & Project Manager

The default is checked.

Simultaneously Check Out/In Spec and Body

The default is unchecked.

Default: Force New Revision on Check-In

Select this option to automatically save the object that is being checked in as a new revision, regardless of whether it has changed.

The default is unchecked

Default Working Directory

Enter the path of the working directory or click the browse  button to select it from a browse window.

VCS Provider Options

Please see [CVS Configuration options](#) for more information about these options.

Legacy Source Control

Source Control Provider

Choose the source control provider from the dropdown menu. This list is populated from your computer's registry.

If you do not have a source control provider installed, this menu will only contain the word **<none>**. You cannot use source control with Toad unless you have a provider installed. See [Source Control](#) for a list of providers that have been tested with Toad.

Prompt for Check Out comment

Check this box if you want Toad to prompt you for a comment when you check out a file.

The default is unchecked.

Prompt for Check In comment

Check this box if you want Toad to prompt you for a comment when you check in a file.

The default is unchecked.

Prompt for Add File comment

Check this box if you want Toad to prompt you for a comment when you add a new file to source control.

The default is unchecked.

Toolbars/Menus

Behavior

Allow docking and hiding of read-only toolbars

Using this option you can move and hide toolbars in the read-only toolbar/menu configurations.

The default is checked.

Lock all Toolbars

This option prevents the toolbars from being dragged from their current position and docked elsewhere. The toolbar can be locked in any position, docked or floating.

The default is unchecked.

Auto-save current desktop

When checked, Toad will save the current desktop. Toad saves at three points: on close of Toad, when you change tabs, and when you change the [desktop layout](#). If you have multiple desktops open, the last one active is the one that is saved.

The default is checked.

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Display

Show window titles on Window Bar

If checked, Toad will show the window title, for example "Editor" on the window caption. If unchecked, it will display only the icon for that window type.

The default is checked.

Show connect strings on Window Bar

If checked, will show the schema username, the "@" symbol, and the database alias in the window caption on the applicable windows. If unchecked, will show just the schema username.

The default is checked.

Use Vertical Text when Toolbars are Vertical

This option controls the horizontal/vertical orientation of text on the toolbars when docked vertically. If the option is checked, text on the toolbars will be displayed vertically. If the option is unchecked, the text is displayed horizontally, widening the toolbar.

The default is checked.

Multi-Line Window Bar

When selected, if you have many windows open, Toad displays the window bar in multiple lines when it runs out of room on the first line.

The default is unchecked.

Multi-Line Connection Bar

When selected, if you have many connections open, Toad displays the connection bar in multiple lines when it runs out of room on the first line.

The default is unchecked.

Connection Bar and Window Bar Fonts

Set the fonts for the connection bar and window bar descriptions here. You may want to change the font or the font size so that your descriptions fit on the buttons or are easier to read.

Visual Style

Select the visual style you want to use in Toad's display. Options include:

- Standard
- Enhanced
- Flat
- Office 2003
- XP

The default is Enhanced.

Configurations

Toad comes with two options for configuring your toolbars. These are configurations to the toolbars and menu bars only. All of the commands for the version you have purchased are available for you to add to them. These configurations merely provide a convenient starting place for different roles.

User default

User default configuration lets you choose what you want included in your toolbars. Upon upgrading, new items will not be included on your menus and toolbars, but your configurations will be maintained.

Toad default (all items)

The Toad default places all commands on the toolbar that are possible.

Toolbars/Menus - Shortcuts

Use this window to change the shortcuts for various commands.

For more information on changing command shortcuts, see [Configure Menu Shortcuts](#).

Windows

Behavior

The windows options let you specify which settings Toad should save for each major window. You can check individual windows to:

- Save **Size**
- Save **Position**
- **Auto open** upon starting Toad
- One/connection - only opens one of that window per connection
- One/Toad - only opens one of that window per instance of Toad

Auto-open bring to front

If you have several windows selected for auto open, you can choose which of them you want to be active on opening Toad.

Describe windows

Select the way you want Describe windows to behave. The default is Stay on Top.

MDI

If selected, the F4 popup Object Describe windows will be created as an MDI child window. This means that they will be accessible from the Windows menu, and you can open as many as you want and they will not get lost behind the main Toad window.

Note: MDI stands for multiple document interface. In an MDI application, more than one document or child window can be opened within a single parent window. This is common in applications such as spreadsheets or word processors - one window, usually called the MDI parent or MDI container, contains many other windows, usually called child forms.

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Stay on top

If selected, the DESCRIBE window will stay on top of all other windows in Toad until you close it. This is the default.

Scroll pinned windows at n milliseecs

When selected, pinned windows will scroll out and open when rolled over by the pointer at the rate specified.

You can specify the rate at which a pinned window will open. The default is 300 milliseconds.

Display

Show USER@DATABASE in captions

When selected, the User and database is displayed in window captions. Unchecked, only the window title is displayed.

The default is checked.

Show spec and body in package describes

If checked, both the spec and the body will be included in the describe.

The default is unchecked.

Language Management

Language Management Overview

The Toad Editor is an extremely powerful editor, and parts of this power come from its ability to manage language use. You can choose to have the editor parse in PL/SQL, Java, C++, HTML, or any number of other languages, including custom language.

Toad takes the source, parses it according to the categories you have set up, breaking it into Tokens. It then applies the rules you have set in order to apply such things as syntax highlighting and code folding.

Managing these languages has an effect on many areas of Toad. Syntax highlighting is based upon defined command words, as is code folding and the Make Code functionality. The ability to set up sub languages means that you can define capitalization effects that apply only to your PL/SQL code, and not embedded java, perl, or other languages.

The Language Management area of Toad Options provides you the ability to set language and highlighting rules, define tokens (including statements, comments, and other defined areas), set up code templates and sub languages, among other things.

To access the language management window

1. From **View|Toad Options**, select the **Editor - Behavior** node.
2. In the **Language Management** area, select the language you want to edit and click **Edit**. (Or add a new language by clicking **Add** or **Clone**.)

Language Management Tabs

The component parts of languages can be edited from several tabs in the language management area. Information on these tabs is interrelated, and settings in one tab can affect settings in the others. This creates extremely powerful and configurable parsing capability.

Tabs include:

- [General](#)
 - [Highlighting](#)
 - [Tokens](#)
 - [Parser](#)
 - [Rules](#)
 - [Sub Languages](#)
 - [Code templates](#)
 - [Grammar](#)
-

Syntax Highlighting

The Editor supports flexible syntax highlighting. The highlighting is language-specific, and is configurable in the Language Management area of the Toad Options.

The list of reserved words used in each language is also customizable. If during a Toad session you have used any window or function that retrieves the table names for the active Oracle session, table names will be colored as well.

Syntax highlighting is based on your selection of languages. You can do this from either the options window, or from the editor itself.

To select a language for highlighting

- From the **Toad Options|Editor - Behavior** page, in the **Language Management** area, select the language you want to apply and then click **OK**.
- Or
- In the editor, right-click and select **Language**. From the menu provided, select the language you want to use.

Syntax Highlighting Table names, Views and Procedures

Toad can syntax highlight the table names, views and procedures in the current schema.

If the highlight table names (or views, or procedures) option is selected Toad will load and highlight these objects from your schema automatically. If it is not checked when you make a connection, but you turn it on while you are working, names will be highlighted as soon as you load them (by opening the [Object Palette](#), or pressing <CTRL><. > or so on). If not checked, they will not be highlighted even when the object palette is loaded, loaded in the Schema Browser, and so on.

To highlight table names

- From **View|Toad Options|Editor - Display**, select **Highlight Table names** in the Syntax Highlighting area.

To customize table names colors

1. From **View|Toad Options|Editor - Behavior**, select the language you want to use in the Language Management area.
2. Click **Edit**.

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3. Click the **Highlighting** tab and scroll down in the **Styles** list to **Toad_UserTables**.
4. Change the styles as described in the [Highlighting tab](#) topic.
5. Click **OK**.

Syntax Highlighting SYS View Names

Toad can also syntax highlight SYS View names (for example, ALL_TABLES).

To initially populate SYS view names

- Using either the SYS schema or a schema with the DBA role, open the Schema Browser window to the **Views** tab, and if necessary select SYS from the username dropdown list.

Toad queries all SYS views, and cache the list in Toad for Oracle\Temp\DATABASE_ALIAS\SYSVIEW.TXT.

If you want to reload the list, simply delete the appropriate SYSVIEWS.TXT file and repeat the above steps. Be aware that different databases have different lists of SYS views, e.g., Oracle7, Oracle 8.0.5, Oracle 8i, Personal Oracle, and so on.

To customize table names colors

1. From **View|Toad Options|Editor - Behavior**, select the language you want to use in the Language Management area.
2. Click **Edit**.
3. Click the **Highlighting** tab and scroll down in the **Styles** list to **Toad_SYSViews**.
4. Change the styles as described in the [Highlighting tab](#) topic.
5. Click **OK**.

Parser Scripts

The primary configuration for syntax parsing and highlighting in Toad comes from a parser script file that is loaded at runtime. This is the lexer.lib file, and is edited when you use the [Language Management](#) options.

You can modify the list of reserved words.

To modify reserved/keywords

1. From the [Language Management|Rules tab|Keywords](#), click the **Conditions tab**.
2. Modify keywords in the tokens panel. You can delete words, add new words, make words case sensitive, and so on.

You may want to add too that they should go to the reserved words rule (check that name, not sure that is what it is called exactly) and go to the conditions tab to modify the list of words

Removing Reserved and Keywords

If you want to add or remove Oracle SQL Reserved words, PL/SQL Reserved words, or Oracle keywords from the lists that are syntax highlighted, it can be done from the [Language Management|Rules tab](#). Highlighting options may be changed from the [Language Management|Highlighting tab](#).

Language Types

Language types are defined in the **Toad Options|Editor - Behavior|Language Management** area. You can create a new language by cloning one of the provided ones, or manually. The general tab specifies which file extensions are used with which language.

General tab

The general tab defines the basic areas of the language you are editing. Within this tab, you can specify file extensions that will automatically use this language when opened, the default block comment and style for the text; and the line style you want to use.

Name

The name box contains the name you want to use for this parser. For example, if you are coding in PL/SQL, there is a PL/SQL language defined.

File extensions

Any file extensions entered in this box will affect how Toad parses the code that you are opening. For example, the SQL, FNC, PKB file extensions will always be opened and parsed with the PL/SQL language unless you specify otherwise.

Block comment

Enter the default marker for creating a block comment. This is the marker that Toad will use to view the following text as a comment.

Default Style

This is the default text style you want to use for text when working in this language. For the most part, the token that identifies this style should be default.

Line Style

This style applies when the line is active (the cursor is located in it) in the editor.

Related Topics

[General Tab](#)

[Highlighting Tab](#)

[Tokens Tab](#)

[Parser Tab](#)

[Rules Tab](#)

[Sub Languages Tab](#)

[Code Templates Tab](#)

[Grammar Tab](#)

Highlighting tab

Use the highlighting tab to configure highlighting settings for specified styles. These styles can then be applied to tokens or rules as necessary.

In the styles list, you can add, edit, delete, copy from (clone) or disable styles.

Style Settings

You can choose from many different style settings to apply to your code.

Style type

Select a style type for this style setting. The default is default, which means that it reverts to the style set in the default style. You can choose a custom font, which allows you to change all of the font settings as described below, or a limited custom font, such as background/foreground (which lets you set only the background and foreground colors).

Background

Choose a color for the background of the text.

Font color

Select a color for the text itself.

Capitalization effect

Select the capitalization format you want for the text:

- Unchanged
- Uppercase
- Lowercase
- Initial Caps

Custom Font

If you have selected Custom Font under Style type, click the Custom Font button to set the font.

Font Style

Select one or more of the following styles:

- Bold
- Italic
- Underline
- Strike Out

Borders

You can choose to place a border on one or more sides of the text in the selected style. In this area, select the line type and thickness for each border (left, right, top or bottom) and the color Toad should make that border.

Related Topics[General Tab](#)[Tokens Tab](#)[Parser Tab](#)[Rules Tab](#)[Sub Languages Tab](#)[Code Templates Tab](#)[Grammar Tab](#)**Tokens Tab**

Use Tokens tab to define tokens that can be used within rules and parser specifications. These are specific language constructs: for example, PL/SQL has Strings, Integers, Comments, etc.

Related Topics[General Tab](#)[Highlighting Tab](#)[Parser Tab](#)[Rules Tab](#)[Sub Languages Tab](#)[Code Templates Tab](#)[Grammar Tab](#)**Parser Tab**

Use the parser tab to define the way in which Toad finds tokens within the code. The window is separated into three areas: Categories, Parse, Advanced.

Toad uses regular expressions to define where a token starts and ends. Tokens must be defined in the Token tab before they can be applied to a category.

Categories area

The category list contains the categories that are available for definition. They will be parsed in the order they are listed. When working through code, Toad will stop attempting to match the definitions as soon as one of the rules met.

In this area, you can:

- Add new categories - creates a new category that you can define as desired.
- Edit a category - displays an edit dialog so you can rename the category.
- Delete a category - deletes the selected category. No warning is issued.
- Copy from a category - displays the copy from dialog. Select the language and any categories you wish to include in the definition. You can choose multiple categories.
- Disable a category - disables the selected category until you enable it.
- Move categories up or down in the list - changes the priority of a selected category.

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Parse tab

Use the parse tab to specify the regular expression test for the selected category, and set the token type and default highlighting style.

Select a category and the details for that category are displayed here.

Regular expression test

Edit or add a regular expression in this box. This expression will define what Toad looks for when attempting to apply the category to code.

Evaluates to token type

Select a token type from the dropdown list. These are the tokens that are defined on the [Tokens tab](#).

Default Highlighting style

Select a default highlighting style to be used on this category of code. The default highlighting style will be applied only if the code does not also satisfy any rules as defined on the [Rules tab](#).

Advanced tab

While the settings on the Parse tab provide enough information to locate simple tokens, you may want to narrow the focus even more. The advanced tab provides methods to require specific parents, or to enable only within a certain character position.

Parent block

Use the parent block box to set the range for a parent limitation. When this is set, the category only applies to sections of code that begin with the selected range. By default, this affects code where the code either directly follows the parent range, or is included in another range nested within that parent range.

You can also specify the following amendments to this:

Strict

Only includes code that fits the regular expression defined on the Parse tab, and that directly follows the parent range. For example, is directly within a "CREATE OR REPLACE procedure" definition: not within an IF clause within that CREATE category.

Not a parent

Only includes code that fits the regular expression defined on the Parse tab, and is NOT part of the specified parent block.

Enabled from character position: _____ to _____

When a range of character positions is included, only code which fits the defined regular expression, the parent rules (if any) and is between those character positions will be included in the category.

Related Topics

[General Tab](#)

[Highlighting Tab](#)

[Tokens Tab](#)

[Parser Tab](#)

[Rules Tab](#)

[Sub Languages Tab](#)

[Code Templates Tab](#)

[Grammar Tab](#)

Rules Tab

The rules tab contains all rules applied to tokens after parsing is complete. These rules supersede any previous designations of categories, defaults, or tokens. As such, code folding is determined by these rules, as is much of the syntax highlighting specifications.

Rules can have multiple conditions, or only one. All conditions are applied in numerical order, from 1 to 2, and so on.

Rules are, like Parser categories, applied in the order they are listed in the Rules Names list. If a higher priority rule is satisfied, Toad will not apply later rules.

Conditions tab

The conditions tab provides an area for you to specify the conditions to define the rule selected in the rules list. You can specify any number of conditions.

To add a new condition

1. Click the + button in the **Condition:** area.
2. Select one or more token types where the condition should apply.
3. Select an operator.
4. Select the tokens you want bound by the condition.
5. Repeat until all conditions you want established have been added.

To delete a condition

1. Select the condition you want to delete in the condition list.
2. Click the - button.

Properties tab

The properties tab is the active tab by default. This tab specifies the rule type, style, and highlighting to apply if the rule is met.

Rule type

Specify the type of rule. This can include tag detector, line separator, range start or range end.

Change token type

You can use this option to change the identifier to a different token type. For example, for syntax highlighting purposes, you can take an "IF" token and apply "SELECT" highlighting to it.

Style

Select the style you want to apply to code that matches this rule. Styles are defined on the [Highlighting tab](#).

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Range Highlighting

Select any range highlighting you want to apply to this code. Range highlighting is defined by the styles on the [Highlighting tab](#).

Collapsed text string

When you collapse text for code folding, the node created can have a collapsed text string displayed upon it for identification. Enter this string here. You can have Toad display the first token, or any token after by using the syntax:

```
%s0%s-1
```

where 0 is the first token, -1 is the next, -2 is the third, and so on. Anything after the last number will be displayed in its entirety.

For example, if you have a range beginning with "IF", %s0woo! will display as "IF woo!" when you fold the code.

Active Highlighting

Toad can highlight a range when it is active. When this is activated, highlighting will take place when the caret is positioned as specified.

Caret position box

Specify the caret position when Toad should highlight the code as active. You can choose it to be marked active when the caret is in the range, always highlight it, or highlight when the caret is within specific tokens. Use this dropdown to select the desired caret position.

Select minimal range

When checked, if ranges are nested, Toad will only highlight the first range where the caret is located, ignoring any parent ranges. When unchecked, Toad will highlight the entire range, including any parent ranges.

Draw block staple

When checked, a grey staple will be drawn around the range of code that can be folded. When unchecked, no staple will be displayed. The default is checked.

Self Closing Range

A self closing range is useful if you have a type of range where there is no consistent end of range marker.

When checked, Toad will not look for a close range rule to close the range. Instead, the close of the range is defined by the start of the next range.

The default is unchecked.

Advanced tab

While the settings on the Parse tab provide enough information to locate simple tokens, you may want to narrow the focus even more. The advanced tab provides methods to require specific parents, or to enable only within a certain character position.

Parent block

Use the parent block box to set the range for a parent limitation. When this is set, the category only applies to sections of code that begin with the selected range. By default, this affects code where the code either directly follows the parent range, or is included in another range nested within that parent range.

You can also specify the following amendments to this:

Strict

Only includes code that fits the regular expression defined on the Parse tab, and that directly follows the parent range. For example, is directly within a "CREATE OR REPLACE procedure" definition: not within an IF clause within that CREATE category.

Not a parent

Only includes code that fits the regular expression defined on the Parse tab, and is NOT part of the specified parent block.

Grammar

If you have created specific grammar, you can add individual grammar to the rule. Select the grammar you want to use from the dropdown list.

Range Offset

Range offsetting changes what Toad considers the beginning (or end) of a range for code folding purposes. Ranges are defined by starting and ending tokens.

For example if you have a string of tokens as follows:

Token	A	B	C	D	E	F
Range Position	2	1	0	-1	-2	-3
Token	G	H	I	J	K	L
Range position	3	2	1	0	-1	-2

The Range starts at "C", then the token type C is position 0 for start of range.

The Range ends at "J", then the token type J is position 0 for end of range.

If you have set the beginning range offset at B, then Toad will hide all tokens to the right of it when you fold the code.

Cancel next rules

When this is set, Toad will cancel further processing of rules conditions when the condition is met. When it is clear, Toad will process all rules in order.

Relative to end of condition

This sets the parsing relative to the end of the condition: for example, if the condition specifies "CREATE OR REPLACE FUNCTION", when checked, Toad sets the 0 position at FUNCTION (the end of the condition). When unchecked, Toad will set the 0 position at CREATE (the beginning of the condition).

Related Topics

[General Tab](#)

[Highlighting Tab](#)

[Tokens Tab](#)

[Parser Tab](#)

[Rules Tab](#)

[Sub Languages Tab](#)

[Code Templates Tab](#)

[Grammar Tab](#)

Sub Languages Tab

The Sub Languages tab defines any languages you want to use *within* the primary language. For example, PL/SQL can have Java embedded within it. If you have styles and rules defined that will change the capitalization of PL/SQL, you do not want it to affect Java in the same way, since Java is case-sensitive. In this case, you can set up a sub language of Java so that Toad can differentiate between the two and use different highlighting and code folding rules as appropriate.

To set up a sub language

1. From the editing screen of the main language, select the **Sub Languages** tab.
2. In the **Sub Language** box, select the **language** you want to embed.
3. Select a default **style** for the sub language. This can be any style defined on the [Highlighting tab](#), or <none>.
4. Use the parent block box to set the range for a parent limitation. When this is set, the category only applies to sections of code that begin with the selected range. By default, this affects code where the code either directly follows the parent range, or is included in another range nested within that parent range.
 1. Select **Strict** to include only code that directly follows the parent range. For example, is directly within a "CREATE OR REPLACE procedure" definition: not within an IF clause within that CREATE category.
 2. Select **Not a parent** to include only code that is NOT part of the specified parent block.
5. Choose to start at the beginning or end of the text.
6. Set the **start** and **end** conditions.

Note: These should be regular expressions that define a starting marker and an ending marker for the language you want to embed.

Related Topics

[General Tab](#)

[Highlighting Tab](#)

[Tokens Tab](#)

[Parser Tab](#)

[Rules Tab](#)

[Sub Languages Tab](#)

[Code Templates Tab](#)

[Grammar Tab](#)

Code Templates Tab

You can set up and delete code templates from this tab. Different code templates can be developed for different languages.

To add a template

1. From the [Toad Options|Editor - Behavior](#) page, select the language where you want to add a code template and click **Edit**.
2. Click the **Code Templates** tab.
3. Click **Add**.
4. Enter a shortcut name and a description. Click **OK**.

5. Click in the editor window below the template list and enter the text you want to be included. You can include substitution variables and cursor placement as described in [Code Completion Templates](#).
6. Click **OK**.

To edit a template

1. From the [Toad Options|Editor - Behavior](#) page, select the language where you want to add a code template and click **Edit**.
 2. Click the **Code Templates** tab.
 3. Select a completion template and then click **Edit**.
 4. Change the shortcut name and a description. Click **OK**.
 5. Click in the editor window below the template list and edit the code template.
 6. Click **OK** or **Apply**.
-

Related Topics

[General Tab](#)

[Highlighting Tab](#)

[Tokens Tab](#)

[Parser Tab](#)

[Rules Tab](#)

[Sub Languages Tab](#)

[Grammar Tab](#)

[Code Completion Templates](#)

Grammar

The grammar tab is used for more detailed specifications than you can make easily from the rules tab.

In fact, you can create a rule with no conditions, and from the [Advanced tab](#) select a grammar from the list, making it your only rule.

To access the grammar demo

1. From **Toad Options|Editor|Behavior**, in the **Language Management** area select **Pascal**.
 2. Click **Edit**.
 3. Click the **Grammar** tab.
-

Related Topics

[General Tab](#)

[Highlighting Tab](#)

[Tokens Tab](#)

[Parser Tab](#)

[Rules Tab](#)

[Sub Languages Tab](#)

[Code Templates Tab](#)

Code Completion Templates

Code Completion Templates use a manual keystroke (<CTRL><SPACE>) to perform the substitution. Code templates are more than a single phrase and can contain line feeds, substitution variables and a cursor position indicator.

You can edit the Code Completion templates directly in the [Language Management](#), **Code Templates** tab. Also see the [Aliases](#) topic.

Example

one of the code templates defined in Language Management is:

```
entire cursor block (crbl)
DECLARE
CURSOR c1 IS
SELECT | FROM WHERE;
c1rec IS c1%ROWTYPE;
BEGIN
OPEN c1;
LOOP
FETCH c1 INTO c1rec;
EXIT WHEN c1%NOTFOUND;
END LOOP;
CLOSE c1;
END;
```

Where:

- "crbl" is the macro for the template (the text YOU type)
- "entire cursor block" is the description of the template
- everything following until the next template is the body of the template

Note: Do not leave spaces between the end of the template description and the final right bracket! NT4.0 API calls to manage profile strings have a bug that will cause reading of the templates file to fail.

To use the code template

- Type the macro (for example, <crbl>) and then press <CTRL><SPACE> to load the body of the template and place the cursor at the position of the vertical pipe character. If the word or phrase under the cursor does not match an existing macro verbatim, a dropdown list of all macros is displayed.

Cursor Placement

If Toad finds a single pipe (|) in the template body, then when the substitution of the template is complete, the cursor is positioned at that point in the code. The pipe is removed, as it is used only as a marker for the cursor position. Only one pipe can be used this way in a code template.

Substitution Variables

The Code Completion templates also support substitution variables. Enter the substitution variable in the form of an ampersand followed by a valid simple Oracle identifier. For example, &1 is not a substitution variable, but &a is.

When a template containing substitution variables is selected, you will be prompted to enter values. Any occurrence of the substitution variable is then replaced with the entered value.

Keyboard Shortcuts

The default keyboard shortcut for Code Completion templates is <CTRL><SPACE>. Enter the template name (such as crbl) and press the shortcut to expand it.

Using a Template

When you enter the name of a template and press the shortcut key, Toad follows the following procedures:

- If the name you have entered does not match any of the names on the code template list, a dropdown listing of available code templates appears so you can choose the correct template.
- A dialog box appears listing the substitution variables and prompting you to enter values.
- Expands the code and replaces variables.
- Removes the cursor placement marker, and places the cursor there.

Editing the Code Template List

Toad provides a list of default templates. As you use this feature, however, you will create templates that work better for your purposes, and you will want to edit the default templates.

You can edit and add templates to suit your needs in the [Language Management](#) window.

Related Topics

[Aliases](#)

[Auto Replace Substitutions](#)

Auto Replace Substitutions

A substitution is a text phrase that corresponds to replacement text. For example:

- If you specify a substitution pair of ACT = ACTIVITY_CENTERS, when you type ACT and press space (or other word delimiters), ACT is automatically replaced by ACTIVITY_CENTERS
- If you specify a substitution pair of NDF = NO_DATA_FOUND and you type NDF and press a delimiter, NDF is automatically replaced by NO_DATA_FOUND

To edit Auto Replace entries

- From the **Toad Options|Editor - Behavior** page, click **Auto Replace**.

Using Substitutions

When auto-replace is active, Toad uses several characters as auto replace activation keys. Toad will automatically replace an activation key with the substitution value when it reaches a terminator, for example the space key. For example, "teh" is by default set to replace with "the" in the editor. Or, you can enter "pack" and Toad will expand it to "package".

An activation key will cause a matched "replace" string immediately before the cursor to be replaced by the "with" substitution value. For example, if you have dept = DEPARTMENT in your auto replace file, you can enter the following:

dept [space] and the editor will expand to DEPARTMENT .

OR, you can enter **dept :** and the editor will expand to DEPARTMENT : .

OR you can enter **dept ;** and the editor will expand to DEPARTMENT ; .

Note: The activation key is always included in the expanded substitution.

You can edit this list of keys in the box if you have other needs.

Importing and Exporting Files

Also from the Editing options window, you can import and export auto substitution files.

Toad comes with a handful of substitution pairs. You can edit and add to the list from the Auto Replace dialog. You can then export the settings to a text file. Alternately, you can create or edit a substitutions file manually and then import it. (See [Editing a substitutions file](#).)

Export

Lets you save the auto replace settings to a separate text file. If you make many changes to your auto replace settings, it is recommended that you export them regularly for back up.

Note: If you do not export your settings to a file before you import a file, they will be lost.

Import

You can import a text file into Toad. This file can be created independently or by exporting the settings you have created in Toad.

Importing a file overwrites the current settings.

Editing a substitutions file

Because it can be tedious to add large amounts of information to the substitution file directly from the interface, you may want to edit or create a text file directly.

Use the format of string=replacement string. For example:

```
aax=AAX_ACCESSGROUP_APPLICATION
aca=ACA_ACTIVITY_ACTION
acc=ACC_ACTIVITY_CATEGORY
acd=ACD_ACTION_DESCRIPTION
acp=ACP_ACTIVITY_CONTACT_PARTIC
```

Related Topics

[Aliases](#)

[Code Completion Templates](#)

Printing

Printing

You can send data to the printer in several different ways from Toad. You can print text or code located in the editors, you can print the data from the data grids, and you can print reports using [Reports Manager](#).

Printing editor contents

When you print Editor text or Editor code, Toad will attempt to print in color by default. If you uncheck the **View|Toad Options|Editor -Display|Syntax Highlighting|Use when printing**, the code will be printed in standard black and white.

To print Editor text or Editor code

- From the **File** menu, select **Print**.

Printing a Data Grid

You can print a data grid easily by following the procedure below. To customize the printed grid, see the [Print Grid](#) and [Report Link Designer](#) topics for more information on printing options.

To print a data grid

- From the **Grid** menu, select **Print Grid**.

Or

Right-click over the data grid and select **Print Grid**.

Related Topics

[Print Grid](#)

[Report Link Designer](#)

[Reports Manager](#)

Legacy Print Grid

Any database grid in Toad can be printed. If you are using the Legacy Print grid (see [Toad Options|Data Grid|Data|Use Legacy Print Grid](#)), then prior to printing, the Print Grid feature allows extensive formatting including:

- deletion of columns
- font changes to data
- font changes to headers
- alignment of individual columns or headers
- totaling (SUM) of numeric columns
- optional headers and footers
- resizing of columns

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- reordering of columns

To print the grid contents

1. From the **Grid|Print Grid** menu, or the Right-Click Menu over the SQL results grid select the **Print Grid** menu item.
2. Click **Print** from the Print dialog or select **File|Print** from the Preview page.

Headers/Footers

You can select a top line and second line header and a one-line footer.

You can also check the Print page numbers box and the page numbers will be printed.

Page Setup

A dropdown button lets you select the printer.

Default orientation in the page setup is Landscape. Because the width of the screen is greater than the width of Portrait orientation, you should print using Landscape orientation. (Toad does not have a print preview.)

Columns

Because the screen fonts are slightly different than the printer fonts, it is a good idea to leave space between columns so that the printed version has sufficient space between columns.

- A check box lets you print column titles in bold.
- A dropdown list lets you choose text alignment.
- The Remove Column button lets you remove columns.
- A dropdown list lets you choose date alignment.
- If you want to total a column, select the column in the Report will print as shown display and then check the Total this column check box.

You can also use the Report Link Designer to set up your print options. See [Report Link Designer](#) for more information.

Related Topics

[Print Grid](#)

[Print Grid Contents](#)

[Report Link Designer](#)

[Reports Manager](#)

Print Grid

When choosing to print the results grid, you can choose one of two ways to print. You can print either the grid contents (the results of the query) only, or include the query that returned those results.

The print dialog that appears when you first

To include the grid query

1. Select the **Print Grid** menu item from the File menu, the Grid menu, or the Right-Click menu.
2. In the Query area, select the **Print** box. Choose whether to print the query before or after the results.
3. Click **Print Preview** to access the [Report Link Designer](#) dialog box for more options before sending the data to the printer.

To print grid results

1. Select the **Print Grid** menu item from the File menu, the Grid menu, or the Right-Click menu.
2. In the Query area, clear the **Print** box if necessary.
3. Click **Print Preview** to access the [Report Link Designer](#) dialog box for more options before sending the data to the printer.

To use the original print grid dialog box

- Set the option in **View|Toad Options|Data Grid - Data|Use legacy print grid**.
-

Related Topics[Print Grid](#)[Report Link Designer](#)[Report Manager](#)

Report Link Designer

You can change how you want to print from a data grid on the Report Link Designer.

Note: To use this version of the print grid, **Toad Options|Data Grids|Data|Use legacy Print grid** must be cleared.

To access Report Link Designer

1. From the **Grid** menu, select **Print Grid**.

Or

From the **Right-Click Menu** select **Print Grid**.

2. Click **Print Preview**.

3. Click either the **Design**  button.

Or

Right-click and select **Design**.

Using the ReportLink Designer

Use this dialog box to select grid print options, and then print the grid contents to paper.

There are five tabs on this screen: [Options](#), [Colors](#), [Fonts](#), [Behaviors](#), and [Miscellaneous](#).

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Any changes you make on these tabs are previewed in the right panel.

Title Properties

Clicking **Title Properties** opens a dialog box that lets you set a title for your report, and specify where it will print (such as the top of every page). Click the **Properties** tab to set the font, color and alignment of the title.

Options Tab

Show

- **Bands**
When checked, Toad adds a blank band (bar) to the top of the grid. The default is unchecked.
- **Header**
If checked, the column headers are included in the printout. If unchecked, column headers are not included. The default is checked.
- **Footers – Not applicable to data grids**
- **Group Footers – Not applicable to data grids**

Preview

If checked and if you have activated [Preview Current Column](#), the preview columns will print.

If unchecked, or if checked and you have not activated Preview Current Column, the preview columns will not print.

The default is unchecked.

Grid

- **Node Grid**
If checked, will print the column lines in a data grid. If unchecked, the column lines will not print in the data grid. The default is checked.
- **Grid**
If checked, the grid lines (the lines between the rows and columns) will print. If unchecked, the grid lines will not print. The default is checked.

Colors tab

The Colors Tab lets you set colors. You can set colors for the grid background, the preview column, the band, the header, and the grid line. The Transparent check boxes remove the colors and disable the associated color dropdowns.

- *Group Node and Group Footers (and their color choices) are not applicable to data grids.*
- *Extended Management by Colors – Not implemented at this time*

Fonts tab

The Change Font button lets you change fonts for the selected area of the grid. This includes band, font, header, and preview.

Behaviors tab

The Behaviors tab lets you change where bands and headers are placed, how much of the selection prints, whether or not any nodes automatically expand. You also have the option of choosing to use three-dimensional effects. The Graphics area is currently not applicable to any printable grid in Toad.

Miscellaneous tab

The Miscellaneous tab lets you choose effects for tree view grids and checkmarks.

Related Topics

[Print Grid](#)

[Print Grid Contents](#)

[Reports Manager](#)

Reports Manager Overview

The Reports Manager lets you easily manage reports that have been previously created, including several that Toad provides for you. You can Open, run, and print from the Reports Manager window, without dealing with design screens. If you want to create a report from scratch, you can open the Report Builder wizard from this screen.

When you first begin using the Reports Manager, you will need to import the reports you want to use. Importing queries and fr3 report definitions from a single file is much easier than running the query separately each time you want to run a report. Having a single file creates portability between versions of Toad: you only need to move one file to have queries, comments and report layout for the report.

Queries displayed in the report manager supply the data to the reports, and can be edited from the Reports Manager.

There are advantages to accessing the report builder from the reports manager rather than directly from the editor:

- A report needs two things - a query and a report definition file (the .fr3 file). The reports manager gives you a convenient way to organize them, clone them, share them, etc. When you run and re-run reports from the editor, you need to remember the query (or remember where you saved it).
- The reports manager allows you to create master/detail datasets to report on. This cannot be done in the editor, however you can create them from the Master/Detail Browser and then create a report.

The Reports Manager is divided into two areas. The left hand side contains a list of loaded reports for you to select. The right hand side contains information about the selected report, including options to view the Master Dataset (query), Comments you have added, or the Detail dataset. Parameters are listed in the grid at the bottom of the right hand side.

Report History

The last report you viewed will remain open when you close the Reports Manager and reopen it.

Reports area (Left hand side)

The reports area organizes your reports within various categories. You can move the reports between categories, add, or delete them from your reports file.

When you expand a category and close the window, Toad will remember that it has been expanded and open it that way the next time you use the Reports Manager.

The Reports area is also multi-select enabled. This means that you can select more than one report from the list and then act on them at once. When you have multiple reports selected you can Change Categories, Export, Print, Delete them.

Report Information area

The right hand side, or report information area, displays the query on which the selected report was based, any comments you have entered for the report, parameters that need to be entered before Toad can run the query, and displays Index columns, if applicable.

Scheduling Reports

You can schedule reports by using the command line interface. (See [Printing and Exporting Reports from the Command Line](#) for more information.)

Related Topics

[Reports Manager Toolbar](#)

[Copying a Report](#)

[Changing a Report's Category](#)

[Importing/Exporting a Report](#)

[Printing and Exporting Reports from the Command Line](#)

Reporting

Toad Control Files

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can view information about the Control files record sections for your database by selecting: **Database|Control Files** from the main menu bar. The Control Files window appears.

The control file contains information about the associated database that is required for the database to be accessed by an instance, both at startup and during normal operation. A control file's information can be modified only by Oracle; no database administrator or end-user can edit a database's control file.

A control file contains information including:

- database name
- timestamp of database creation
- names and locations of associated datafiles and online redo log files
- tablespace information
- datafile offline ranges
- log history
- archived log information
- backup set and backup piece information
- backup datafile and redo log information
- datafile copy information
- current log sequence number
- checkpoint information

When you create a database, Oracle creates the database name and timestamp. The database name is taken from either the name specified by the initialization parameter DB_NAME or the name used in the CREATE DATABASE statement.

Whenever a datafile or an online redo log file is added to, renamed in, or dropped from the database, the control file is updated to reflect this physical structure change. These changes are recorded so that:

- Oracle can identify the datafiles and online redo log files to open during database startup.
- Oracle can identify files that are required or available in case database recovery is necessary.

Therefore, if you make a change to your database's physical structure, you should immediately make a backup of your control file.

Control files also record information about checkpoints. Every three seconds, the checkpoint process (CKPT) records information in the control file about the checkpoint position in the online redo log. This information is used during database recovery. It marks entries not necessary for database recovery because they have already been written to the datafiles.

Dependencies

This function allows you to

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- View the database objects that reference a selected database object or
- View the database objects that the selected object is dependent on.

The Dependencies function does not rely on the Toad_DEP_TEMP table.

The tree views can be completely expanded by <CTRL><SPACE>.

There is also a tab to view the dependencies on all objects. Indented objects are dependent on outer objects.

ER Diagram

The ER diagram lets you quickly model a table and graphically see the dependencies and joins to other tables.

To Access the ER diagram:

- From the **Database|Report** menu|**ER Diagram**.
OR

From the **Schema Browser**, **Tables** page, right-click on a table and select **ER Diagram**.

Creating a New Diagram

To create a New Diagram

1. From the toolbar, select the **New Diagram**  button. The Create ER Diagram dialog box appears.
2. Enter the **Schema** where your table resides from the drop down schema menu.
3. Enter the **Table** you want to diagram.
4. Select the **number of levels** of referential tables you want to load.

Note: The more levels of referential tables you load, the more complicated the diagram will become, and the longer Toad will take to create the diagram.

5. Select your **display options**. You can:
 6. Show primary keys
 7. Show foreign keys
 8. Show unique keys
 9. Show data type
 10. Show not nullable
 11. Show indexes

If the display option has an icon associated with it, the icon is displayed to the right of the option. In the diagram, the appropriate icon will appear to the left of the table name.

6. If you want to exclude referential tables, click in the **Exclude Table(s)** box to check the tables you want to exclude.
7. Click **OK** to generate the diagram.

From a Few Tables

On the lower left hand portion of the window is a list of tables. You can add additional tables to the diagram by double-clicking on a table name.

1. Add several tables to the diagram.
2. On the toolbar, click the **Find Dependencies**  button. Any joins between these tables appear.

Note: This feature does not add new objects to the diagram; it only finds joins between objects already displayed.

From a Single Table

You can create an entire diagram from one table.

1. In the lower left hand panel, select the table you want to diagram.
2. On the toolbar, click the **New Diagram**  button. The Create ER Diagram dialog box appears, with the table already selected. Continue from **Step 4** in the From a New diagram section above.

Reading the Diagram

Each object listing contains the name of the table and the schema where it resides (in the title bar), the columns in the table, the column type, whether the column is indexed, and any icons selected in the Display Options area when the diagram was created.

Lines connect every two tables where one table is dependent on the other. Lines have a knob end and an arrow end. The referencing table resides at the knob end, and the referenced table at the arrow end.

Working with the graphic model

- Right-click on an object to display the popup menu from the Schema Browser.
- F2 toggles full screen mode.
- F4 or double-click performs a Describe, if Toad supports Describes on that object type.

Adding new tables to the model

After you have created a diagram, you may want to add other tables to it. For example, in a production system the database may have several tables that are used, some of them may not be connected to other tables in the system. However, since it is part of the same system, you may want those in the diagram too. You can use the Table list in the lower left to add them. Just double-click on the additional tables you want in the diagram, and they will appear.

Query Builder Overview

There are two ways to access the Query Builder:

- from the **Database|Report|Query Builder** menu item
- the **Query Builder** button on the parent Toad window toolbar

Query Builder dialog box provides a fast means for creating the framework of a Select, Insert, Update, or Delete statement. You can select Tables, Views, or Synonyms, join columns, select columns, and create the desired type of statement.

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You can move around the Query Builder by clicking on items or by using the keyboard. Up and down arrow keys will move you around in lists, the space bar will check and uncheck boxes, and you can tab to move forward one area (table, menu, list, etc) and Shift-Tab to move back one area.

- **Table Model Area** - Use the upper panel to graphically lay out a query. See [Model Area](#) for more information.
 - **Tree View**- Current query in tree view.
 - **Generated SQL Query** - Automatically generated SQL as a result of the model appears in the results grid below the Model Area. The Query Results tab displays the results of the created query.
 - **Query Builder Toolbar** - Contains the most frequently used functions. See [Query Builder](#) Toolbar for descriptions of toolbar items. More functions can be found on the popup menus.
-

Related Topics

[Query Builder Toolbar](#)

[Quickstart](#)

[Model Area](#)

[Query Builder Options](#)

Explain Plans

Explain Plan Overview

Explain Plan is an Oracle function that analyzes SQL statements for performance issues. The Explain Plan determines the execution plan Oracle follows when executing a specified SQL statement. It inserts a row describing each step of the execution plan into a specified table. If you are using cost-based optimization, this statement also determines the cost of executing the selected statement.

The results of the Explain Plan include:

- Order that Oracle will search and join tables
- Types of access employed (index search or full table scan)
- Names of indexes used.

Toad uses the Windows User name plus the date and time to generate a unique statement id for the Explain Plan. If the user has a longer than normal user name, you may need to expand the Statement_ID column of the Plan table.

If you have not set up the Explain Plan tables, or the plan table specified in Toad Options|Oracle|General, Toad will ask you to do so. If you do not want to store previous Explain Plan results, disable the option Save previous Plan results in the Toad Options|Oracle|General window. This will keep Toad from asking you repeatedly to create the table.

Note: If you do not set up the Explain Plan tables, you will not be able to recall previous Explain Plan results.

For more information on Explain Plan results, see: [Explain Plan Results](#).

Viewing the Explain Plan for the Current Statement



The Explain Plan  button on the Editor toolbar executes the Explain Plan for the current statement (either the entire window, or any highlighted portion). Results are then displayed in the Explain Plan tab below the editor.

Results can be displayed in several formats. By default, the plan is displayed in a tree view. You can also choose to display the plan information in plain English, or one of two graphical modes. In addition, you can view the explain plan one record at a time.

To view in single record view

- Right-click over the Explain Plan and then select [Single Record View](#).

To change the display format

1. Right-click over the Explain Plan and then select **Display Mode**.
2. Select the display format you want to view:
 - Tree
 - Plain English
 - Graphic
 - MS Graph (MS SQL Server flow chart format)

Executing Explain Plan

You can run an Explain Plan on a statement inside a full script as well as on a single SQL statement.

[Execute Explain Plan on SQL Statements](#)

If you attempt to activate an Explain Plan and you have not created the needed Toad temp tables, you get an error message telling you the table or view does not exist.

This does NOT affect the display of the Explain Plan window accessible from **Database|Optimize|Explain Plan**.

Explain Plan histories are stored in Toad_PLAN_SQL and Toad_PLAN_TABLE

To execute Explain Plan on a SQL statement in the SQL Editor

- Place the cursor on a SQL statement. Select **Editor|Explain Plan Current SQL**
- Or

Type <CTRL>E.

Explain Plan Results

The Explain Plan treeview lists the contents of the Toad_PLAN_TABLE for the given statement id. The query used to retrieve information for this treeview is based on the one given by Oracle in utlxplp.sql. Please see Oracle's documentation of the Explain Plan table and its columns for more information.

Explain plan results can be displayed in several formats:

- Tree
- Plain English
- Graphic
- MS Graph

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In addition, in tree view, you can choose how you display some of the columns, or even to display them at all. By displaying them as columns rather than inline with the main plan you can create a display that is customized to your needs.

To change the display mode

1. Right-click over the Explain Plan and then select **Display Mode**.
2. Select the display format you want to view:
 - Tree
 - Plain English
 - Graphic
 - MS Graph

Adjusting Content

Use the Execution Plan Preferences dialog to adjust the content of the Explain Plan. Choices you can make from this dialog include making several of the columns visible or hiding the information altogether, and also choosing to display the information inline with the tree view or in columns to the left of it.

You can only adjust content in the tree view.

To adjust content

1. Right-click in the Explain Plan and select **Adjust Content**.
 2. Select or clear the checkboxes in the **Visible** column to display or hide the associated information.
 3. Select or clear the checkboxes in the **As Column** column to view the associated information inline with the plan or in a column to the left of the plan.
 4. Rearrange columns by dragging the column where you want it directly on the Explain Plan. In this way you can put columns in any order, or to the right of the plan.
-

Related Topics

[Explain Plan Single Record View](#)

Single Record View

Use this dialog box to view and/or edit records from several results panel within Toad, including the SQL Results panel and the Explain plan.

To access single record view

- Click the **open book icon** in the results panel, at the intersection of the grid headers and the record selectors/row numbers.

Note: In order to edit the data in the records, using the Single Record View popup window, the recordset must be editable first. [See Editable Resultsets for more information.](#)

To print the single record

- Click the **Print**  button.
-

Object Usage

From the explain plan, you can view object usage for the query you have run.

The Object Usage window displays the Operation, option, object type, object owner, and object name of the objects used.

Within this window, you can view objects in several different ways.

You can:

- Reorder columns by dragging their headers into the order you want.
- Sort columns by clicking on the column header.
- Group data by a column type by dragging the column header into the area above the grid.

To view Object Usage

1. Run an explain plan.
 2. Right-click over the explain plan window and select **Object Usage**.
-

Related Topics

[Explain Plan Overview](#)

[Explain Plan Results](#)

Record View Options

The record view options dialog provides a way to order the single record view. Since the record view is simply a list of columns and their values, rearranging them may make it easier to find the data you want.

Select from the following options:

Field Order

Column Name - orders fields by column name

Column Position - orders fields by column position

Direction

Select the order of your fields as Ascending or Descending. This has slightly different effects based on the field order you have selected. For example, if your field order is by column name, ascending or descending will put the fields into alphabetical or reverse alphabetical order. If your field order is by column position, ascending will put the columns in the order they appear, and descending will reverse that order.

Left Align Field Names

Select Left Align Field Names to align all the field names to the left with varying spaces before the fields themselves. The default is to align them to the right with a standard amount of space between them and the fields.

Printing and Copying Explain Plans

When you have run an Explain Plan, you can print it from the grid or from the Explain Plan window, or copy it to the clipboard to paste into other documents.

When you copy or print the Explain Plan to the clipboard, it is copied or printed just as it is displayed, whether hierarchical, plain text, or graphical.

To copy to clipboard

1. Run an Explain Plan.
2. Select the Display Mode you want to use.
3. Right-click in the Explain Plan and select **Copy to Clipboard**.

To print

1. Run an Explain Plan.
 2. Select the Display Mode you want to use.
 3. Right-click in the explain plan and select **Print**.
 4. Select your printer settings and then click **OK**.
-

Viewing Previous Explain Plan Results



The Explain Plan  button on the Main Window toolbar displays the Explain Plan window.

This window displays the results from previous calls to Explain Plan. The format of these Explain Plans is the same as if you had just run the plan on your SQL (see [Editor/Explain Plan Overview](#) for more information). Viewing previous plan output lets you compare different results for similar statements or for revisions of the same statement as you tune them.

Previous plan results remain in the Toad tables until cleared by the user using the CLEAR button on the Explain Plan window.

Saving Explain Plans

There are two ways to save Explain Plans from Toad.

You can save them automatically for viewing from Database|Optimize|Explain Plan or you can save them to an XML file. The latter will allow you to compare a current or historic Explain Plan to the saved file in the future.

To save Explain Plans automatically

1. From the Toad Options screen, select the **Oracle|General** page.

2. Select the **Save previous Explain Plan results** box.

All Explain Plans run from now on will be saved in the plan_table you have specified.

To save Explain Plans to an xml file

1. Run an Explain Plan.
2. Right-click over the plan and select Save to XML file.
3. Choose a location, name your file and then click **OK**.

To load an xml file

1. Right-click in the Explain Plan area.
 2. Select **Load from XML** file and then select the file to load and click **OK**.
- OR
1. Drag the xml file from Windows Explorer to the Explain Plan window.
-

Related Topics

[Comparing Explain Plans](#)

[Explain Plan](#)

Comparing Explain Plans

You can compare a currently run Explain Plan, or an Explain Plan that has been saved to the plan table with one you have saved to an XML file. This can be useful if you are comparing variations of the same SQL.

Each side of the screen can be connected to a different database, so you can use this feature to compare a plan for the same SQL from two different databases.

Comparing Explain Plans displays a side-by-side comparison view of the plans you are comparing. The Explain Plans are compared using the [Difference Viewer](#). No highlighting is provided to show differences. However, the status area above the left side panel will display either Plans Match in blue or Plans Differ in red as required.

For differences to be highlighted, you must view the explain plans in tree view.

To compare Explain Plans

1. Select an Explain Plan to compare, from either:
 - A current plan run in the Editor

Or

- An Explain Plan opened from the **View|Explain Plan** window.
2. Right-click over the plan and select **Compare to another Plan**.

The differences viewer opens with the selected plan in the left side.

3. In the right-panel toolbar, click the **Open Plan** button and select a saved plan for comparison.
4. Click **OK**.

Related Topics

[Viewing File differences](#)

Code Road Map

Road Map Overview

The Code Road Map graphically displays the complex PL/SQL interdependencies within a database. You can think of the Code Road Map as a developer's model of the application code.

The Road Map displays two different levels: code only and code plus data.

Code Only

In the code only version, you see a graphical representation of the run-time, call-stack dependencies. There are three additional options for this mode:

- expand packages for calls into them
- include calls to SYS owned PL/SQL
- include calls to other schema's PL/SQL

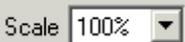
Code Plus Data

The code plus data diagram lets you visually see what database objects the code references and in what manner (for example, read versus write). In this diagram, you can also include pertinent triggers and views. Views are essentially treated as tables.

Code Road Map Toolbar



Button	Command
	Create a new map , choosing new code to model.
	Clear the model window and revert to the initial start up state.
	Change the active database session.
	Open a saved map file (.crm extensions).
	Save the map with a new name.
	Save the current map.
	Save Diagram as text file.
	Create a bitmap version of the code map.
	Print the model side of the code map.
	Use the Code Road Map Info button to add a comment to your saved code map.

	Collapse/Expand Package View: when you are in Collapse Package View, any sub units that are referenced will be included under the object type in the graphic model. See Reading the Code Model .
	Refresh Diagram.
	Create object scripts. This opens the DDL Script dialog box, where you can choose the options you want to use to create an object script. The script is copied to the clipboard and you then can paste it into an editor. Note: The Script dialog box is only available in the commercial version of Toad with the optional Quest DBA Module.
	Change colors for database objects.
	Zoom in or out of the graphic model.
	Previous auto layout / Next auto layout.

Choosing Code to Model

Access the Code Road Map from **Database|Report|Code Road Map**.

When you first open the Code Road Map, there will be no map loaded.

Icon	Function
	To create a new map, click the New Map button.
	To open a saved map, click the Open Map button. The dropdown will display the last few maps you have had open.

New Map

When you choose to create a new map, the Model Code dialog box appears. This dialog box lets you choose what code you want to map, and what options you want to use when it is mapped.

Schema

Choose the schema where the code you want mapped is located.

Code Type

You can choose from a dropdown list of code types. Toad supports mapping of functions, packages, procedures and triggers.

Code Unit

Objects of the type chosen above populate this dropdown for code unit. Select the unit you want to map.

Sub Unit

If the code type you have chosen is a package, the various parts of that package will be included in the sub unit dropdown, arranged alphabetically. By default, the first sub unit is selected for mapping.

Levels to Model

Enter the number of levels down from your starting object that you want to model. The default is ten.

Display Mode

- Code Only - Select Code Only to model only code that the object calls.
- Code + Data - Select Code + Data to model both code called and data (tables, views, and so on) referenced by the object.

Display Options

These options only affect the visual display of the map. The data in the map is not affected by these selection.

- Expand packages and types for calls
 - Include triggers (for Code + Data)
 - Include views (for Code + Data)
 - Include calls to SYS-owned objects
 - Include calls to other schema PL/SQL
-

Reading the Code Model

The code model is designed in a similar way to the models you can create using the [SQL Modeler](#).

The final model consists of a list of components, in a hierarchical tree, organized by object type on the left panel of the window. In the right panel is a graphic model of the code.

Browser

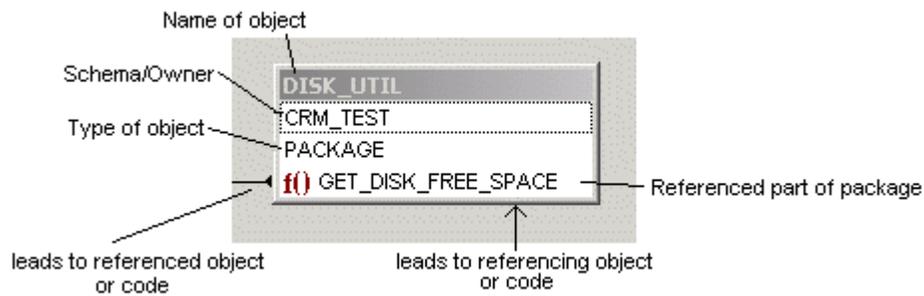
You can use the tree view browser at the left of the window to see at a glance just how large the map is. You can also use it to navigate from object to object.

The tree view is organized by object type. For example, all procedures are listed under the Procedures node, and all tables under the Tables node.

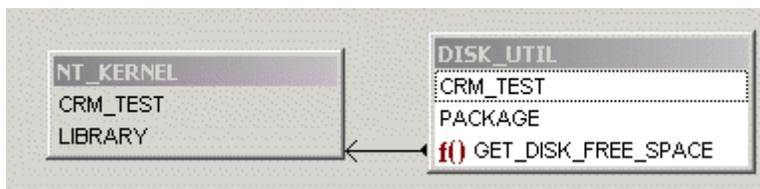
- Click on an object in the tree view and the graphic model to the right centers on that object.
- Right-click on an object to display the popup menu from the Schema Browser for that object.
- F4 performs a Describe, if Toad supports Describes on that object type.
- Double-click an object to perform a Describe.

Graphic Model

Each object listing contains the name of the object, the schema where it resides, and the type of object. If the object is a package and you are in Collapse Package View, any sub units that are referenced will be included under the object type. For example:

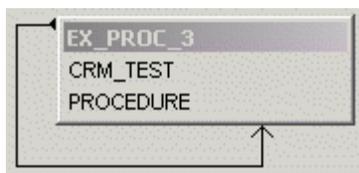


Lines connect every two objects where one object is dependent on the other. Lines have a knob end and an arrow end. The referencing object resides at the knob end, and the referenced object at the arrow end. For example:



In this example, DISK_UTIL references the library NT_KERNEL, specifically from the function GET_DISK_FREE_SPACE. The example model is in collapse package view.

A self-recursive reference is shown in the same manner, with the arrow returning back to the same object, as follows:



Working with the graphic model

- Right-click on an object to display the popup menu from the Schema Browser for that object type.
- F2 toggles full screen mode.
- F4 or Double-clicking on an object performs a Describe, if Toad supports Describes on that object type.

Saving a Text Model

You may find that you want something less graphical, and easier to print or carry with you. To do this, Toad can export the code model to a text file. This consists of a list of the objects and what they reference.

For example,

```
PROCEDURE CRM_TEST EX_PROC_1 ---> PACKAGE CRM_TEST EX_PACK_2
PROCEDURE CRM_TEST EX_PROC_1 ---> PROCEDURE CRM_TEST EX_PROC_2
PROCEDURE CRM_TEST EX_PROC_1 ---> PROCEDURE CRM_TEST EX_PROC_3
```

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```
PROCEDURE CRM_TEST EX_PROC_1 ---> TABLE CRM_TEST EMP_SNAPSHOT  
PROCEDURE CRM_TEST EX_PROC_1 ---> VIEW CRM_TEST SALES
```

might be the results of a small code map. The map is laid out as follows:

```
OBJECT-TYPE SCHEMA OBJECT NAME --> OBJECT-TYPE SCHEMA OBJECT NAME
```

where the arrow means "calls".

To Save a Text Model

1. Create your road map.
2. On the [Code Road Map toolbar](#), click the **Save diagram as text file**  button. The Save As dialog box appears and you can save the file.

Copying the Code Model

You can copy the code model to the clipboard and then paste it into another document or graphics application.

There are several ways to accomplish this.

To copy the code model

- Do one of the following:
- Right-click in the model and choose **Copy image to clipboard**.
- From the **Edit** menu, select **Copy**.
- Press <CTRL> <C> or the keystrokes you have set up for a Copy shortcut.

The image of the graphic code model is copied to the clipboard and can be pasted into another application if desired.

HTML Schema Doc Generator

HTML Schema Doc Generator

This window lets you select one or more schemas from the left panel and create HTML documentation describing the schemas using the Begin HTML Schema Doc Generation button at the top of the screen. Hyperlinks throughout the final HTML document let you jump between sections of the documentation.

All options are saved to and loaded from the TOAD.INI file. Schema selections are saved and loaded on a per-database basis.

This topic includes information on the following parts of the Schema Doc Generator:

[Sources tab](#)

[Format tab](#)

[Content tab](#)

[Inclusions and Exclusions tab](#)

[Header/Footer tab](#)

[Aliases for Schema Names](#)

Sources tab

Schemas available to document are listed on the left of the window. Check one or more schemas to document.

Right-click the schema list to choose from several default selections:

- Check All - checks all schemas for documentation.
- Check None - unchecks all schemas.
- Check My Schema - checks the schema for the current connection.
- Check My Schema Only - checks the schema for the current connection and unchecks all others.

The right panel of the window lets you create schema documentation from the .def files. These def files are created in the [Generate Schema Script](#) window.

Note: You must check "Def file will be used for HTML Schema Doc generation in Generate Schema script to include all parts of the schema."

To use this feature, the def file name must match the schema name. In other words, for the schema called SCOTT, your def file must be called SCOTT.DEF. The directory where you store these files is unimportant.

Content tab

This tab contains check boxes that let you select what to include in your HTML document. They are divided into object Summaries and Object Descriptions. By default, all check boxes are checked. These check boxes include the following as well as others:

Count of All Objects check box

If checked, the document will list the number of objects of the selected type in the schema. In addition, it will count miscellaneous details such as number of table columns and table partitions in the schema.

Privileges check boxes

If checked, the document will list privileges granted. Object privileges will include the Object Owner, as well as the name and grantable or non-grantable privileges. System privileges will include the privilege and whether there is an Admin option for that privilege.

Object Summary check boxes

Each Object Summary check box (Table Summary, Snapshot Summary, and so on) when checked, creates a list of characteristics of the object. For most object types, the object name in the final document is a hyperlink to a more complete description of the object.

Object Descriptions check boxes

Each Object Description check box (Table Descriptions, View Descriptions, and so on) enables additional check boxes that let you specify what to include in the description.

Include Snapshot Tables with Table Listings

You can include or exclude snapshot tables with table listings. The default is to include these. Uncheck the check box to exclude them.

Format tab

File Options radio buttons

- One file per schema - If selected, each schema is written to its own file. If more than one schema is selected, an additional HTML page will be created that is a link between the schema documents.

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- A few files per schema - If selected, schemas are broken into a few files, one file for each major section.
- One file per object - If selected, each object is written to its own file, and each summary section is written to its own file.

Background radio buttons

Select the background you want for your report. Options include:

- a watermark Toad image
- gray paper texture
- a solid color of your choice (Click the color panel to change the solid background color)
- specify your own image file (When you choose this, the Custom Image File Name box becomes active.

Use Existing CSS file check box

Most of the style options are written to a CSS (Cascading Style Sheet) file. If you want to use your own customized version of the CSS file, select this option and specify the file name or URL. When this option is selected, the options that write to the CSS file are disabled.

Fonts

Click the words **Table Headers**, **Table Rows**, or **Most Other Text** to change the font properties (font size, color, and text style) in the HTML document.

Links

You can specify the color of visited and unvisited links in your HTML documents, and the color of the links when the mouse hovers over them. Click the corresponding colors to change the color for **Unvisited**, **Visited**, and **Hover**.

Table Options

- Header background color - You can adjust the Table header background color by clicking on the color panel.
- Table border styles - Radio buttons for Table border styles let you select None, Single, or Double.
- Transparent rows
- If this is checked, the background color of the HTML document will be the background color for all tables.
- If unchecked, you can click the color panel at Row Background Color and choose a new color for your table rows.

The default is checked.

Miscellaneous

- **Indent HTML files** - When checked, the HTML code in the files will be indented with spaces so it can be more easily read. When the option is unchecked, no indentations will be made in the HTML code, so the resulting files are smaller and can be read

faster by computers. This option does not change the way the HTML documents are displayed when viewed through a browser.

- **Page Breaks before Tables** - When checked, Toad will insert a page break before each table. This makes a change to the CSS file, not to the HTML file, and has no effect unless the HTML docs are printed.
- **Lowercase Tables** - Displays HTML tables entirely in lowercase. This option changes the CSS file, not to the HTML file.

Inclusions and Exclusions tab

This tab lets you create and select inclusion and exclusion files. You can also further filter by checking the Where clause check box and typing in a Where clause.

Tables/Views button

Select either the **Table** or **View** button. The options are similar, but they apply to either tables or views.

Create ____ List File button

This button generates an inclusion/exclusion text file for the schema. This lists all your tables or views. You can then view and edit the file.

- Use it as an inclusion file: only the tables or views listed will be included.
- Use it as an exclusion file: only the tables or views listed will be excluded.
- To get only tables starting with the letter 'A', enter:
`AND HTML.TABLE_NAME like 'A%'`
- To get a few specific tables within the selected schema, enter:
`AND HTML.TABLE_NAME in ('MYTABLE', 'MYOTHERTABLE', 'THISTABLE', 'THATTABLE')`

Procs button

If you choose to use an inclusion or exclusion text file, the Procs button appears beside the Table and View buttons. This lets you choose to include only procs dependent on tables that pass filtering.

After File creation

When the file has been created, you can add filters to it. View the file and remove the comment (#) marks from the beginning of the appropriate filter lines. These include:

- STARTSWITH: <text>
- ENDSWITH: <text>
- CONTAINS: <text>

When adding filters:

1. Do not enclose the text within <>.
2. Add as many filters of each type as you need. Filters are OR'd with each other and with the table names so if a table name gets through any filter or is listed, then it will be included or excluded (depending on which the file is used for).
3. Snapshot tables are listed in this file, but they will be automatically excluded from table listings if the option to include them is not checked.

Header/Footer tab

Click the Header/Footer tab to add customized headers and footers to your document.

Include check boxes

Checked, these check boxes will include the footer you've designed in every file created by this run of the HTML Schema Doc Generator.

Unchecked, headers and footers will not display.

Header/Footer boxes

Enter up to four lines in the header or footer areas. Enter one line per box.

You can select fonts for the headers and footers by clicking the Font button beside the box. Each line of text can be formatted differently.

Aliases for Schema names tab

Click this tab to enter an alias for any schema names. The grid automatically enters the source choices you have made on the Sources tab. If you leave this area blank, then schema names and database names will be included in the HTML document Toad generates.

If you fill in an alias for any schema, that schema name will be replaced by your alias throughout the HTML document.

You might want to use an alias if:

1. Your schema name <> application name and you want to see the application name displayed.
 2. You want to extract an HTML doc from more than one def file of the same schema. If you do not use an alias, the file names will overwrite each other because they will be the same. Using an alias, the file names will be different.
 3. Readers of the HTML docs shouldn't know your schema or database name.
-

Run HTML Schema Generator from Command Prompt

You can run the HTML Schema Documentation Generator from a command line, using the file you saved, and making a few modifications.

To build the file to run the HTML Schema Generator

1. Start **Toad**.
2. From the **Tools** menu, select **HTML Schema Generator**.
3. Make all settings to generate the document (see [HTML Schema Doc Generator](#)).
4. Instead, click the **Save Settings to File** button. A Save file dialog box appears. Click **Save** to save settings information.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order in which you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands

into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

- `CreateHTMLDocumentation('c:\HTMLDir\index.htm')` - This command starts the generation process. "c:\HTMLDir\index.htm" is the destination file pathname and can be changed.
- `CloseHTML` - This command closes the HTML Schema Doc Generation window within Toad.
- `CloseToad` - This command closes Toad after the process is finished.
- `#` - This is a comment and will be ignored when this command file is run.

Run from the Command Prompt

When your file is ready, you can run the generator from a command prompt.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c SYSTEM/manager@mydb GENHTML c:\thisfile.txt
```

Note: you must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your userid and Oracle database.
 - Replace C:\THISFILE.TXT with the path and filename of the settings file.
-

Master/Detail Browser

Master/Detail Browser

Use the Master/Detail browser to view or edit data from multiple tables, snapshots, views or queries linked by foreign keys or a user-defined master-detail relationship. This is typical of a database setup from an Entity/Relationship diagram, where one table's objects are related to another table's objects by a linking field or fields.

For example, you could start with the DEPARTMENT table, and display details. Select a department record in the Master grid, and the detail grid will display employee records for that department only. If multiple tables are linked by foreign keys, you can add additional details beneath the first.

In addition, you can add sub-details of the detail objects.

To access the Master/Detail Browser

- Select **Database|Report|Master/Detail Browser**.

Navigator

To the left of the Master Detail Browser is the Master Detail Navigator. As you add detail tables, they are added to the navigator under the original table. Using the navigator can make it much easier to control very detailed sets of master/details.

Within the navigator, you can hide or display the schema name and delete detail nodes.

You can use the navigator to find the grid for a specific detail table.

To find a detail

- In the Navigator, click on the node for the detail you want to view.

In the Master Detail browser, the grid for that detail takes flashes in the lower grid pane.

Single Grid Mode

You can set Toad to display only one grid at a time by checking the Single Grid Mode box on the Master/Detail toolbar. Use the navigator to select which grid you want to see.

Related Topics

[Master/Detail Table Browser Toolbar](#)

[Selecting the Master Object](#)

[Adding Detail Datasets](#)

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Related Topics[Master/Detail Table Browser Toolbar](#)[Selecting the Master Object](#)[Adding Detail Datasets](#)**Master/Detail Browser Toolbar**

From the Master/Detail browser toolbar you can add details, save a master/detail relationship, open a relationship, edit the query used for the master relationship and more.



Button	Command
	Change active session
	Open Master/Detail relationship
	Save current Master/Detail relationship
	Minimize Toolbars for maximum grid area
	Optimize Dataset Heights
Single Grid Mode 	Toggles single grid mode
	Generate Report
	Table Sort
	View/Edit the query for the master dataset
	Refresh the grids
	Add detail to the selected dataset
	Make grid smaller
	Make grid larger
	Remove this detail from the relationship
Type:	Object type contained in the grid.
Single Grid Mode	Displays only one grid at a time: use the navigator to select the grid to display.
	Select Foreign Key - select a detail table to display, based on foreign key.

Generating XML Output

You can generate XML output from a master-detail relationship. From the master-detail grids, you can send a query to the editor that will generate the output. Output will be created in XML Form, one XML document per row.

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This feature is available only in Oracle 9iR2 and newer, and when the Master-Detail relationship consists of one master and one detail.

To generate XML output

1. From the **Master Detail browser**, open or create a relationship that consists of one Master and one detail.
2. Right-click on the master grid, and select **Send XMLGEN Query to Editor**.
3. Switch to the **Editor** window in Toad.
4. Execute the query to generate XML output.

Toad creates an XML document for each row in the master dataset, with each XML document containing all corresponding detail rows.

To save XML output to disk

1. Right-click on the **Editor grid** and choose **Export BLOBs (longs, raws)**.
 2. Select the **XMLDATA column** from the **Export this Column** drop down.
 3. Enter or select a **directory** where you want the files stored in the **Export Path** box.
 4. Select the method of naming your files:
 5. Use sequentially numbered files
 6. Export to files named for the value in this column (select the column)
 5. Click **OK**.
-

Related Topics

[Master/Detail Browser](#)

[Executing queries](#)

Selecting the Master Object

Before you can add details, you first need to select the master object for the relationship view.

To select a master object

1. From the **Database|Report** menu, select **Master Detail Browser**.
2. In the Type box, select the type of object you want to use. Possible options are:
 3. Table
 4. View
 5. Snapshot
 6. Query
3. In the owner box, select the schema that contains the object.
4. In the Name box, select the name of the object.

The grid populates with the contents of your selected object.

Related Topics

[Adding Detail Datasets](#)

Adding Detail Datasets

You can easily add detail datasets to a master grid, or to a detail grid.

If you choose Other as the dataset type, (not Table(FK)), then the Add detail  button drop down will include Reverse Foreign Keys. This lets you define the master-detail relationship by going through a foreign key in reverse.

To add a dataset

1. Open a master object.
2. On the master toolbar, click the **Add detail**  button.
3. If there is only one foreign-key defined detail, it will be added to the display.

Or

If there are multiple options, choose from a list of available tables to use for details. Select and click **OK**.

Or

If there are no constraints defined, the [Define Master-Detail Relationship](#) dialog appears. Define a relationship and click **OK**.

Related Topics

[Master/Detail Browser](#)

[Selecting the Master object](#)

[Defining a Master/Detail Relationship](#)

Defining a Master/Detail Relationship

If there is no foreign key specified, you can create a Master/Detail relationship by hand.

To define a master/detail relationship

1. From the Master/Detail browser, [select a master object](#).
2. Click the **Add Detail Dataset**  button.

If there is no defined detail dataset, the Master/Detail Define Relationship dialog appears.

Continue with **step 3**.

If there is only one defined detail dataset, it is displayed.

In the Type dropdown, select **Other**, and then click the **Select Detail relationship**  button.

3. In the Master area, select the columns you want to link and click the > arrow to move them to the Key Columns list.

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4. Select any columns you do not want to link from the Key Columns grid and click the < arrow to remove them.
5. In the detail area, select the Object type containing the dataset you want to link. This can be a:
 6. Table
 7. Snapshot
 8. View
6. Select the schema containing the dataset.
7. Select the Object Name containing the dataset.
8. In the Available Columns grid, select the column you want to link to the selected column in the Master Table.

Note These must be in the same order as the Key columns in the Master area.
9. Click **OK**.

To close without making changes

- Click **Cancel**.

To delete the master-detail relationship

- Click **Clear and Close**.
-

Reports Manager

Reports Manager Overview

The Reports Manager lets you easily manage reports that have been previously created, including several that Toad provides for you. You can Open, run, and print from the Reports Manager window, without dealing with design screens. If you want to create a report from scratch, you can open the Report Builder wizard from this screen.

When you first begin using the Reports Manager, you will need to import the reports you want to use. Importing queries and fr3 report definitions from a single file is much easier than running the query separately each time you want to run a report. Having a single file creates portability between versions of Toad: you only need to move one file to have queries, comments and report layout for the report.

Queries displayed in the report manager supply the data to the reports, and can be edited from the Reports Manager.

There are advantages to accessing the report builder from the reports manager rather than directly from the editor:

- A report needs two things - a query and a report definition file (the .fr3 file). The reports manager gives you a convenient way to organize them, clone them, share them, etc. When you run and re-run reports from the editor, you need to remember the query (or remember where you saved it).

- The reports manager allows you to create master/detail datasets to report on. This cannot be done in the editor, however you can create them from the Master/Detail Browser and then create a report.

The Reports Manager is divided into two areas. The left hand side contains a list of loaded reports for you to select. The right hand side contains information about the selected report, including options to view the Master Dataset (query), Comments you have added, or the Detail dataset. Parameters are listed in the grid at the bottom of the right hand side.

Report History

The last report you viewed will remain open when you close the Reports Manager and reopen it.

Reports area (Left hand side)

The reports area organizes your reports within various categories. You can move the reports between categories, add, or delete them from your reports file.

When you expand a category and close the window, Toad will remember that it has been expanded and open it that way the next time you use the Reports Manager.

The Reports area is also multi-select enabled. This means that you can select more than one report from the list and then act on them at once. When you have multiple reports selected you can Change Categories, Export, Print, Delete them.

Report Information area

The right hand side, or report information area, displays the query on which the selected report was based, any comments you have entered for the report, parameters that need to be entered before Toad can run the query, and displays Index columns, if applicable.

Scheduling Reports

You can schedule reports by using the command line interface. (See [Printing and Exporting Reports from the Command Line](#) for more information.)

Related Topics

[Reports Manager Toolbar](#)

[Copying a Report](#)

[Changing a Report's Category](#)

[Importing/Exporting a Report](#)

[Printing and Exporting Reports from the Command Line](#)

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The Reports area is also multi-select enabled. This means that you can select more than one report from the list and then act on them at once. When you have multiple reports selected you can Change Categories, Export, Print, Delete them.

Report Information area

The right hand side, or report information area, displays the query on which the selected report was based, any comments you have entered for the report, parameters that need to be entered before Toad can run the query, and displays Index columns, if applicable.

Scheduling Reports

You can schedule reports by using the command line interface. (See [Printing and Exporting Reports from the Command Line](#) for more information.)

Related Topics

[Reports Manager Toolbar](#)

[Copying a Report](#)

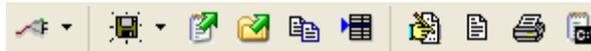
[Changing a Report's Category](#)

[Importing/Exporting a Report](#)

[Printing and Exporting Reports from the Command Line](#)

Reports Manager Toolbar

Use the Reports Manager toolbar to manage your reports and the queries associated with them easily and quickly.



Icon	Command
	Change active session.
	Export Report (Save report file as).
	Import Definition File.
	Import all definition files in a directory.
	Copy Report.
	Change category.
	Edit Selected report.
	Preview report.
	Print report.
	Create command line file.
	Create report.
	Delete selected report.
	Edit contents of selected reports.
	Post edit.
	Cancel edit.

Related Topics

[Reports Manager Overview](#)

[Creating a Master/Detail Dataset](#)

[Changing a Report's Category](#)

[Copying a Report](#)

[Importing/Exporting a Report](#)

Creating a Report

Creating a report consists of several parts:

- [Category](#)
- [Query](#)
- Report design (Definition file creation)
- Running the report

To create a report

1. Click the **Create a report**  button on the right hand side of the **Reports manager**.
2. Enter or select the category name you want to use for the report and click **OK**.
3. Name the report and click **OK**.
4. Enter the query for the **Master Dataset**, and for any detail datasets.
5. Click the **Design Report**  button and create a report.

Building a Report on Ref Cursor Output

You can create reports with simple queries, but you can also create reports that are built upon a ref cursor. Results should be assigned to an output parameter, of type "cursor". Within the Reports Manager, RefCursor output is only supported as the master dataset (with no detail).

Example Query for RefCursor Output

```
DECLARE
  P_RECORDSET Types.cursor_type;
BEGIN
  GETEMPRS ( P_RECORDSET );
  :rcP_RECORDSET := P_RECORDSET;
END;
```

Queries

The basis for a report in Fast Reports is the query. You can easily generate a report from the data grid using the [Report Builder wizard](#); from the Create Report toolbar button in the [Reports Manager](#) and then import it into the Reports Manager (See [Importing/Exporting a Report](#)); or you can build your query directly in the Reports Manager.

Queries can include variables that are specific to Toad as well as variables of the standard type.

Some of these include:

- <DA> - Use <DA> and the Reports Manager will automatically convert it to `sys.dba_` or `sys.all_`, depending on your privileges in the current connection when the report is run.
- Current Schema - You can create a variable of the Current Schema type to automatically substitute the currently active schema name.

- Shortcuts to the Data dictionary - see [Parameters: Special Parameter types](#) for more information.
-

Parameters

You can use the Parameters area to include the parameters for the query you have created.

Value (Literal)

The value (literal) parameter is a bind variable. This only works with Date, Number or String parameter types. You must enter a literal value such as 4, 'hello', or 03/23/2006 1:34:25 PM (the same date format that shows up in the grids).

Value (Expression)

Can be more useful. This is like a substitution variable, but more expansive. You can use this anywhere in the query.

You could use this as a variable for a table name in the from clause, the select list, or somewhere in the where clause. It can be a subquery, a list, anything. Toad just substitutes an expression into the query.

Since it's a substitution variable, parameter type doesn't really matter. Except for the "special" parameter types (the ones from "Cluster" on down the list).

Special Parameter Types

Cluster parameter types and the remainder of the parameter list are shortcuts into the data dictionary. The ones classed as "list" are designed to return multiple values, and the others return single values.

String Parameter

For example, if your query looks like this:

```
select *
from user_tables
where table_name = :tn
```

You could specify a STRING parameter type for table, but then you'd have to type in the table name yourself. If you'd rather choose it from a list, change the parameter type to "Table". Then, under "Value (Expression)", click the "..." button and you'll get a list of tables.

Table List Parameter

If you want to report on multiple tables, make your query like this:

```
select *
from user_tables
where table_name in (:tn)
```

Change the parameter type to Table List, and when you click the  button, you can select multiple tables.

Other Parameter Types

Other parameter types work the same way, so:

- Current Schema - Automatically uses the currently active schema in your query.

- Schema - Lets you pick a single user name.
 - Schema List - Lets you pick multiple schema names.
 - And so on.
-

Creating a Master/Detail Dataset

After you have created your master dataset, you may wish to add a detail dataset. This adds information to your report.

There are many examples of master-detail datasets in the sample reports, particularly in the **Tables and Index Reports** and **Stored Program Reports** categories.

To create a master-detail dataset

1. Add a report and enter the master query (for example, **SELECT * from SCOTT.DEPT**).
2. Click the **Add detail dataset** button.

A new tab will appear where you can enter the SQL for the detail dataset.

3. Enter SQL for the detail dataset (for example, **SELECT * FROM SCOTT.EMP**).
 4. Rename the detail dataset if desired.
 5. Define the key fields to link the master and detail datasets by using the drilldown  buttons on the detail dataset tab.
-

Related Topics

[Reports Manager Overview](#)

[Reports Manager Toolbar](#)

[Changing a Report's Category](#)

[Copying a Report](#)

[Importing/Exporting a Report](#)

Copying a Report

You can easily copy (clone) a report . This creates an identical query and .fr3(report definition) file. Using this method, you can create similar reports quickly and easily.

To copy a report

1. In the **Report Name** area, select the report you want to copy.
2. Click the **Copy Report Definition**  button.
3. If you want to put your new report in a different category, select the new category from the **New Category** dropdown.
4. Enter a new name for your report in the **New Report Name** box.
5. Enter a new filename for the report definition file in the **New Report Definition File Name** box.

6. Click **OK**.
-

Related Topics

[Reports Manager Overview](#)

[Reports Manager Toolbar](#)

[Changing a Report's Category](#)

[Importing/Exporting a Report](#)

Adding RunInfo data to a Report

You can now include a Run Info dataset to any report. This dataset contains:

- Connection information
- Username (Windows and Oracle)
- Timestamp
- Date
- And so on

To add RunInfo data to a report

1. Select the report where you want to add RunInfo.
 2. Click the **Design Selected Report**  button.
 3. In the menu, select **Report | Data**.
 4. Check the **RunInfo** box in the Select Report Datasets dialog.
-

Changing a Report's Category

You can change the category where you have filed one or more reports. This can be useful if your categories are changing, or if you have misfiled a report as you imported it.

To change a report category

1. Select the report or reports you want to change. You can multi-select between categories, but all reports will be changed to the same category.
2. Click the **Change Category for Selected Reports**  button.
3. Select the new category from the **Category** dropdown.

Or

1. Type a new category name into the **Category** box instead of selecting one.
 4. Click **OK** to change the category.
-

Related Topics

[Reports Manager Overview](#)

[Reports Manager Toolbar](#)

[Copying a Report](#)

[Changing a Report's Category](#)

[Importing/Exporting a Report](#)

Importing/Exporting Reports

You can import or export a report from the Reports Manager file. This makes it easy to add new reports to the samples provided, and to export your reports into a file that can be shared with other users.

You can import or export more than one report at a time.

To import a file

1. Click one of the Import buttons:

Import Report Definition file(s) .

Or

Import all Report Definition Files in a Directory (includes subdirectories) .

3. Select the file or folder by browsing for it in the Open file dialog.
4. Click **OK** to import the file or folder.

Exporting files

You can export one or more files.

To export a file

1. Select the file (or files) you want to export.
2. Click the **Export File**  button. And choose one:
3. Export Selected Reports
4. Export All Reports
5. Export All Reports in Current Category
6. Name your file and specify where to save it.
7. Click **Save**.

Related Topics

[Reports Manager Overview](#)

[Reports Manager Toolbar](#)

[Copying a Report](#)

[Changing a Report's Category](#)

[Importing/Exporting a Report](#)

Printing or Exporting Reports Manually from the Command Line

You can easily print or export your reports from the command line, saving you the trouble of opening the FastReports page every time you want to rerun a report.

This feature also lets you schedule when you run your reports.

Supported "save to file" extensions

The supported extensions are:

- .pdf
- .txt
- .xls
- .bmp
- .rtf
- .jpg
- .gif
- .csv
- .htm(l)

Supported Parameters

You can add as many parameters as you need. Valid parameter types are: String, Number, Date, or Substitution (substitution replaces text before the query is executed). String, Number, and Date types are regular bind variables.

To print or export from the command line

1. From the **Editor**, enter your query and then design your report (see [Report Builder wizard](#)).
2. Save the report definition to a .fr3 file.
3. In the lines before or after your query, enter the following comments:
 - ParamName: *parameter name if you want to include parameters.*
 - ParamType: *parameter type of the above ParamName.*
 - ParamValue: *value of the parameter.*
 - repeat Param options above if more than one.
 - ReportFile: *full path to your .fr3 file.*
 - Print (if you want to print).
 - Save To File: *full path to the export file you want to create.*
 - CloseToad (if you want Toad to close when you are done).
4. Save your query with the lines you added to a file.
5. Call from the command line as follows:

Toad 9.5

```
c:\toad\toad.exe connect=scott/tiger@orcl
rep=c:\your_query_file.sql
```

Remember to change the connect string and filename.

Examples of SQL files for printing

One Parameter

```
SELECT *
FROM SCOTT.EMP
where empno>=:x
order by 1
--Paramname:x
--ParamType:number
--ParamValue:7700
--ReportFile:c:\emp.fr3
--Save To File:c:\emp.pdf
--CloseToad
```

Multiple Parameters

```
SELECT *
FROM * &y
WHERE empno>=:x
order by 1
--ParamName:x
--ParamType:number
--ParamValue7700
--ParamName:y
-- ParamType:subst
-- ParamValue:scott.emp
-- ReportFile:c:\emp.fr3
-- Save To File: c:\emp.pdf
-- CloseToad
```

Run Reports Manager from the Command Line

You can easily export, print, or email reports from the Reports Manager using the command line. This functionality allows you to batch reports together easily and run them at a convenient time.

Create the command file

To create the command file

1. Open the **Reports Manager**.

2. Select the reports you want to run: you can multi-select from multiple categories in the grid by holding down <SHIFT> or <CTRL> as you click.
3. Click the **Create Command File**  button and save the file.

Adjust the command file

There is no need to adjust the file. Toad automatically puts the appropriate commands into the file when you select click OK. However, this file can be modified with notepad if you choose. The file contains information about how to use it in a command line.

Email settings are stored in the registry by FastReports. Because of this, you will need to send a report by email manually before using the command line interface. After the initial email, the settings will be saved and the command line will suffice.

To send email manually from Reports Manager

1. Preview any report.
2. In the **Preview** dialog, Click **Export** button and choose **Email**.
3. In the **Send By Email** dialog, click the **Account** tab to enter your email settings.

Comments

Any lines in the file that begin with # are comments, and commands contained within will not be performed. To activate a command, remove the #.

Running the command file

The path to Toad is taken from the connection you have open when you create your file, as are the username, database, and file. If you move the file you will need to change the filename.

Once your file is ready, you can run the Reports Manager from the command prompt or from a batch file.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
C:\toad\TOAD.exe -c <username>/<password>@<database> RPTMGR
"C:\thisfile.txt"
```

Your path to Toad may differ, along with your connect info. 'c:\thisfile.txt' represents the file you created.

Source Control and Team Coding

Basic Source Control

Basic Source Control

Toad supports the Source Code Control (SCC), a Microsoft API. It defines a standard interface between development environments and source control products. The SCC API provides functions to perform the common source control operations such as check-out, check-in, and add file.

SCC is implemented in:

- Schema Browser|Favorites page
- Project Manager
- Editor
- Script Debugger

If you need more functionality than basic check-in and check-out functions, please consider using the [Team Coding](#). Team Coding and SCC are not mutually exclusive. Please see [Team Coding and SCC Interaction](#) for more information.

The following vendors support SCC API and have been tested with Toad:

- Microsoft Visual SourceSafe 6.0 on Win98 and NT4/Win2K/XP
- PVCS 6.6.0, 6.7.0, 6.8.0, 6.8.1, 7.5.0 (requires the VM Development Interface) on NT4/Win2K/XP
- StarTeam 5.2 (requires the VB and Developer Studio Integration option) on Win98 and NT4/Win2K/XP
- Quma QVCS 3.5 (use the QVCS client to add QVCS as a Source Control Provider)
- CS-RCS 2.5.140 and 3.0.192 (ComponentSoftware) on NT4/Win2K/XP
- CVS 1.11.14

Note: Earlier versions of these software products have not been tested with Toad and we cannot guarantee their compatibility. Other vendors may conform to the API, but have not been tested with Toad; therefore, integration cannot be guaranteed at this time.

Each SCC compliant product will create an entry in the registry identifying it as an SCC provider and identifying the location of the DLL used to call the SCC functions.

Note: The client portion of the Source Control install must be run. You cannot run only the server piece of the Source Control install.

Setting up Source Control for the first time

To prepare source control for use

1. Install your client.
2. Confirm your client is configured to support SCC API. You confirm this by checking that the client or the client install has created the SCC API registry key.
3. From the **View** menu, select **Toad Options** and click **Source Control**.
4. Select your SCC provider and check/uncheck options as desired. (See [Source Control Options](#).)
5. Open your file in the **Editor**. Remember that Toad Source Control is run through the Editor.
6. Right-click in the **Editor** and choose **Source Control**. Click **Select Project**.

Toad 9.5

7. Your SCC provider will display a dialog box asking you to select a project. Depending on the provider and the configuration, it may also ask you to log in or browse for a database. It may provide a place for you to set a working folder. Refer to your Source Control provider's documentation for further details.

Note: The working directory for the selected project must match the directory where you loaded the file.

8. If the file is already stored in Source Control, you can check it in and out. Otherwise, you can right-click and select **Source Control > Add File** to add it to the Source Control database. This assigns it a checked-in status. You will have to check it out to modify it.

Source Control Options

You must also have the interface to the SCC configured by selecting the Source Control options in the **View|Toad Options|Team Coding** page.

To set the Source Control Options

1. From the drop-down menu, select the **Source Control Provider** that you want to use with Toad. The Source Control Provider drop-down lists the SCC providers found in the registry. If you do not have a Source Control Provider installed, the drop-down menu will be empty.

Note: If you switch providers, you should restart Toad.

2. Select or deselect the appropriate **Prompt for Comment** check boxes. Selected, a prompt for a comment will display with the respective action.

See also: [Source Control Options](#).

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6. Right-click in the **Editor** and choose **Source Control**. Click **Select Project**.
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Note: The working directory for the selected project must match the directory where you loaded the file.

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1. From the drop-down menu, select the **Source Control Provider** that you want to use with Toad. The Source Control Provider drop-down lists the SCC providers found in the registry. If you do not have a Source Control Provider installed, the drop-down menu will be empty.

Note: If you switch providers, you should restart Toad.

2. Select or deselect the appropriate **Prompt for Comment** check boxes. Selected, a prompt for a comment will display with the respective action.

See also: [Source Control Options](#)

Source Control Toolbar

The source control toolbar can be displayed in both the SQL Editor and the Editor. This toolbar covers [basic source control](#) only, and should not be confused with Team Coding.



Icon	Command
	Check out from Source Control
	Check into Source Control
	Undo Checkout
	Get latest version from Source Control
	Add to source control
	Select active project of source control

Related Topics

[Basic Source Control](#)

[Team Coding Overview](#)

Running Source Control

Source Control is run through the Editor. You can check-in or check-out files from the Editor toolbar. All other functions are accessible from the right-click menu as described below.

When you are working with Source Control, keep in mind the following:

- Unless a file is checked-out it should have a read-only status. Read-only files cannot be edited.
- All SCC functions act upon the currently loaded file.
- Source Control functionality does not work with database objects; it only works with files.

The right-click menu

You can access the following functionality from the Source Control right-click option:

Check-out File



Check-out file is available both from the Editor toolbar and the right-click menu. When a file is checked-out, the file is reloaded from the source control file and made writeable. A file may only be checked-out by one person at a time. Be aware that this file will be the most current. It may be different from the read-only one you have stored locally.

Check-in File



Check-in file is accessible from both the Editor toolbar and the right-click menu. When a file is checked-in, it is set to read-only again.

Undo-checkout



This command discards any changes you have made and reverts to the original read-only version. This is useful if you make changes and then decide they are not applicable.

Note: Any changes you have made while the file is checked out are lost.

Get latest version



This refreshes the file from the source control and reloads the file to your local machine. The file remains read only. To make changes, you must check it out.

Add File



If you have created a new file, you can use the Add File command to add it to source control and mark your local copy read-only. This should only be used for new projects (files).

Select project



This produces a provider-specific dialog box allowing you to select a source control project. The selected project is retained in the .ini file between Toad sessions.

Team Coding

Team Coding Overview

Team Coding is a cooperative source control feature. You can use Team Coding alone or in conjunction with a third party version control system. Team Coding works with the Editor to control access and development of functions, procedures, packages, triggers and types.

In addition, Team Coding supports scripts in both the Editor and the Editor.

Note: Team coding does not have to replace Toad's Version Control, but it provides more features in a more integrated environment.

Alone, Team Coding:

- Provides PL/SQL developers with the ability to develop stored programs without concurrently modifying the same objects
- Provides a built-in viewer to see item status
- Does this through a check in/out system that does not require a third party version control product.

Working with a third party version control product:

- Use of a version control archive, allowing a revision history to be kept for your code
- Ability to launch the third party VCS provider's browser (if not using VSS or PVCS) from within Toad
- User Mapping, allowing multiple Oracle users to work on a Team Coding controlled project in their own schemas
- Placing script files under code control
- Import/Export of Code Control Groups

Team Coding Built-in Features

Some highlights of the Team Coding built-in features are:

- Flexible Code Control Groups (CCGs) help you control objects from one or more schemas, using customizable groupings.
 - You can organize objects into CCGs by using object masks representing both specific database objects and collections of similar objects (by using the Oracle % wildcard). You can also set up exclusion masks to exclude specific objects from a CCG.
 - Even without a third party version control product, you can use CCGs, so you can track referenced objects through Team Coding (though without revision history).
 - All configuration data is stored in the database under Team Coding control. Individual workstations do not need to be configured.
-

Team Coding and SCC Interaction

[Team Coding](#) Functionality and [Source Code Control \(SCC\)](#) can be used together. They interact as follows:

SCC Implemented In	TC for Files Implemented in
Schema Browser, Favorites page	Schema Browser, Favorites page
Project Manager	Editor (scripts)
Editor	Editor

When you enable Team Coding, Toad disables SCC functionality in the Editor, leaving it enabled elsewhere.

Using Team Coding in SQL Navigator Environments

Team Coding can use a Team Coding environment installed by SQL Navigator. This allows cooperative Team Coding between users of Toad and SQL Navigator on the same database.

Team Coding environment requirements

The SQL Navigator Team Coding environment that is installed on your database must be version 6. This was released with SQL Navigator 4.3. If an older version of the Team Coding environment is detected, Team Coding will be disabled until you update your environment. You can update your environment using the Toad Server Side Object Wizard.

Note: The SQL Navigator objects must be set up through SQL Navigator. You can direct Toad to use the SQL Navigator Team Coding Objects and you can update older versions through Toad so that Toad can use the environment.

Setting up Team Coding for use in a SQL Navigator environment

When you install Toad, if you have the SQL Navigator Team Coding environment version 6, you do not have to do anything to use Team Coding.

However, if you used SQL Navigator 4.1 or 4.2 to create your environment, you will need to use the Server Side Objects Wizard to upgrade it.

To upgrade your SQL Navigator Team Coding environment

1. From the **Database|Administer** menu, open the **Server Side Install** wizard.
2. Choose **Install, upgrade or remove objects for all users to share** and then click **Next**.
3. Select the third button (Install, upgrade or remove objects in a schema other than Toad) and logon as the SQLNAV user. Click **Next**.
4. In the Team Coding area, select **Upgrade to 6.0 objects**. Click **Next**.
5. Change Team Coding roles if desired. Click **Next**.
6. Click **Run Script** to upgrade your Team Coding objects.

Or

Click **Save Script to Disk** to save the script and run it later.

7. Click **Finish**.

Troubleshooting

If you find that Toad is using its own Team Coding environment and you know that you should be using the SQL Navigator environment, then you can do one of two things to solve the problem.

To use the Server Side Install method

- Use the [Server Side Objects Install wizard](#) to remove the Toad Team Coding objects from the database.

Alternately, you can manually force Toad to use the proper environment as follows:

To use the manual method

- Modify the public synonym QUEST_COM_TEAM_CODING so that it points to the TC config table in the schema where their chosen TC objects are installed.

Caution: Ensure that you want to change environments before proceeding, as this change affects all users of the selected database.

To use the SQL Navigator version

1. Drop the Public synonym '**QUEST_COM_TEAM_CODING**'.
2. Run the following in the Editor:

```
CREATE PUBLIC SYNONYM 'QUEST_COM_TEAM_CODING' FOR
SQLNAV.SQLNAV4_VCS_CONFIG
```

To use the Toad version

1. Drop the Public synonym '**QUEST_COM_TEAM_CODING**'.
2. Run the following in the Editor:

```
CREATE PUBLIC SYNONYM 'QUEST_COM_TEAM_CODING' FOR <schema>.TC_CONFIG
```

where <schema> is wherever TC was installed.

Installing Team Coding Options

Three basic steps must be taken for installation before you can use Team Coding.

To install Team Coding

1. There are objects required on the database for Toad to access Team Coding. You can install these scripts from the [Server Side Objects Installation wizard](#), accessible from the **Database|Administer** menu.
2. When you have finished installing the Server Side Objects, you can then [grant Team Coding roles to users](#). You can do this from the **Users** tab in the **Schema Browser**.
3. Enable **Team Coding** in the Oracle Instance. Before using Team Coding features, the new features must be enabled in the Oracle instance by a user granted the Administrator role. See [Enabling Team Coding in the Database](#) for instructions.

Note: You should also check to make sure that [Toad Options|Editor|Execute/Compile|Toggle modified flag when compiling source loaded from database](#) is checked before using Team Coding.

These three steps provide basic source control. If automatic check in/out are selected, Toad will prompt you to check items in and out when opening and closing them. In addition, you can also set up Code Control Groups and use a third party version control system.

4. Create [Code Control Groups](#). When Team Coding is enabled, you can then begin organizing your projects into Code Control Groups. You do not have to use Code Control Groups unless you are using a third party system, but they provide a way to organize your work.
 5. Export database objects to the version control from the database.
-

Support for Version Control Products

Toad's Team Coding feature directly supports the following third party products:

- Microsoft Visual SourceSafe 5.0, 6.0, 2005 (8.0)
- Concurrent Versions System (CVS) 1.11.12
- PVCS (ChangeMan) 5.2, 5.3, 6.0, 6.6, 6.7, 6.8.1 7.5.0, 8.02, and 8.1

Note: PVCS 6.6.1 and 6.8.0 are specifically NOT supported with Team Coding

Team Coding also operates with products providing Microsoft's SCC API. The products tested with Toad's Team Coding through SCC include:

- Rational Clearcase 5.0 (2002)
- ComponentSoftware CS-RCS 2.5.140, 3.0.192, and 3.0.196 Workgroup mode only
- Quma QVCS 3.5 and 3.6 (only allows one code control group)
- Borland StarTeam 5.2 and 5.4 (need the SCC Integration component from Borland)
- Microsoft Visual SourceSafe 5.0, 6.0, and 2005
- PVCS VM 6.6, 6.7, 7.5.0, 8.0.2 and 8.1

Toad's legacy Source Control feature provides check in and check out of files through the SCC API. This source control is available only in the Editor and Project Manager, and it is not aware of database objects. Products tested with this feature include:

- Rational ClearCase 4.1

- ComponentSoftware CS-RCS 2.5.140, 3.0.192, and 3.0.196
- Quma QVCS 3.5 and 3.6
- Borland StarTeam 5.4 (need the SCC Integration component from Borland)
- Microsoft Visual SourceSafe 5.0, and 6.0
- PVCS VM 6.6, 6.7, 7.5.0, 8.0.2 and 8.1

Note: It is strongly recommended that using the native API's (not the SCC integration) for SourceSafe and PVCS when using Team Coding.

Each product may require a custom installation to install the SCC interface. Please refer to the release notes for the latest information on version compatibility.

Users of Version Control products that implement the SCC interface will find the following operational differences in this version of Toad:

- The Toad Version Control Browser is not available; it is replaced by the third party product's own user interface
- The display of the project tree when creating a new Code Control Group is replaced by the third party product's own dialog box.

CVS Support

For CVS Requirements, please see the [CVS Requirements](#) topic.

Team Coding Roles

Team Coding uses Oracle table and column privileges to control access. The roles are automatically set up when you create the Team Coding objects in the [Server Side Objects wizard](#).

The following default roles were created using settings that represent the standard uses of these privileges:

- Administrator (TC_ADMIN_ROLE)
Can configure the instance to define how Team Coding operates, which VCS (if any) is used, and so on. This role is automatically assigned to the Toad user.
- Project Manager (TC_MGR_ROLE)
Can create and delete code control groups (CCGs) and relate them to a VCS project.
- Team Leader (TC_LDR_ROLE)
Can modify CCGs, define the objects or scripts are included in the group, and freeze objects. Can also delete rows from the Team Coding Viewer.

Users not granted one of these three roles hold the assumed role of developer. They can view the status of objects with the Team Coding Viewer and check items in and out of source control.

After creating the roles, you need to grant them to users. (See [Grant Team Coding Roles to Users](#).)

Grant Team Coding Roles to Users

Grant Team Coding Roles to users in the same way you would grant other roles.

Note: You must be connected as a DBA user to grant roles.

You can grant roles from the **Schema Browser**, **Users** page.

To grant roles to users

1. Select a **user** in the left panel
2. Click the **Alter User**  button.
3. Click the **Roles** tab. Add or remove roles as desired.

You can also grant roles from the Editor. Enter the appropriate SQL and execute it. For example:

```
grant TC_ADMIN_ROLE to ARTHUR
```

```
grant TC_LDR_ROLE to SUSAN
```

Enabling Team Coding in the database

Before you can use Team Coding, it must be enabled within the Oracle connection. This must be done by a user with the TC_ADMIN_ROLE.

To enable Team Coding

1. On the Team Coding Toolbar, click the **View Team Coding Status for this session**  button. The Team Coding Status dialog box displays, with the connection information in the title bar.
If Team Coding is enabled, the Permissions area will display a green check mark beside Team Coding Available and the permissions the current user has.
2. Click **Settings** to see and edit Team Coding status for this connection.
3. Check **Enable Team Coding**.
4. If you want to use Code Control groups, or 3rd party version control, select those as well. If you choose 3rd Party Version control, you will need to choose the appropriate Version Control System from the list below the check boxes.

Note: Only the VCSs you have installed will display in the selection box.

Team Coding Settings

The Team Coding Administrator can configure the way Team Coding works with the database. Individual users can configure individual options (see [Source Control/Team Coding Options](#) for more information).

To access Team Coding settings

- Open the [Team Coding Status](#) dialog box and then click **Settings**.

Team Coding Settings are divided into three groups:

- Configuration
- File Extension Options
- General

These three groups make Team Coding flexible and easily configurable to the way your organization works. Any team member can see the settings chosen for the database where they are connected. However, you must have the Administrator role to make changes (see [Team Coding Roles](#)).

Configuration

Configuration covers the basics of Team Coding on the current database.

You can

- Enable Team Coding
- Enable Code Control Groups
- Enable third party version control (VCS)

File Extension Options

File extension options let you control the extensions Toad adds to files saved in the Version Control System. The default extensions are:

- Procedure PRC
- Function FNC
- Package PKS
- Package Body PDB
- Trigger TRG
- Type TYP
- Type Body TPB

General

The General settings let you set user preferences and also adjust global settings. In addition, you can change or add script file extensions.

User Settings

User-specific settings can be set from the Toad Options page. See Toad Options|[TeamCoding](#) for more information.

Note: You should also check to make sure that [View|Toad Options|Editor|Execute/Compile|Toggle modified flag after compiling source from database](#) is checked before using Team Coding.

Global Settings

Update Database after Check-in

Forces the database object to be updated after a check-in so that it is identical to the checked-in work file. This option is useful when the version control product performs keyword-expansion when files are checked in.

Force Comment during Check-in

When selected, the Check-In dialog box requires that the user enter a comment before the dialog box can be closed.

Script File Extensions

Use this setting to customize the file extensions Toad uses when saving a script. The default is ".sql".

Team Coding Status

You can see the status of Team Coding functionality in the current database at any point. If you have the correct permissions (the Administrator role), you can make changes to the settings and permissions.

To display Team Coding status

- Click the **Team Coding Status**  button on the toolbar. The Team Coding Status dialog box displays.

This page displays the parts of Team Coding enabled for this database and your permissions.

In addition, you can click [Settings](#) to see the settings for the Team Coding feature, or **Messages** to see any status messages for the current connection.

Using Team Coding

Team Coding Toolbar

The Team Coding Toolbar makes all Team Coding commands available with a click of the mouse. The Team Coding Toolbar is hidden by default.

To display the team coding toolbar

1. Right-click over any visible toolbar.
2. Select Team Coding from the list of toolbars.

Team Coding Toolbar



Button	Command
	View or Configure Code Control Groups dialog box
	Open the Team Coding Viewer
	Open/Launch the Version Control Browser
	Get latest revision of selected object/file
	Check out selected object/file
	Check in selected object/file
	Undo check out of selected object/file
	Check in all objects locked by you
	View Team Coding status for this session
	Log onto VCS

Using Team Coding without Code Control Groups

Viewing Object Status

Team Coding Viewer

The **Team Coding Viewer** shows object details under Team Coding control, including which objects are checked out and when they were last checked in.

To access the Team Coding viewer

- From the **Team Coding** toolbar, click the **Team Coding Viewer**  button.

Object details are listed in grid format. The grid column widths and sort orders are saved in the TOAD.INI file when you close the window.

Status icons are displayed in the status column as follows:

-  Available
-  Frozen (UserMapping)
-  Checked Out

You can check objects in or out from this window. With the appropriate privileges, you can freeze objects so other users cannot modify them.

The list of objects shown in the Team Coding Viewer can be limited to just those that you need. Use the [Team Coding Viewer Filter](#) dialog box to specify which objects should be shown.



Button	Command
	Refresh the list
	Filter the list of objects. When a filter is in use, this icon turns red.
	Get latest revision of selected object
	Check out selected object from source control
	Check in selected object to source control
	Undo checkout
	Freeze selected object
	Unfreeze selected object
	Open selected object
	Delete selected object from viewer
	View differences between selected object/script and latest VCS revision
	View details of selected object

Viewing Team Coding Object Status

There are several ways to view Team Coding status. Status is displayed in the status area at the bottom of the Editor and Editor and there is a separate status window for more detailed viewing.

Status in the Editor Status Bar or Team Coding Viewer Status Column

When you open an object or script under Team Coding control in an editor, the editor status bar (near the lower window border) shows the object's Team Coding status. In addition, the status of the object is displayed in the Status column of the [Team Coding Viewer](#).

Status	Meaning	Editable?	Actions allowed
Uncontrolled	Not under Team Coding control	Editable	None
Available	Available for check-out	Read-only	Check-out Freeze
Checked Out	Checked out to you	Editable	Undo check-out Check-in Freeze
Locked	Checked out to another user or locked using a user-mapping check-out	Read-only	Freeze
Frozen	Frozen	Read-only	Unfreeze
Disabled	Disabled due to a Team Coding specific error	Read-only	None

Detailed File Properties

Also from the Team Coding Viewer, you can right-click on an object and select **Properties**. Doing this displays detailed information about the object.

Version Control

Checking Objects and Scripts in and out

You can check objects and scripts in and out from the Team Coding menu, the Team Coding Viewer toolbar and, if you are using VSS or PVCS as a third party VCS provider, the Version Control Browser toolbar.

- Using Automatic Check-in and Automatic Check-out
If the Automatic Check-In and Automatic Check-Out features are enabled, then you are automatically prompted to check out the item when you open it and to check it in when you close it. These prompts can be bypassed by un-checking the "Prompt for comment options". See Toad Options|[Team Coding](#) for more information.
- Manually check-in or check-out
Alternately, you can manually initiate the check-in or check out using commands on the Team Coding menu.

To check out an object or script when Automatic Check-Out is enabled

1. Open an object or script from the database in the Editor.

2. When the Check-Out dialog box appears, follow the prompts to check the item out or choose **Cancel** to open it in read-only mode.

To check in an object or script when Automatic Check-In is enabled

1. Close the object or script in the Editor.
2. When the Check-In dialog box appears, follow the prompts to check the item in.

To check items in and out manually

1. Open the object or script in the Editor. Alternatively, select the object in any of the following Toad windows:
 - Schema Browser: Procedures, Types and Favorites tabs
 - Version Control Browser
 - Project Manager
 - Team Coding Viewer
 2. From the Team Coding menu or toolbar, the Schema Browser, Project Manager, or from the shortcut menu, choose **Check In** or **Check Out**.
 3. You can choose [Undo Check Out](#) to cancel the check-out and reverse any changes.
-

Entering Comments on Check in or out

When you check objects in or out, you can enter comments about the modification you are going to make, or have made.

The most recent comment is visible in the Team Coding Viewer. When a third party VCS is in use, check-in comments are also logged against the new revision in the archive.

When using third party version control, the Force Revision option (see [Team Coding Settings>General](#)) will be available during a check in operation.

Note: The Force Revision option is not available for all third party providers.

The Force Revision option allows objects that are unchanged to be updated in the database, so that new or changed comments can be stored. The default value for this check box can be set from Toad Options > [Team Coding/Source Control](#).

Check In All

You can choose to check in all or some of the items you have checked out.

To check in items

1. On the Team Coding toolbar, click the **Check in All**  button. The Check In All dialog box appears.
2. Select or deselect items by checking and clearing the check boxes to the left of the list. Selected items will be checked in.

NOTE: You can also choose to **Select All** or **Clear All** by clicking the appropriate buttons on the right.

Toad 9.5

3. You can choose to enter the same comment for all selected items. The default for this check box is unchecked.
 4. Choose to Force a Revision of all items. If checked, a new version will be created for the selected items, whether or not they have changed.
 5. Click **OK**.
 - o If you have chosen to apply the same comment to all items, the items are checked in and the dialog box closes.
 - o If you have chosen to enter a new comment for each item, the [check in dialog box](#) appears with the first item from your list active. By clicking **OK** here you can proceed to each item in turn.
-

Undo Checkout

You can undo a check out in the same manner you would check an object into source control.

To undo a checkout

- Choose **Undo Checkout** from the menu
- Or

Click the **Undo Check Out** button on the toolbar.

When you choose to undo a check-out, you are prompted to confirm that you want to restore the saved database version of the item (as it was prior to check-out.)

Caution: If you answer the confirmation **No**, and you have saved your changes, the result will be that the version saved in the VCS will be different from the version saved in the database.

Freezing an Object

Users with the TEAM LEADER role (or higher) can freeze and unfreeze objects in the Team Coding Viewer.

Freezing an object locks that object from revision. It cannot be checked out. It can be opened as a read-only file in the Procedure Editor.

The status in either the status column of the [Team Coding Viewer](#), or the status bar in the [Procedure Editor](#) displays **Frozen**.

To Freeze an Object

You can only freeze an object if you have the Team Leader role.

1. From the **Team Coding Viewer**, select the object you want to freeze.
2. Click the **Freeze** button on the toolbar, or select **Freeze** from the right-click menu.

To Unfreeze an Object

You can only unfreeze an object if you have the Team Leader role.

1. From the **Team Coding Viewer**, select the object you want to unfreeze.
 2. **Click the Unfreeze** button on the toolbar, or select **Unfreeze** from the right-click menu.
-

Difference Viewer

Compare Files

You can use the compare files window (**File Differences Viewer**) to compare the contents of two files from a disk, or an object to a file or to another object.

You can access the Differences Viewer from three different areas. Each uses it to compare different objects.

To compare two files on disk

- From the **Utilities** menu, select **Compare Files**.

To compare objects in the Schema Browser

- From either the **Procedures** or **Views** page, right-click on an object and select **Compare with another object**. See [Compare Objects](#) for more information.

To compare differing objects from a schema compare

- From the **Schemas|Results (Interactive)** tab, right-click an object listed as differing between schemas and select **Show Difference Details** to compare the scripts of the two objects. For more information, see [Compare Schemas](#).

Related Topics

[Viewing File Differences](#)

[File Comparison Rules](#)

[Difference Viewer Options](#)

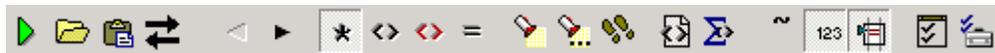
Viewing File Differences

When you have specified the objects you want to compare, whether they are files, database objects, or scripts, the Differences Viewer appears.

The Differences Viewer lets you compare database objects in a split window. Differences between the objects are highlighted and the toolbar gives you access to controls for customizing the view and creating reports.

[File Comparison Rules](#) and [Options](#) let you specify the way Toad displays the similarities and differences between two files, or two versions of a file.

Differences Viewer Toolbar



Button	Command
	Reload files and execute the comparison
	Open a file
	Paste contents of clipboard into selected side of viewer

	Switch sides
	Go to Previous difference
	Go to Next difference
	Show all lines of compared objects
	Show only lines with differences
	Show only lines with major differences (as defined in Differences Viewer Preferences)
	Show only matching lines
	Find a text string
	Find next text string
	Go to a specific line number
	Generate a report of differences
	Generate a comparison summary
	Show space characters using tilde (~) characters
	Toggle line numbers on or off
	Show a thumbnail view of the file
	Display and set options
	Set file comparison rules

Thumbnail view

This lets you quickly change sections of the file. The thumbnail view (to the left of the viewing window) is a visual summary of differences. Colored lines show the relative position of line mismatches. A white rectangle represents the part of the text currently visible in the Differences Viewer window. You can click the thumbnail view to position the viewer at that point in the documents.

Related Topics

[Compare Files Overview](#)

[File Comparison Rules](#)

[Difference Viewer Options](#)

File Comparison Rules

To access file comparison rules

- From the **Difference viewer** toolbar, click the **File Comparison Rules**  button.

Available Rules

Rules are divided into four tabs:

- [General](#)
- [Define Minor](#)
- [Line Weights](#)
- [Miscellaneous](#)

General tab

Tab Stops - Use this area to set tab stops.

Synchronization Settings - Synchronization Settings control the comparison engine that reports differences and similarities between files. Unless you are experienced in manipulating comparison synchronization algorithms, you will probably find that the default settings work well enough for most situations. In general, the following principals apply.

Set the synchronization parameters low to allow more efficient searches for small differences.

Set the synchronization parameters higher to handle larger files or files with large differences.

Initial Match Requirement represents the minimum number of lines that need to match in order for text synchronization to occur.

Skew Tolerance is the number of lines the Differences Viewer will search forward or backward when searching for matches. Smaller numbers improve performance.

Suppress Recursion refers to the method used to scan for matches. Recursion improves the ability to match up larger as well as smaller sections of text, but it can take longer.

Minor Differences - Use the Ignore Minor Differences check box to activate or deactivate the highlighting of minor differences in the Differences Viewer window. (As explained below, you specify what constitutes minor differences in the Rules options under Define Minor Differences.)

Define Minor tab

You can have the comparison engine either highlight or ignore minor differences—such as comments, or spacing characters and tabs. This gives you the option of focusing only on significant differences, or, alternatively, reviewing even minor differences between versions. Place a checkmark next to the items that you want to classify as minor differences. Then, under the General category, you can select or clear the Ignore Minor Differences check box.

Line Weights tab

The Line Weights tab lets you assign synchronization priorities to the lines that match. You can use the values listed in the tab, or you can create your own.

Miscellaneous tab

Use the Miscellaneous tab to make choices about line termination.

You can also limit comparisons to specific columns by entering a column range in the comparison boxes.

Related Topics

[Compare Files Overview](#)

[Viewing File Differences](#)

[Difference Viewer Options](#)

Responding to the Different Files Dialog

When you open an object or script, Team Coding compares it with the latest revision in the Version Control Provider (VCP) repository (unless it is checked out, in which case Toad opens a read-only version of the file). If the database object or script differs from the version saved to the VCP repository, Toad notifies you.

Differences in objects could be due to a number of factors. For example:

- Another tool may have been used to edit the object
- A script may have been executed that modified the object
- The archive in the VCP repository may have been updated by some means other than Team Coding.

You can choose one of the following options in the Different Files dialog box.

Option	Description
View Differences	Launch the Differences Viewer so that you can compare the two objects.
Open Database Version	Load the database version into the VOE or Procedure Editor in Read Only mode.
Open VCP Version	Update the database with the VCP repository version and loads into the VOE or Editor in Read Only mode. Caution: Opening the version from the repository will cause the object in the database to be updated.
Make editable	Check the selected item out for editing.

Using Code Control Groups

Code Control Groups Overview

Toad's Code Control Groups (CCGs) are the most powerful and flexible feature of Team Coding.

Conceptually, a CCG is like a project that developers are working on together, consisting of a collection of database objects. Configuring a Code Control Group gives Toad a name to call the collection and specifies a set of filters that Toad can use to determine which CCG an object belongs to. These filters are called DB Object Masks.

You can organize your controlled objects into groups associated with development projects using CCGs. For example, you can create multiple CCGs for a single Oracle instance, each containing references for all stored programs relating to a customer application.

- When CCGs are disabled, if Team Coding is enabled, then it is applied to every supported object in the database.
- When CCGs are enabled, Team Coding is only applied to objects that are members of a code control group.

You can also use CCGs with a third party version control provider. If a third party version control provider is used, there are additional features of code control groups.

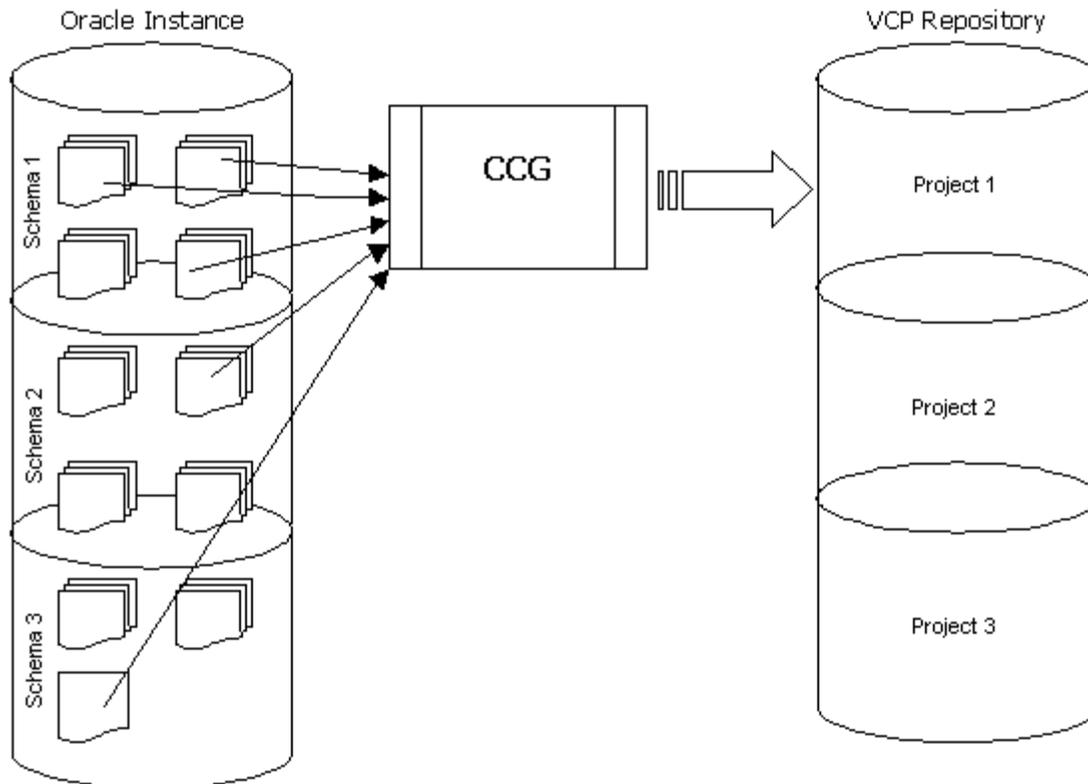
[Example 1](#) describes using a CCG for one project

[Example 2](#) describes using multiple CCGs for multiple projects.

Using Code Control Groups Example 1 - a Single Application

Suppose you have a schema containing stored programs that all relate to a single application on your Oracle instance. You can easily create a CCG that includes all objects in that schema and then map it to a Version Control System in your provider's archive.

Using CCGs to map objects from multiple schemas to one VCS Project



Including certain types and schemas

If your application contains some objects located in a different schema, it is easy to modify the CCG to include those objects. To take this a step further, you can also configure your CCG so that it contains any of the following:

- object masks based on a particular schema or schema mask (such as PROD%)
- stored programs of any type or a particular type (such as Trigger)
- objects of any name or using a name mask (such as ACC_%).
- certain types and schemas

Any object mask can be used to exclude as well as include, so you can readily include a group of objects, but exclude (for instance) all objects of name like DBG_%

Excluding objects

If the schema also contains some objects that you do not want controlled (for example, you may have some test packages which don't form part of your application), it is a simple matter to add an exclusion reference (Object Mask) in your CCG. See [Specifying Object Masks](#).

Scripts

If your application involves ancillary scripts, you can include references to these scripts in your CCG. As with other objects, you can use wildcard masks and exclusions.

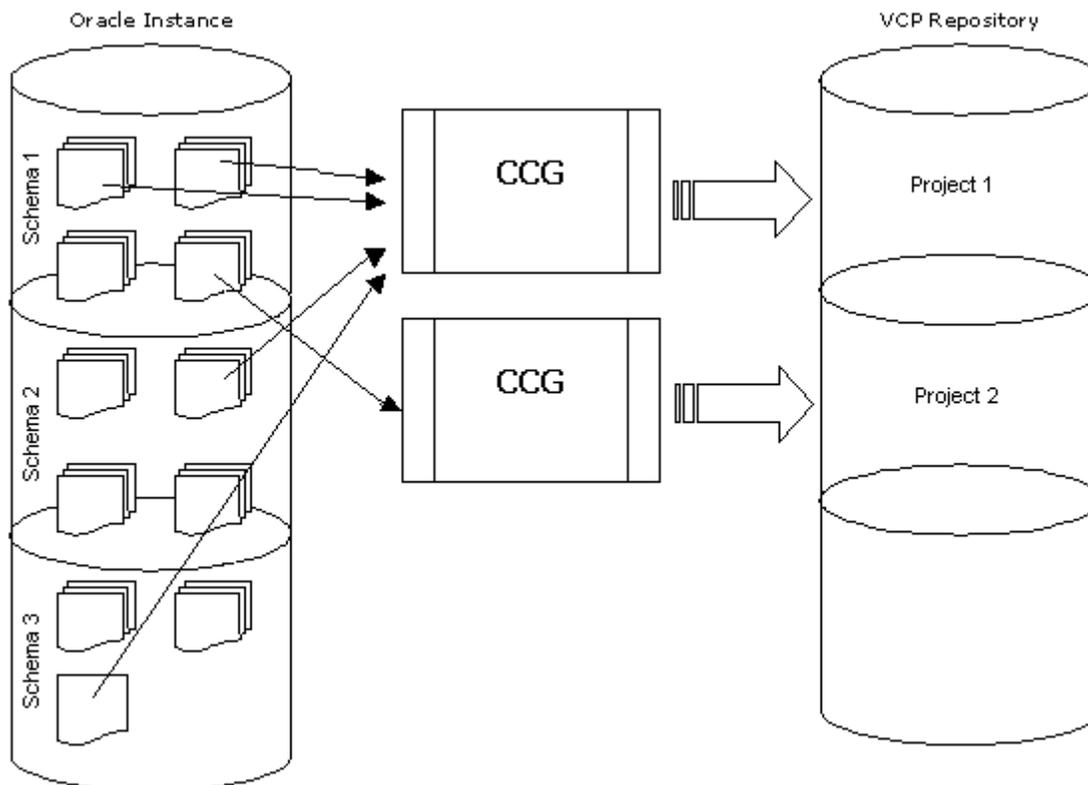
Using Code Control Groups Example 2 - Multiple CCGs

If you subsequently start development of a second application, using objects stored in the same schema as the one used for the first application, you can then simply create a second CCG. This new CCG would contain object masks for the stored programs that are related to your new application, and you would associate the new CCG to a different project in your version control repository.

For example, if a second application is made up of procedures whose names all begin with a common prefix such as "ACC", your second CCG would contain an Object mask for all procedures in the schema with a name like ACC%. Team Coding automatically recognizes objects with names matching the new object mask and maps them to the second VCS project rather than the first.

Note: objects cannot be mapped to more than one CCG.

Using CCGs to map objects from one schema to different VCS projects



Code Control Groups Toolbar

This is the toolbar for the Code Control Groups window.



Button	Command
	Create new Code Control Group
	Open Group to view settings or make changes
	Delete Group
	Remap Group
	Refresh List
	Export to VCS
	Import to Database
	Map Current User to the Group
	List all Mapped users

Enabling Code Control Groups

When this option is used, if an object is not referenced by a CCG, it is not under Team Coding control.

Once CCGs have been configured, users may start using Team Coding features immediately, as objects or scripts will be automatically added to the Version Control System as they are modified.

To enable your CCGs

1. On the **Team Coding** menu, choose **Team Coding Status**. The Team Coding Status dialog box appears.
2. Click **Settings**. The Team Coding Settings appear for this connection. In the **Team Coding Features** area, select **Use Code Control Groups**.
3. You now have the option to Use 3rd Party Version Control. The list will contain only the version control products you have installed for use. If you are using SCC API Team Coding, later choosing the [Version Control Browser](#) will launch the user interface of the third party product instead.

Creating a CCG

You can easily create a Code Control Group.

Note: Code Control Groups must be [enabled](#) to create a new CCG.

To create a CCG

1. From the Toad menu bar, choose **Team Coding|Code Control Groups**, or on the Team Coding toolbar, click the Code Control Groups  button.
2. In the **Code Control Groups** toolbar, click the **Add Group**  button.
3. If a login window appears, provide the needed information.
4. In the **New Group** dialog box, enter a **descriptive name** for the Group.
5. If you are using a third party Version Control System (VCS), select a VCS project by following the prompts in the dialog boxes that appear, which vary depending on the product in use. The Code Control Group window appears.

If you are not using a VCS, the Code Control Group window appears immediately.

6. In the Code Control Group window, create **New Object** and **script mask** definitions for the current CCG.
-

Viewing and Modifying CCGs

You can view or modify Code Control Groups (CCGs) that you have already created. If you have not created a group yet, see the [Creating a CCG](#) topic.

To view or modify a CCG

1. From the Toad menu bar, choose **Team Coding|Code Control Groups**, or on the Team Coding toolbar, click the Code Control Groups  button.
 2. In the Code Control Groups window, select a group from the list and then click the **Open Group**  button. The Code Control Group dialog box opens. From this dialog box you can [create DBmasks](#), create script masks, delete DBmasks, and edit masks.
-

Related Topics

[Add a Menu](#)

Specifying CCG Object Masks

Object masks are the references that define a Code Control Group (CCG). When Team Coding processes a CCG, it associates a certain ranking with object masks in order to determine which database objects belong to that CCG.

You can specify several different masks, and Team Coding will rank them when deciding what object to include in a specific CCG. See [Object Mask Ranking](#).

Use the Mask Properties dialog box to specify an object or group of objects to be included in a CCG.

To specify a CCG object mask

1. From the Code Control Group window, select the group where you want to add masks and then click the **Open Group**  button.
 2. Click the **New Database Mask**  button. The Mask Properties dialog box displays.
 3. Select from the following options.
 - **Object Type** Choose from View, Procedure, Function, Package, Package Body or All.
 - **Schema** Pick a user from the list, or type a schema name. You can use the % wildcard character.
 - **Object Name** You can type an object name, including the % wildcard. Alternatively, you can launch the Open DB Object dialog box to choose an object matching the Object Type and Schema settings.
 - **Excluded** Select Excluded to exclude any objects matching this object mask from the CCG.
-

Object Mask Ranking

By ranking object masks Toad can resolve objects that fit duplicate matching masks into the correct Code Control Group (CCG).

- Object masks are ranked based on the number of wildcards they contain.
- Highest ranking is given to the most specific mask.
- When there are duplicate masks of different ranking the highest-ranking mask takes precedence. When duplicate masks of the same ranking are encountered it is not possible to resolve the object to the correct CCG.

The mask rankings are, from highest to lowest:

Specific object reference

Trigger SCHEMA.NAME

One wildcard only

Any Type SCHEMA.NAME

Trigger SCHEMA%.NAME

Trigger SCHEMA.NAME%

Two wildcards

Any Type SCHEMA%.NAME

Any Type SCHEMA.NAME%

Trigger SCHEMA%.NAME%

Three wildcards

Any Type SCHEMA%.NAME%

Specifying File Server Scripts

Use the Mask Properties dialog box to specify a group of file server scripts (or a specific script) to include in a CCG.

To specify file server scripts

- Click the Add Script Mask  button to add a new script or group of scripts.
 - Select from the following options.
 - **File Name/Mask** Type the path to a specific script file, or browse and select. You can use the * wildcard character to specify a group of scripts.
 - **Include Path** Check this box to include the path name.
 - **File Path** This option becomes active if you choose Include Path. If you browsed to the script file, the path is automatically entered. If you entered the file name without a path, Toad assumes you want to use your default working folder as the path.
 - **Excluded** Select Excluded to exclude any scripts matching this object mask from the CCG.
-

Mapping a User to a CCG

You can associate a developer's schema to a particular Code Control Group (CCG). This means, if you are the developer, that when you open an object in your own schema, Toad searches for the object in the mapped CCG and locks it as if you had opened it from the original schema. When you check an object out, the archive for the original schema is checked out and the object is locked in both your schema and the original schema.

This can be useful in cases where you often work in your own schema, but on projects containing objects that actually exist in another schema.

So when you map a user to a CCG, you basically create a new CCG identical to the first, but with all object masks referring to a particular user schema. The same VCS archive is shared between the user schema and the schema contained in the original CCG. See [Example](#).

To map a user to a CCG

You must be logged in as the user you want to map.

1. Open the Code Control Groups window (**Toad menu bar | Team Coding | Code Control Groups**)
2. Select the appropriate **CCG**
3. Click the **Map Current User**  button on the toolbar.
4. If the CCG contains object masks for multiple schemas, follow the prompts to select the schema you want.
5. If required, perform an **Import** to update the objects in your schema.

To display all mapped users

You can use a toolbar button on the Code Control Groups window toolbar to see which users are mapped to a particular CCG.

- In the Code Control Groups window, select a **CCG** and click the **Display all Users**  button. A list of mapped users appears.

Related Topics

[Add a Menu](#)

Example of User Mapping

Developers can work on common code in their own schema through User Mapping.

As an example:

- You have a common schema containing all the code for your development environment.
- You prefer that your developers check code in and out of your source control product using their own schema.
- At an appropriate time, you would update your "master" schemas for testing purposes and move the code to Production.

User Mapping allows developers to work on their own copies of objects existing in a schema (the "master") that is controlled by a CCG (Code Control Group). This means that the objects in the master schema can remain unchanged during development, until the master schema is updated from the version control system using the Import function.

Note: The CCG must be exported to the version control system before it can be imported into the master schema.

This example shows how a developer can map to the REPORTS schema, for which a CCG has been created. (See [Creating a Code Control Group](#))

To add copies of the master schema's objects to the developers' schemas, each developer must import the CCG as described below.

To map the developer Scott to a CCG called REPORTS

1. Log in as the developer **SCOTT**.
2. From the **Team Coding** menu, open the Code Control Groups window and select the **REPORTS** Group.
3. Click the **Map User**  button, the user-mapping icon appears to the left of the group name.
4. In the Code Control Groups window, click the **Import to Database**  button.
5. In the Import into Database window, select the objects to import. Only those objects found in the VCS for this CCG are shown. When selection is complete, click **OK**.
6. In the Import Options window, select the **Update another schema** option. Click **OK** to begin the import.

Scott can now check out the **REPORTS** objects from his own schema. When a user-mapped object is checked out or checked in, the Team Coding Check Out/In dialog box will show the object's Master Owner.

When a developer has a copy of a user-mapped object checked out, all other copies are locked. Other developers cannot check out their copies and neither can the master owner.

Remapping a Project Association

With appropriate permissions (See [Team Coding Roles](#)) you can change the association between a CCG and a VCS project. For example, if you originally configured a CCG without a Version Control product

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(VCS) and then subsequently decided to use one, you can use the remapping feature to associate the CCG and the VCS project.

To remap a project association

1. From the main Toad menu bar, choose **Team Coding|Code Control Groups**.
 2. In the Code Control Groups window, click the **Remap**  button. The Remap dialog box displays.
 3. Choose the VCS project to which you want to map the group and then click **OK**.
-

Related Topics

[Add a Menu](#)

Team Coding Viewer Filter

The list of objects shown in the Team Coding Viewer can be limited to just those in which you are interested. Use the Team Group Filter dialog box to specify which objects should be shown.

To use the filter

1. To access the Team Coding Viewer Filter dialog box, on the **Team Coding Viewer** toolbar, click the **Filter**  button.
2. Check or clear the boxes in the **Object Types** and **Status** areas to display or hide these items.
3. To filter the owner, name, or user, click in the **text** field and enter the text you want to include. The **%** wildcard character is an acceptable entry.

This filter can be used to filter the list by:

- Object Type
- Procedures
- Functions
- Packages
- Package Bodies
- Types
- Type Bodies
- Triggers
- Scripts
- Team Coding Status
- Available
- Checked Out
- Locked
- Frozen
- Object owner

- Object name
 - Oracle User
 - OS user
-

VCS Use

Importing Objects

You can update your Oracle instance from the Version Control System for a selected CCG using the Import feature.

To import objects

1. On the **Code Control Groups** toolbar, click the Import  button.
2. Use the Import dialog box to select (or exclude) objects for import. The Import listing is populated based on existing archives contained in the VCS (these objects do not have to exist on the Oracle instance), but filtered down to only those objects defined in the CCG.
3. Click **OK**. The Import Options dialog box appears.
4. Select to act on the original schema or another schema:
 - Update original schema
Create or update objects in the original location in the Oracle instance, as per the CCG and archive file names.
 - Update another schema
Choose an alternate destination schema. All objects will be created in this schema regardless of the original object for which the archive was created.

You must have the appropriate privileges to create objects in the destination schema.

5. Select the action you want to perform:
 - Update database
Updates the database immediately.
 - Generate import script
Generates an import script and loads it into the Editor, so you can review and alter it before you execute it. The database is not changed until the generated script is executed.
 - Add new revision to VCS
You can select this box when you choose to update the database directly. This will add a new revision to the VCS archive. In addition, you can then add a revision comment for the new revision.
-

Exporting Objects

Use the Export function to:

- Construct a first revision of an application development project in your version control archive.
- Create a new revision for all objects and scripts: for example, when you have completed your project and updated your production server.

In order to perform these operations, you should have access to all the objects referenced by the CCG. Otherwise, the process will need to be launched multiple times by all the different owners of the objects.

To export objects to your archive

1. On the Code Control Groups window toolbar, click the Export  button.
 2. Use the Export dialog box to select (and exclude) objects and scripts for export.
 3. In the Export Options dialog box, select from the following options.
 4. **Add objects not existing in the VCS**
Allows new objects and scripts to be added to the VCS archive. Any objects for which there are already VCS archives will not be updated
 5. **Create a new revision for existing objects**
Forces all existing archives within the VCS to be updated, as well as adding new archives for any new database objects
 6. **Create a revision only if the object has changed**
Compares the object in the database with the archive in the VCS, updating it only if it differs. This is useful when objects or scripts have been modified by a tool other than Toad's object editors.
 7. **Prompt individually for all existing objects**
Prompts you to update or not for each object that already exists in the archive.
 8. **Comment**
Enter a comment to be applied to all new revisions created in the archive.
 4. If required, **save** or **print** the **status report** using the buttons provided.
-

Version Control

Version Control Browser

You can view all version control archives in all projects using the **Version Control Browser**.

You can also view differences between revisions and check out objects and scripts.

This browser is not available to users of SCC API Team Coding support; instead, selecting this option launches the user interface of the third party product in use.

Note: When using CVS, the VCS browser does not know whether the object has been checked out. Therefore, it will only allow you to check out files and will not enable checking in.

To browse version control

1. From the Team Coding menu, choose **Version Control Browser**.
2. Use the window controls to select any revision of any file, view revision histories, check files in or out, and view differences between revisions.
 - To expand a node, click the plus sign or double-click the text portion
 - To perform actions on the object, select a command from the shortcut menu or the Browser toolbar

To view differences between revisions

When you choose View Differences from the Browser toolbar, you can select from the following options:

- View differences between two specified revisions
- View differences between the selected revision and the database object (using CCG mapping)

- View differences between the selected revision and any database object or file system script

To open an object in the tree

- Choose one of the following:
 - Right-click a node and choose **Open** from the shortcut menu.
 - Select an item in the browser and click the **Open** button in the browser toolbar
-

TC Locks Option

On the Version Control Browser, there is an option of setting TC locks. The setting on this option determines how Toad decides the status of the files under version control.

This option can significantly increase the time it takes to expand a project node. However, this option can be particularly useful when using CVS as the Version Control Provider, since CVS does not support locking of files. In this case, using Show TC Locks is the only way you can see what files Team Coding has locked under CVS.

Note: After selecting the **Show TC Locks** option, remember to refresh any project nodes which have already been expanded, as this does not happen automatically.

The state of the Show TC Locks option will be saved when the VCS Browser is closed.

TC Locks not selected

When this option is not selected, the VCS Browser determines which files are locked by querying the Version Control Provider; essentially it is just showing the status of each file as it would look in the provider's own GUI.

TC Locks selected

When Show TC Locks is selected, the VCS Browser will attempt to determine if a file is locked by Team Coding, through its association with an object. In this case, the file's icon is changed to either a Team Coding checked out icon if the object is locked by the current user, or a Team Coding locked icon, if the object is locked by another user. These icons are the same as those used in the Team Coding Viewer.

If the VCS Browser does not determine that a TC lock affects the file, it will still show the usual Version Control Provider locks, using a different locked icon, where appropriate.

Browsing Version Control Archives

If you are using Code Control Groups and a third party VCS provider, you can view all version control archives in all projects using the Toad Version Control Browser. You can check out objects and scripts using the Version Control Browser and open them in the Editor or Editor (if opening an earlier revision of an archive, it will always be opened in the Editor). You also can view differences between revisions.

Note: This browser is not available to users of SCC API Team Coding support; instead, selecting this option launches the user interface of the third party product in use.

Related Topics

[Checking Objects and Scripts in and out](#)

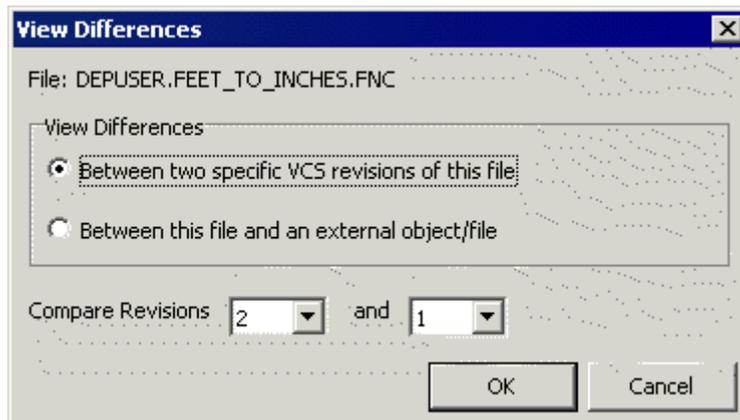
[Getting the Latest Revision](#)

Viewing Differences Between Revisions

You can view differences between two different revisions.

To view differences between revisions

1. Select the file you want to compare. You can select either one of the revision nodes, or the main file node.
2. Click the **View Differences**  button or right-click and select **View Differences**. The view differences dialog box appears.



3. Select how you want to view differences. If you want to compare revisions, select the revision numbers you want to compare.
4. Click **OK**. The [Differences Viewer](#) displays.

Checking Objects and Scripts in and out

You can check objects and scripts in and out from the Team Coding menu, the Team Coding Viewer toolbar and, if you are using VSS or PVCS as a third party VCS provider, the Version Control Browser toolbar.

- Using Automatic Check-in and Automatic Check-out
If the Automatic Check-In and Automatic Check-Out features are enabled, then you are automatically prompted to check out the item when you open it and to check it in when you close it. These prompts can be bypassed by un-checking the "Prompt for comment options". See Toad Options|[Team Coding](#) for more information.
- Manually check-in or check-out
Alternately, you can manually initiate the check-in or check out using commands on the Team Coding menu.

To check out an object or script when Automatic Check-Out is enabled

1. Open an object or script from the database in the Editor.
2. When the Check-Out dialog box appears, follow the prompts to check the item out or choose **Cancel** to open it in read-only mode.

To check in an object or script when Automatic Check-In is enabled

1. Close the object or script in the Editor.
2. When the Check-In dialog box appears, follow the prompts to check the item in.

To check items in and out manually

1. Open the object or script in the Editor. Alternatively, select the object in any of the following Toad windows:
 - Schema Browser: Procedures, Types and Favorites tabs
 - Version Control Browser
 - Project Manager
 - Team Coding Viewer
 2. From the Team Coding menu or toolbar, the Schema Browser, Project Manager, or from the shortcut menu, choose **Check In** or **Check Out**.
 3. You can choose [Undo Check Out](#) to cancel the check-out and reverse any changes.
-

Entering Comments on Check in or out

When you check objects in or out, you can enter comments about the modification you are going to make, or have made.

The most recent comment is visible in the Team Coding Viewer. When a third party VCS is in use, check-in comments are also logged against the new revision in the archive.

When using third party version control, the Force Revision option (see [Team Coding Settings>General](#)) will be available during a check in operation.

Note: The Force Revision option is not available for all third party providers.

The Force Revision option allows objects that are unchanged to be updated in the database, so that new or changed comments can be stored. The default value for this check box can be set from Toad Options > [Team Coding/Source Control](#).

Undo Checkout

You can undo a check out in the same manner you would check an object into source control.

To undo a checkout

- Choose **Undo Checkout** from the menu
- Or

Click the **Undo Check Out** button on the toolbar.

When you choose to undo a check-out, you are prompted to confirm that you want to restore the saved database version of the item (as it was prior to check-out.)

Caution: If you answer the confirmation **No**, and you have saved your changes, the result will be that the version saved in the VCS will be different from the version saved in the database.

Getting the latest Revision

Working in a Team Coding environment, it is often necessary for you to ensure that you are working with the latest version of an object or script that is held in the VCS . You can use the **Get Latest Revision** command to perform this action.

The Get Latest Revision command is available on the Team Coding menu and toolbar when objects are selected in the following windows:

- Editor
- Project Manager
- Schema Browser
- Procedures page
- Types (without the right-click) page
- Favorites page
- Team Coding Viewer
- Version Control Browser

You can select Get Latest Revision from the menu, or click the **Get Latest Revision**  button from the toolbar of the appropriate window.

Caution: The Get Latest Revision command overwrites the version of the object or script in the database, replacing it with the latest version held in the VCS.

Check In All

You can choose to check in all or some of the items you have checked out.

To check in items

1. On the Team Coding toolbar, click the **Check in All**  button. The Check In All dialog box appears.
2. Select or deselect items by checking and clearing the check boxes to the left of the list. Selected items will be checked in.

NOTE: You can also choose to **Select All** or **Clear All** by clicking the appropriate buttons on the right.

3. You can choose to enter the same comment for all selected items. The default for this check box is unchecked.
 4. Choose to Force a Revision of all items. If checked, a new version will be created for the selected items, whether or not they have changed.
 5. Click **OK**.
 - If you have chosen to apply the same comment to all items, the items are checked in and the dialog box closes.
 - If you have chosen to enter a new comment for each item, the [check in dialog box](#) appears with the first item from your list active. By clicking **OK** here you can proceed to each item in turn.
-

Using Concurrent Versions System (CVS) with Team Coding

CVS Requirements

You can use Concurrent Versions System (CVS) with Toad's Team Coding feature.

To do this, you need to perform some basic configuration tasks. The following topics will explain the configuration process.

In addition, you must have a CVS client installed on your system (for example, WinCVS, CVSNT, TortoiseCVS).

Team Coding has been tested with:

- CVS clients 1.11.9 and 1.11.17 and CVSNT clients 2.0.8 and 2.0.41a with the pserver authentication method.
 - CVS client 1.11.12 with pserver and ssh
 - CVSNT clients 2.0.11, 2.0.26, 2.0.34, and 2.0.41 with sserver, pserver, and sspi.
 - CVSNT client 2.0.14 with sserver, pserver, sspi, ssh, ext, and local
-

Related Topics

[Setting up the Oracle Database](#)

[Configuring Toad for use with CVS](#)

[CVS Configurations Options](#)

[Logging Into CVS](#)

[Multiple Connections and CVS Logins](#)

Setting up the Oracle Database

Before you can use Team Coding and CVS together, you must configure your Oracle Database to do so.

It is assumed that Team Coding has been installed on the database prior to setting up CVS. See [Installing Team Coding](#).

To set up the Oracle Database

1. Connect to your database as the Team Coding Administrator user.
 2. Select **Team Coding|Team Coding Status**
 3. Click the **Settings** button
 4. Select **Enable Team Coding**.
 5. Select **Use Code Control Groups**.
 6. Select **Use 3rd Party Version Control**.
 7. Under **Version Control Provider**, select **CVS (Concurrent Versions System)**.
-

Related Topics

[CVS Requirements](#)

[Configuring Toad for use with CVS](#)

[CVS Configurations Options](#)

[Logging Into CVS](#)

[Multiple Connections and CVS Logins](#)

[Add a Menu](#)

Configuring Toad for use with CVS under Team Coding

To use Toad's Team Coding feature with CVS, you must be connecting to a database which has been correctly configured for use with CVS under Team Coding. The Team Coding Administrator must do this. See [Setting up the Oracle Database](#) for more information.

To configure Toad

1. Connect to the database.
 2. Select **View|Toad Options|Team Coding**.
 3. Click the **VCS Provider Options** button.
 4. In the CVS Configuration Options dialog box, enter the appropriate information.
Note: Options are described in the [CVS Configurations Options](#) topic.
 5. Click **OK** to complete the configuration and close the dialog box.
-

Related Topics

[CVS Requirements](#)

[Setting up the Oracle Database](#)

[CVS Configurations Options](#)

[Logging Into CVS](#)

[Multiple Connections and CVS Logins](#)

[Authentication methods and the CVSRoot](#)

CVS Configurations Options

On the CVS Configuration Options dialog box there are several options you can use to configure how Toad works with CVS. They are described below.

CVS area

CVS Executable

Enter the name of the CVS program file here. The default is CVS.EXE. If your file is different, you can enter it here.

You can specify the full path to the file, such as C:\Program Files\CVS\cvs.exe. This will force Toad to use the specified program.

If you enter only the file name, rather than the entire path, the location of the program file must be in your system path. Toad will then use the first occurrence it finds of the specified file name.

Global Options

Use this option to specify any global options you want Toad to pass to CVS whenever a CVS command is executed by Toad. For example, the default option of `-f` tells CVS to ignore your `.cvsrc` options file.

The default is `-f`.

You can use more than one option. Separate multiple options with a space.

Note: Do NOT enter a `-d CVSROOT` option here. Toad adds this option automatically, using the CVSROOT you provide in the [CVS Login window](#).

Dates and Times in CVS Output

Date Format/Separator, Time Format/Separator

These options tell Toad how CVS will send dates and times. This lets Toad present correct revision date and time stamps in windows such as the VCS Browser.

The default for Date Format is: **yyyymmdd**

The default for Date Separator is: **/**

The default for Time Format is: **hhnnss**

The default for Time Separator is: **:**

Available Date/Time formats

Format	Display
d	Day as a number without a leading zero (1-31)
dd	Day as a number with a leading zero (01-31)
m	Month as a number without a leading zero (1-12)
mm	Month as a number with a leading zero (01-12)
yy	Year as a two-digit number (00-99)
yyyy	Year as a four-digit number (0000-9999)
h	Hour without a leading zero (0-23)
hh	Hour with a leading zero (00-23)
n	Minute without a leading zero (0-59)
nn	Minute with a leading zero (00-59)
s	Second without a leading zero (0-59)
ss	Second with a leading zero (00-59)

Time Zone

This option tells Toad to adjust the time stamps read from the output of CVS commands. For example, to subtract eight hours from all timestamps, specify a value of `-800`. To add three hours, enter a value of `300`.

The default is `0000`.

Login

These options control Toad's behavior when attempting to log into CVS. Toad creates a console window and executes the CVS Login command at the command prompt. When the password prompt appears, Toad sends the password you have specified.

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Login Automatically

When this option is checked, upon connecting to the database Toad logs in to CVS without prompting you. The most recently used CVSRoot will be used.

To use this option, the following must be true:

- The Team Coding option "Disable Login Prompt on Connection" is UNCHECKED
 - The TC=NO command-line option is NOT used
 - You have previously logged into CVS in Toad
 - The previous login used an authentication method not requiring a password
- OR

You checked the **Save Password** option on the login form

Password Prompt Timeout

Enter the amount of time, in seconds, you want Toad to wait for the CVS password prompt. If the timeout expires before the password prompt appears, the login will fail.

The default is 10.

Login Timeout

Enter the amount of time, in seconds, that you want Toad to wait for a login result to be returned after the password is sent. If the timeout expires before a result is returned, the login will fail.

The default is 10.

Time Between Keypresses

This option controls the amount of time (in milliseconds) Toad pauses after sending each character of the password to the CVS password prompt.

The default is zero.

Note: If you find that CVS is returning "invalid password" errors, you may need to increase this number. A suggested figure is 100 milliseconds.

Restore Defaults

Click **Restore Defaults** to restore all options to their default values.

Related Topics

[CVS Requirements](#)

[Setting up the Oracle Database](#)

[Configuring Toad for use with CVS](#)

[Logging Into CVS](#)

[Multiple Connections and CVS Logins](#)

Updating Working Folders

Toad requires that your working folders are up-to-date so that it can determine what files and folders are in your CVS repository.

You must update your working folders manually.

To update your working folders

- Perform a full checkout and update with your CVS client. You can do this from the CVS command-line client by issuing the following CVS commands in your root working folder:

```
cv$ co .
```

```
cv$ update .
```

Logging Into CVS

By default, when you have Team Coding with CVS set up, Toad will automatically display the CVS login prompt when you connect to the database.

If you do not want to connect automatically, you can activate the Team Coding option **Disable Login Prompt on Connection**.

Note: When you log into CVS from within Toad, Toad opens a command prompt window to send the password to the CVS server. This window may open in the background instead of the foreground causing the login to fail. If this happens, select **Log in to VCS Provider** from the Team Coding menu or toolbar and log in again.

To display the login prompt manually

- From the **Utilities|Team Coding** menu, select **VCS Logon**.

If the Team Coding menu is not visible on your menu bar, you can add it manually. See [Add a Menu](#) for more information.

To login to CVS

1. Select the root you want to use. You can choose one of two options:
2. **Use \$CVSROOT Environment variable**
Toad attempts to use your CVSROOT environment variable. When you select this option, your current CVSROOT environment variable is displayed in the first box.

Note: This cannot be edited in Toad; for instructions on changing environment variables, see you Windows Help.

- **Specify CVSROOT**
Select this to specify which CVSROOT to use when issuing CVS commands. Toad passes this to CVS using the -d option. Up to ten of the most recently used CVS ROOT values will be remembered. You can select from these by clicking the arrow in the right of the box.
2. Enter a **path** to your chosen working directory in the Working Directory box. You can click the **Select**  button to select a directory rather than entering the entire path by hand.
 3. Enter your **password** for the specified CVSROOT in the password box. If you have specified a CVSROOT that does not use password authentication (for example, the :local:method) you can leave this box blank. In this case, Toad will not issue a CVS login command.

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4. Select or clear the **Save Password** check box. If selected, Toad stores the password in an encrypted form in the CVS.INI file.
5. Click **OK** to proceed with CVS login.

Or

Click **Cancel** to stop the login process.

Note: Selecting **Team Coding|VCS Logon**, will log you out of CVS for the current connection, even if you click **Cancel** at the logon prompt. To reconnect, click **OK** without changing any values.

Related Topics

[CVS Requirements](#)

[Setting up the Oracle Database](#)

[Configuring Toad](#)

[Multiple Connections and CVS Logins](#)

[Authentication methods and the CVSRoot](#)

Multiple Connections and CVS Logins

From one Toad instance, you can connect to multiple databases.

You can:

- establish different CVS logins for each database
- share the same login between several instances

After you have logged into CVS once, you will remain logged in, and Toad will not display the CVS Login dialog box as long as the first instance remains connected.

Note: Each time a new connection to the database is established in Toad, the CVS login of the most recently established connection will be used.

If you want to log into a different CVSROOT after initially logging in you can do so.

To log into a different CVSROOT after initial logon

- Select **Utilities|Team Coding|VCS Logon**. Log in as described in [Logging into CVS](#).
-

Related Topics

[CVS Requirements](#)

[Setting up the Oracle Database](#)

[Configuring Toad for use with CVS](#)

[CVS Configurations Options](#)

[Logging Into CVS](#)

[Multiple Connections and CVS Logins](#)

Authentication Methods and the CVS Root

Most CVS servers support several different authentication methods. The authentication method used to access a CVS server is specified in the first part of the CVSRoot. The CVSRoot contains the following sections

```
:authentication method:user@host:port:/path
```

All sections except path are optional. The following rules apply:

- A CVSRoot consisting only of a path will use the local authentication method. It is synonymous with:
:local:/path
- If the user section is omitted, the CVS client will use your Window login name.
- The host section must be included for all methods other than local.
- The port section is only necessary when the CVS server is listening on a port other than the default port, which is 2401.

CVS Authentication Methods tested with Toad

Toad has been tested with the following CVS authentication methods: pserver, sserver, ssh, sspi, ext, and local.

Using pserver and sserver methods

Using pserver and sserver is straight-forward.

- Both require a username and password.
- With both, Toad executes the CVS login command.
- With sspi, username is optional. If a username is supplied, Toad executes the CVS login command. If no username is supplied, Toad will not execute the CVS login command.

Using local and ext methods

The local and ext methods do not require a password.

- The local method is used to access a local CVS repository. This method is assumed if no authentication method is specified.
- The ext method is used for SSH authentication. For more on using SSH, see [SSH Authentication Using the ext Method](#).

Related Topics

[Configuring Toad for use with CVS](#)

[Logging into CVS](#)

[SSH Authentication Using the ext Method](#)

SSH Authentication Using the ext Method

Toad supports the use of SSH (Secure Shell) with the ext method as long as the following conditions are met:

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- An external SSH client and SSH Authentication Agent must be installed and configured.
- SSH authentication must be transparent. Toad cannot respond to requests for private key or passphrase.
- The CVS_RSH user environment variable must be set to specify the SSH client program if the SSH client program is anything other than "ssh".

Example SSH configuration steps:

This configuration uses Plink as the SSH client and Pageant as the SSH authentication agent. Plink, Pageant and PuttyGen are parts of the PuTTY software package by Simon Tatham.

Note: This is just one sample configuration.

1. Install PuTTY (including Plink and Pageant)
 2. Generate **public** and **private keys** using PuttyGen.
 3. Upload **public key** to the CVS server, which must be running SSHD.
 4. Load **Pageant** and register your private key with it. Keep Pageant running whenever SSH is being used.
 5. Set CVS_RSH environment variable to the path to `plink.exe` (for example: `c:\program files\Putty\plink.exe`).
 6. Set CVSRoot to **:ext:user@host:port:/path**, where
 7. user = your SSH login name on the CVS server
 8. host = the CVS server hostname or IP address
 9. port = the CVS server port (optional)
 10. path = the path to the CVS repository on the server (for example:
:ext:smithj@cv.s.toadrocks.com:2401:/usr/local/cvs/project).
-

Related Topics

[Configuring Toad for use with CVS](#)

[Authentication Methods and the CVS Root](#)

[Logging into CVS](#)

Missing CVS\Entries File Error

Toad determines which files and folders are in your CVS repository by reading the file named Entries. This normally resides in a folder named CVS under each of your working folders. If Toad cannot find this file in any of your working folders, you receive the Missing CVS\Entries file error.

This can happen in one of two ways:

- If you have not yet performed a **cv s co .** to check out everything, your Entries and Repository files will not have been created automatically. This can be remedied by performing the **cv s co .** (remember to include the dot in the command).
- Some versions of CVS will not automatically create a CVS\Entries file in the root working folder. This does not affect normal CVS operation, but it does prevent Toad's CVS support from working.

To manually correct the problem causing a CVS/Entries file error

1. In your root working folder, create a new folder named **CVS**.
2. In the new CVS folder, create an empty file named **Entries**.
3. In the new CVS folder, create file a named **Repository** containing a single line with the single character `.` (the period) followed by a carriage return.
4. Log in to **CVS**.
5. In your root working folder, execute the CVS command: `cvs co .`
6. In your root working folder, execute the CVS command: `cvs update .`

Note: You may need to perform the "update" on individual files or projects instead of the whole repository.

Setting up your Entries file

Once created, you can set your Entries file to check out the files you want. You can check out the entire repository, or only a few projects.

To check out your entire repository

- Leave the **Entries** file empty to check out the entire repository.

To check out a few projects in your repository

1. To keep only a few projects in the repository, enter the projects in your Entries file as described below:

```
D/Project1///
```

```
D/Project2///
```

```
D/Project3///
```

Where Project n is the name of the project.

2. Check out and update each project one by one. For example:

```
>cvs co Project1
```

```
>cvs update Project1
```

```
>cvs co Project2
```

```
>cvs update Project2
```

Additional CVS Entries File Information

Setting up your Entries file

You can set your Entries file to check out the files you want. You can check out the entire repository, or only a few projects.

To check out your entire repository

- Leave the **Entries** file empty to check out the entire repository.

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To check out a few projects in your repository

1. To keep only a few projects in the repository, enter the projects in your Entries file as described below:

Project1/Project2/Project3

2. Check out and update each project one by one. For example:

```
>cvs co Project1
```

```
>cvs update Project1
```

```
>cvs co Project2
```

```
>cvs update Project2
```

Related Topics

[Missing CVS\Entries File](#)

[CVS Requirements](#)

Spool SQL

Spool SQL

Database|Spool SQL command will either display all SQL to message boxes on screen or send it to a file (`\temp\debug.sql`) depending on your choice from the menu.

To spool SQL effectively

1. Select **Database|Spool SQL** and where you want to send the code (to **Screen** or to **File**).
 2. Select a function from Toad. The SQL Toad used to perform that task is spooled to either the screen or the specified file. For more information on Spool SQL to Screen, see [Output Window](#).
-

Utilities

Archive

Access this window from the **Main Menu|Utilities|Archive**.

Alternately, set archive properties from the [Action Palette|Archive action](#).



Button	Command
	New archive
	Open archive - The dropdown lists the archives you have opened most recently.
	Add to archive - Use this to add a file to the archive that is currently open.
	Extract from archive - Highlight the file you want to extract and click this button to extract it. If no file is highlighted, no files will be extracted.
	Delete from archive - Deletes the highlighted file from the open archive.
	Create Project Manager Reference - Creates a link to an item in the archive and places it in the Project Manager. This lets you drag/drop the reference within the Project Manager without opening the archive, finding the file, and copying it to the destination folder. For more information about using files in the Project Manager, see the Project Manager topic.

Script Manager

The Script Manager is a centralized location in Toad where you can manage your frequently used scripts. It allows you to organize your scripts into various categories and access them easily from the Script Manager window.

For detailed information about the Script Manager, see the [Script Manager Overview](#).

Wrap Code

The Wrap Code command provides an easy way to access Oracle's Wrap Code utility. This window is connection independent so you do not need an open database session to use it.

To wrap code

1. From the **Utilities** menu, select **Wrap Code**. The Wrap Code window appears.
2. In the **Input file** box, enter the file (of PL/SQL code) you want to wrap, including the full path, or click the **drill down** button to browse for the file.
3. When you have selected your file, the text of the file appears in the Input File Text area.
4. The output file is, by default, named the same as the input file, but with the extension .plb.
3. Click **Wrap Code**. The wrapped code appears in the Output File Text area and is automatically saved to the specified output file.

You can also right-click in either text area and copy that code to the clipboard.

Troubleshooting

To use Toad's wrap code interface, it must be able to find the Oracle Wrap Code utility. To assure that Toad can find the utility, check to see that one of the following is true:

- The Wrap Code utility is in a recognized Windows path.
 - You have added the path to Toad's list from the **View|Toad Options|[Executables](#)** page.
-

Compare Files (Difference Viewer)

Compare Files

You can use the compare files window (**File Differences Viewer**) to compare the contents of two files from a disk, or an object to a file or to another object.

You can access the Differences Viewer from three different areas. Each uses it to compare different objects.

To compare two files on disk

- From the **Utilities** menu, select **Compare Files**.

To compare objects in the Schema Browser

- From either the **Procedures** or **Views** page, right-click on an object and select **Compare with another object**. See [Compare Objects](#) for more information.

To compare differing objects from a schema compare

- From the **Schemas|Results (Interactive)** tab, right-click an object listed as differing between schemas and select **Show Difference Details** to compare the scripts of the two objects. For more information, see [Compare Schemas](#).
-

Related Topics

[Viewing File Differences](#)

[File Comparison Rules](#)

[Difference Viewer Options](#)

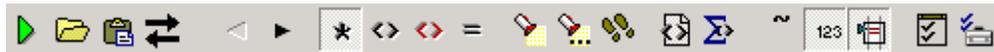
Viewing File Differences

When you have specified the objects you want to compare, whether they are files, database objects, or scripts, the Differences Viewer appears.

The Differences Viewer lets you compare database objects in a split window. Differences between the objects are highlighted and the toolbar gives you access to controls for customizing the view and creating reports.

[File Comparison Rules](#) and [Options](#) let you specify the way Toad displays the similarities and differences between two files, or two versions of a file.

Differences Viewer Toolbar



Button	Command
	Reload files and execute the comparison
	Open a file
	Paste contents of clipboard into selected side of viewer
	Switch sides
	Go to Previous difference
	Go to Next difference
	Show all lines of compared objects
	Show only lines with differences
	Show only lines with major differences (as defined in Differences Viewer Preferences)
	Show only matching lines
	Find a text string
	Find next text string
	Go to a specific line number
	Generate a report of differences
	Generate a comparison summary
	Show space characters using tilde (~) characters
	Toggle line numbers on or off
	Show a thumbnail view of the file
	Display and set options
	Set file comparison rules

Thumbnail view

This lets you quickly change sections of the file. The thumbnail view (to the left of the viewing window) is a visual summary of differences. Colored lines show the relative position of line mismatches. A white rectangle represents the part of the text currently visible in the Differences Viewer window. You can click the thumbnail view to position the viewer at that point in the documents.

Related Topics

[Compare Files Overview](#)

[File Comparison Rules](#)

[Difference Viewer Options](#)

File Comparison Rules

To access file comparison rules

- From the **Difference viewer** toolbar, click the **File Comparison Rules**  button.

Available Rules

Rules are divided into four tabs:

- [General](#)
- [Define Minor](#)
- [Line Weights](#)
- [Miscellaneous](#)

General tab

Tab Stops - Use this area to set tab stops.

Synchronization Settings - Synchronization Settings control the comparison engine that reports differences and similarities between files. Unless you are experienced in manipulating comparison synchronization algorithms, you will probably find that the default settings work well enough for most situations. In general, the following principals apply.

Set the synchronization parameters low to allow more efficient searches for small differences.

Set the synchronization parameters higher to handle larger files or files with large differences.

Initial Match Requirement represents the minimum number of lines that need to match in order for text synchronization to occur.

Skew Tolerance is the number of lines the Differences Viewer will search forward or backward when searching for matches. Smaller numbers improve performance.

Suppress Recursion refers to the method used to scan for matches. Recursion improves the ability to match up larger as well as smaller sections of text, but it can take longer.

Minor Differences - Use the Ignore Minor Differences check box to activate or deactivate the highlighting of minor differences in the Differences Viewer window. (As explained below, you specify what constitutes minor differences in the Rules options under Define Minor Differences.)

Define Minor tab

You can have the comparison engine either highlight or ignore minor differences—such as comments, or spacing characters and tabs. This gives you the option of focusing only on significant differences, or, alternatively, reviewing even minor differences between versions. Place a checkmark next to the items that you want to classify as minor differences. Then, under the General category, you can select or clear the Ignore Minor Differences check box.

Line Weights tab

The Line Weights tab lets you assign synchronization priorities to the lines that match. You can use the values listed in the tab, or you can create your own.

Miscellaneous tab

Use the Miscellaneous tab to make choices about line termination.

You can also limit comparisons to specific columns by entering a column range in the comparison boxes.

Related Topics

[Compare Files Overview](#)

[Viewing File Differences](#)

[Difference Viewer Options](#)

Difference Viewer Options

From this dialog box, you can set the colors and other visual characteristics used to highlight the following elements in the Differences Viewer:

- Matching text
- Similar text
- Different text
- Missing text
- Horizontal lines between mismatches

You can also set Find Next difference to use position only (so as not to obscure color coding), or normal line selection.

To access options

- Click the **Options**  button. The options dialog box appears.
-

Related Topics

[Compare Files Overview](#)

[Viewing File Differences](#)

[File Comparison Rules](#)

External tools

Configure Toad Tools

You can configure Toad to open external tools for you and then execute them from the Main Toolbar (See also [Execute Toad Tools](#)).

Configure Tools List

To use Auto Add

In order to open an external tool from within Toad, you first need to add it to the Tools list. Toad can help you do this automatically for some basic applications. Applications supported by Auto Add are:

Windows Notepad
Windows Wordpad

Quest DataFactory
Quest Instant Messages

1. On the main toolbar, click the **arrow** on the **Configure/Execute External Tools**  button. Select **Configure** from the dropdown menu. The Toad Tool Options dialog box appears.
Note: If you previously have executed an application from this icon, the above icon will not display. Instead, you will see the icon for the application you executed.
2. Click **Auto Add**. The Select programs to add dialog box appears.
3. Select the applications you want to add. You can multi-select by holding down <Ctrl> as you click.
4. Click **OK**. The applications are added to the list in the Toad Tool Options dialog box.
5. Click **Close** to use the list as it was automatically generated, or Edit and move them in the list as described in the sections below.

To add a tool manually

In order to open an external tool from within Toad, you first need to add it to the Tools list.

Note: Adding a tool manually is the same as adding a shortcut. If the tool is included in the **Auto Add** feature, you should add it to your External tools in that way to ensure that it will work properly.

1. On the main toolbar, click the **arrow** on the Configure/Execute External Tools  button. Select **Configure** from the dropdown menu. The Toad Tool Options dialog box appears.
Note: If you previously have executed an application from this icon, the above icon will not display. Instead, you will see the icon for the application you executed.
2. Click **Add**. The Toad Tool Properties dialog box appears.
3. Enter the **Title** of the tool. This is what will be displayed in the tool list, so choose something you will recognize. For example, enter **Notepad**.
4. In the **Program** box, enter the full pathname for the executable. You can enter the path directly or you can click and browse for the full pathname. For example, enter the pathname for Notepad: C:\WINNT\system32\notepad.exe.
Note: This may not be the correct pathname on your system.
5. Enter the **Working Directory** for the tool. Click in this box and Toad automatically enters the directory where the tool is located. If necessary, you can change this directory.
6. Enter any **Parameters**. These specify configurations of the tool, and can be combined. Some standard parameters are listed in the macro box at the bottom of the window.
7. \$UID - enters the current Toad User ID
8. \$UPW - enters the current Toad User password
9. \$SID - enters the current Toad database ID
10. \$CWD - enters the current Toad working directory
11. \$TMP - enters the windows temporary directory
12. \$FIL - enters the file in the active editor

These parameters can be used individually, or combined. For example, if you wanted to automatically open Notepad with the current file in the active editor, you would enter the information to open Notepad as above, and enter \$FIL in the Parameters box.

You could also enter the command: `sqlplusw.exe $UID/$UPW@$SID` which starts sql plus with the current toad connection.

7. From the **Run** dropdown, you can opt to run the tool in a normal window, a minimized window, or a maximized window.
8. Enter any **Shortcut** keystrokes you want to use for the tool. The keystroke appears in the box.

- For example, typing <Ctrl><Alt><F> displays **Ctrl + Alt + F** in the box.
- If an icon has not been chosen, click the **arrow**. Select an icon from the dropdown menu.

To delete a tool

- On the main toolbar, click the **arrow** on the Configure/Execute External Tools button (). Select **Configure** from the dropdown menu. The Toad Tool Options dialog box appears.

Note: If you previously have executed an application from this icon, the above icon will not display. Instead, you will see the icon for the application you executed.

- Click the **name** of the tool you want to delete.
- Click **Delete**. A confirmation dialog box appears. Click **Yes** to delete the tool.

To edit a tool

You can edit the settings for any tool entered in your list.

- On the main toolbar, click the **arrow** on the Configure/Execute External Tools button (). Select **Configure** from the dropdown menu. The Toad Tool Options dialog box appears.

Note: If you previously have executed an application from this icon, the above icon will not display. Instead, you will see the icon for the application you executed.

- Select the **tool** you want to edit and then click **Edit**. The Toad Tool Properties dialog box appears.
- Make desired changes to the settings (described above in Add a tool manually) and then click **OK**.

To change the order of the list

You can move a tool up or down in the list. Tools display in the dropdown list in the order in which they are listed in the Tool Options dialog box.

- On the main toolbar, click the **arrow** on the Configure/Execute External Tools button (). Select **Configure** from the dropdown menu. The Toad Tool Options dialog box appears.

Note: If you previously have executed an application from this icon, the above icon will not display. Instead, you will see the icon for the application you executed.

- Select the **tool** you want to move by clicking on its name.
- In the right panel, click the green up arrow to move the tool up in the list, or the down arrow to move it down in the list. When the list is in the order you want it, click **Close**.

Execute Toad Tools

Toad can open external tools for you and then execute them from the main toolbar. (See also [Configure Toad Tools](#).)

To execute a tool

- On the main toolbar, click the **dropdown arrow** on the Configure/Execute Toad Tools button ().

Note: If you previously have executed an application from this icon, the above icon will not display. Instead, you will see the icon for the application you executed (See below).

- Select the **tool** you want to execute. The tool opens in a new window.

When you execute an external tool from the toolbar, the Toad Tools button changes to the icon for the tool you last executed. You can then click directly on the button to open that tool again, instead of choosing it from the dropdown list.

FTP

FTP

This window lets you transfer files using FTP or Secure FTP.

FTP (File Transfer Protocol) is the most common means of file transfer on the Internet. Toad has included FTP support primarily so that Oracle scripts can be sent over TCP/IP connections. Toad FTP can support a file size of up to 4GB.

To access FTP functionality

- Select the **Utilities|FTP** menu item.

Connecting

The **Connect**  button displays the FTP Logon screen, which is used to make a connection to an FTP Server. See [Server Settings](#) for more information.

If Toad cannot connect, it will display a message to this effect in the Messages area.

Once you are connected, the **Disconnect**  button becomes active.

Reconnecting

The **Reconnect**  button lets you reconnect to the last connected server and navigates back to the last path visited during the previous connection.

Local Panel

The left panel contains a file browser for the local computer.

- The **dropdown** allows you to type in a file path or select one that has been entered.
- The **folder** button lets you move up one level in the directory hierarchy.
- The **Explore** button opens a Windows Explorer-style dialog box that lets you select a local or network directory. The list view control lists the folder and files of the current directory.
- **Compare** -
- **Delete** - Deletes the selected file or directory.
CAUTION: Toad provides a recursive delete in FTP. If you choose to delete a directory that is not empty, the files will be deleted as well.
- **Exec** - Executes the selected file.
- **Home** - Resets the panel to the default directory.

- **Mkdir** - Creates a new directory.
- **Refresh** - Refreshes the file list. You can also refresh the file list by right-clicking and choosing Refresh from the menu.
- **Rename** button - Opens **Rename Window** which lets you rename the selected file in the FTP interface.
- **View** - View the selected file.

Remote Panel

The right panel displays a file browser for the remote FTP server. Commands displayed in this panel as buttons include:

- The dropdown allows you to type in a file path or select one that has been entered.
- The **folder** button lets you move up one level in the directory hierarchy.
- The **Explore** button opens a Windows Explorer-style dialog box that lets you select a local or network directory. The list view control lists the folder and files of the current directory.
- **Compare** -
- **Delete** - Deletes the selected file or directory.

CAUTION: Toad provides a recursive delete in FTP. If you choose to delete a directory that is not empty, the files will be deleted as well.

- **Exec** - Executes the selected file.
- **Home** - Takes you to the directory you have specified in [Toad Options|Network Utilities](#) for this connection.
- **MkDir** - Creates a new directory.
- **Refresh** - Refreshes the file list. You can also refresh the file list by right-clicking and choosing Refresh from the menu.
- **Rename** - Opens the Rename window which lets you rename the selected file in the FTP interface.
- **View** - View the selected file.

In addition, there are several other FTP commands accessible from the right-click menu on this side of the FTP browser.

Note: These commands are not available for SFTP.

- **CWD** - Change Working Directory - lets you specify a new working directory on the remote host.
- **PWD** - Print Working Directory - returns the name of the current directory on the remote host.
- **HELP** - Displays descriptions for ftp commands.
- **SYST** - returns a word identifying the system, the word "Type" and the default transfer type (as would be set by the TYPE command). For example, UNIX Type: L8.
- **SITE** - Executes a site-specific command
- **QUOTE** - Sends arguments verbatim, to the remote FTP server.
- **LIST** - lists remote files
- **NLIST** - name list of remote directory.

Bottom Panel

File Transfer Mode radio buttons

- **Default** - If selected, the default mode for the FTP server is used.
- **ASCII** - ASCII file transfer (faster transfer for text-only files).
- **Binary** - This is used to transfer binary files.

Messages Panel

Connections and FTP server messages are displayed in the messages panel.

Transferring Files

You can transfer files between the local and remote computers. You can select files in either the local or remote panels and transfer them to the other machine by pressing the appropriate directional button located between the two panes ([<] or [>]). You can also use drag-and-drop to transfer files between the two panes. If you double-click a file, it will be transferred to the other side of the connection.

Note: The FTP component Toad uses can handle file sizes of up to 4GB.

Server Settings

The server settings dialog is available in several locations.

To open the Server Settings dialog

- Open the server settings dialog from the following locations:
- From the [FTP Window](#), click the **Connect to an FTP server** button.
- From the **Project Manager**, [Add an FTP folder](#)
- From the [Unix Monitor](#), click **Connect**.
- From the Unix Job Scheduler, [Add a Server](#).

Connection Type

You can choose the connection type you want to use.

FTP/RExec

Standard, unsecure connection.

Secure FTP/SSH

Uses an SSH connection to encrypt data passing between the client and server.

Use Default Port

If this option is selected, Toad will use the default port to connect. The defaults are:

- 21 for FTP/Rexec connections

- 22 for SSH connections

Host dropdown

This is for the address of the FTP server that you'll connect to. Multiple connections are saved and recalled through the dropdown control.

Port

If Use Default Port has been cleared, you must specify the port number in this box.

User

This is the User ID for the FTP connection.

Password

This is the password for the FTP connection.

Passive (for firewalls)

If checked, this directs the server into passive mode. This feature is especially useful if the server is behind a firewall. Many firewalls do not let the FTP server open a connection from outside to the higher ports where the FTP client control expects them. So, if this box is checked, Toad will use the PASV command instead of the PORT command. This directs the server into passive mode, where only the client initiates connections.

If this box is unchecked, the PORT command is used.

Default Local Directory

This is the directory on the local machine that Toad will use as the default for the connection. If

Default FTP Directory

Use this area to specify the directory on the FTP server that you want to use as the default. If no directory is specified, Toad will use the root directory for the server.

Private Key File

If you have chosen a Secure FTP/SSH connection, enter your private key in this box. (You can also use the drill down button to navigate to the private key file.)

Project Manager Items

Project Manager items are available only when setting up an FTP folder in the Project Manager.

Client Directory

The client directory is the directory where downloaded files are placed during FTP operations requiring a file download. For example, when viewing a file on an FTP server, the file is first downloaded then opened in an editor. If a client directory is not specified, the Windows temp file directory is used.

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Filter

Enter any filters that you want applied to the files on the server side. These are standard Windows filters: for example *.doc or *.*.

Overwrite Existing Profile

If this is selected, then Toad will overwrite the FTP profile it has saved for you and make this the default connection. Any settings you have set up will be replaced with the new settings.

OK

If you are using this to connect directly from the FTP window, clicking OK will begin the connection process. If Toad cannot connect, it will display a Host not Found message.

If you are using this dialog from the Project Manager window, clicking OK will complete the creation of the FTP folder. You will still need to connect by double-clicking the folder as described in the [Project Manager>FTP Folders](#) topic.

FTP Messages

You get to this window from the [FTP Window](#).

This displays file transfer status messages.

For more information on FTP see [FTP](#).

Java Manager

Java Manager Overview

If you are running Oracle 8i or above, Toad's Java Manager can help you easily access the LOADJAVA and DROPJAVA utilities. The Java Manager consists of two tabs: Load Objects and Unload Objects.

This makes it easy for you to load and unload java classes and resource files to and from the database. The LOADJAVA utility creates several tables used to track the objects and the options used. DROPJAVA cleans up these tables and unloads the code from the database.

To access the Java Manager

- From the **Utilities** menu, select **Java Manager**.
-

Related Topics

[Drop Java Objects](#)

[Load Java Objects](#)

Load Objects

The Load Objects tab in the Java Manager window lets you easily set options and load objects using Oracle's LOADJAVA utility.

To load objects

1. Select **files** to load.
2. Select loading **options**.
3. Click **Load**. The files are loaded using Oracle's **loadjava.bat** utility file.

Note: In order to load java objects, you must be running Oracle 8i or above, and the Oracle utility file **loadjava.bat** must be installed in your Oracle home directory.

Select Files to Load

The first step in loading java files is to create a list of the files you want to add to the database. You can both add files to this list and remove them from it before you commit to loading them.

Note: If you close the Java Manager after adding files to this list and before loading them, the list will be lost.

To add files

1. Click **Add**. The Select files to load dialog box appears. You can navigate among your directories, and multi-select files from one directory at a time in this dialog box.
2. Select the files to add to your list and click **Open**.
3. If you have files in other directories, repeat these steps until they are all listed in the Files to load: area of the Load Objects tab.

To remove files

If you find you have put a file on the Files to load list that should not be loaded, you can still remove it at this point.

- Simply select the **file**, and click **Remove**. The file is removed from the list.

Select Loading Options

The options area at the bottom of the tab allows you to set options for loading the files you have selected. These options apply to all selected files.

Create public synonym

If this option is selected, a public synonym will be created when the java code is loaded. You can check this by looking at the Synonyms page in the Schema Browser.

Resolve

The Resolve option instructs Oracle to resolve all of the external references in the objects you load. This allows Oracle to mark objects valid if the references are resolved successfully. The Resolve option uses the specification defined in the [Resolver](#) box to look for references. If the Resolver box is blank, Oracle will look first in your schema and then look for public synonyms.

Definer

The Definer option creates the class to run with the privileges of the logged in user instead of the privileges of the user that owns the class. This is equivalent to the "-definer" option of LOADJAVA.

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Force loading of classes whether or not they were previously loaded

If you load a class using Java Manager, then drop the class using the DROP JAVA statement, or from the Schema Browser, you must select this option when you reload the class again. This is because dropping the class from other than the Java Manager leaves entries in tables created by Oracle. Oracle sees these entries and believes that the class is already loaded.

Resolver

This box lets you enter the specification for where Oracle will look when it resolves external references for the objects being loaded. The resolver specification should be in the form:

```
"((name_spec schema_spec) [(name_spec schema_spec)]...)"
```

Encoding

This option lets you tell the java compiler what encoding is used for the source file being loaded. Select the appropriate encoding type from the dropdown. If this option is left blank, then Oracle assumes you are using latin1.

Schema

This option lets you specify which schema will own the objects to be loaded. If this option is left blank, objects will be placed in the connected user's schema. To load into your own schema, you must have **Create Table** and **Create Procedure** privileges. To load into another user's schema, you must have **Create Any Table** and **Create Any Procedure** privileges.

Grant access to other users

To grant execute on loaded objects to users other than the schema owner, include them in this list. Enter users as a comma-delimited list.

Related Topics

[Drop Java Objects](#)

[Java Manager Overview](#)

[Java](#)

Drop Java Objects

Use the Java Manager to drop objects. If you have used the Java Manager to load your java, it is a good idea to also use it to drop the java objects. This is because when Oracle's LOADJAVA utility runs it creates several tables. Using the Java Manager to run the DROPJAVA utility will clean up these tables and leave your database more efficient.

To drop java objects

1. Select **files** to drop.
2. Select drop **options**.
3. Click **Drop**. The files are loaded using Oracles **dropjava.bat** utility file.

Note: In order to drop java objects, you must be running Oracle 8i or above, and the Oracle utility file **dropjava.bat** must be installed in your Oracle home directory.

Select Files to Drop

The first step in dropping java files is to create a list of the files you want to drop from the database. You can both add files to this list and remove them from it before you commit to dropping them.

Note: If you close the Java Manager after adding files to this list and before dropping them, the list will be lost.

To add files

1. Click **Add**. The Select files to drop dialog box appears. You can navigate among your directories, and multi-select files from one directory at a time in this dialog box.
2. Select the files to add to your list and click **Open**.
3. If you have files in other directories, repeat these steps until they are all listed in the **Objects to drop:** area of the Drop Objects tab.

To remove files

If you find you have put a file on the Files to load list that should not be dropped, you can still remove it at this point.

- Simply select the **file**, and click **Remove**. The file is removed from the list.

Select Drop Options

The options area at the bottom of the tab allows you to set options for dropping the files you have selected. These options apply to all files on the Objects to drop list.

Drop synonym

If this option is selected, any public synonym that relates to the java object will be dropped as well. You can check that this has occurred by looking at the Synonyms page in the Schema Browser.

Encoding

This option lets you tell the java compiler what encoding is used for the source file being dropped. Select the appropriate encoding type from the dropdown. If this option is left blank, then Oracle assumes you are using latin1.

Schema

This option lets you specify which schema owns the objects being dropped. If this option is left blank, objects will be removed from the connected user's schema.

Network Utilities

Network Utilities

The **Network Utilities** command allows you to access the Network Utilities window. From this window, you can work with IP Addresses, Telnnet to another account, use RExec commands, or Ping a server from the various tabs.

Toad 9.5

To access the Network Utilities options

1. From the **Utilities** menu, select **Network Utilities**. The Network Utilities window appears.
 2. From the **tabs**, select the **Utility** you want to use.
 3. Fill in any **required fields** and click the appropriate **command buttons**.
-

Related Topics

[FTP](#)

[IP Addresses](#)

[Ping](#)

[RExec](#)

[Telnet](#)

[TNS Ping](#)

Telnet

Telnet (Telecommunications Network) is a protocol for connecting to another computer and establishing a session there, where you can issue commands. The protocol is specified in Internet RFC 854.

The Telnet tab is used to communicate with servers implementing the Telnet protocol. It provides telnet capability through a simple interface. It functions like a terminal emulator, although at this time only displayable characters and the <Enter> key are supported (control characters, including backspace, are not currently supported).

To use telnet

1. The **Telnet tab** is accessible from the [Network Utilities](#) menu item.
2. Type in the **Host Name** or **IP address** in the dropdown box and click **Connect**.
3. Toad connects to the host computer. In the window, login information appears. After the word "Login:" type in your **login name**, press <Enter>. The remote machine will then request your **password**. Enter it, and press <Enter>.

When you are connected to the host computer, the top panel in Toad is a console that displays messages from the server and the commands that you type in. The lower panel shows the Telnet commands sent and received as part of the protocol.

The right-click menu lets you **Clear** the screen or copy information to the **Clipboard**.

The **Save Output** button allows you to save information using the Save As window.

Related Topics

[FTP](#)

[IP Addresses](#)

[Network](#)

[Ping](#)

[RExec](#)

[TNS Ping](#)

RExec

The RExec command allows you to execute only one UNIX command at a time from a UNIX server. Instead of using telnet to log on for an extended period, you enter the appropriate information into the RExec tab and tell Toad to execute one command. Toad executes that command, provides the results to you, and closes your connection.

Note: The server must be running RExecd in order to use this utility. In addition, some variants of UNIX may handle an RExec as an rlogin, which may automatically execute login files such as ".profile". In this case, extraneous output commands such as echoing "mofid" (message of the day) may interfere with Toad's parsing of the output.

To use RExec

1. RExec is accessible from the [Network Utilities](#) menu item. Click the **RExec** tab. The RExec information appears.
2. Click in the **Host/IP** field. Enter the Host name or its IP Address.
3. Press <Tab> or click in the **Username** field. Enter the **username** you will use to connect.
4. Press <Tab> or click in the **Password** field. Enter your **password**.
5. Press <Tab> or click in the **Command** field. Enter a **UNIX command** such as LS or WHO.
6. Click **Execute**. Toad logs in, executes the command, logs out and displays the results in the main panel.

Note: If the command you enter requires additional information, such as the command "bc", you will need to enter it in the results window and press <ENTER> to see results.

The right-click menu lets you **Clear** the screen or copy information to the **Clipboard**.

Large Commands in the RExec Box

If you have a very large command to enter in the RExec command box, you can double-click the box. This will open a small text editor that lets you see the entire command as you enter it.

Related Topics

[FTP](#)

[IP Addresses](#)

[Network](#)

[Ping](#)

[Telnet](#)

[TNS Ping](#)

Ping

The Ping tab allows you to check the availability of a server. This uses ICMP to contact other machines on the network and let you know whether it was successful or not.

The Ping tab is accessible from the [Network Utilities](#) menu item.

To ping a server

1. Enter the **Host name** or the **IP address** in the **Host name/IP field**.
2. Select the **interval** to check the server. This interval is in milliseconds.

Toad 9.5

3. Click **Start**. Toad pings the server you specified repeatedly, at the specified interval, until you click **Stop**. Results display in the lower portion of the window.

The right-click menu lets you **Clear** the screen or copy information to the **Clipboard**.

Related Topics

[FTP](#)

[IP Addresses](#)

[Network](#)

[RExec](#)

[Telnet](#)

[TNS Ping](#)

TNS Ping

TNS Ping is an Oracle utility that tries to determine whether a TNS Listener is running for one of the connection strings in the *tnsnames.ora* file. Given a connection string, TNS Ping looks in the *tnsnames.ora* file to determine the name or IP address of the machine running Oracle, connects and checks for the Listener. The TNS Ping tab allows you to check the availability of a server using the TNS Ping utility.

To use TNS Ping

1. To use this utility, open the **TNS Ping** tab. The TNS Ping tab is accessible from the [Network Utilities](#) menu item.
2. Select the **host name** from the dropdown menu.
3. Click **TNS Ping**. Toad pings the listener and the results are displayed in the window.

If the listener is found, **Attempting** and then **OK** appears in the results area. If no listener is found, **No Listener** appears.

The right-click menu lets you **Clear** the screen or copy information to the **Clipboard**.

Related Topics

[FTP](#)

[IP Addresses](#)

[Network](#)

[Ping](#)

[RExec](#)

[Telnet](#)

IP Addresses

Use the IP Addresses tab to check the IP Address of a Host name/URL. Alternatively, you can check the Host name of a specific IP Address.

To find an IP address

1. The IP Addresses tab is accessible from the [Network Utilities](#) menu item.
2. Select the **IP Addresses** tab.

3. At the top of the tab, your **local host name** and **IP address** are displayed. These cannot be changed.
4. In the lower part of the screen enter a **host name**, **IP Address**, or **URL** in the **Host/IP/URL** box.
5. Click **Find**. The IP address for the server is displayed in the table below the box. If you entered an IP address, it is displayed in the same manner.

Right-Click Menu

You can right-click in any of the boxes and have access to often-used commands.

- Select **Clear** to clear the results.
- Select **Clipboard** to copy the contents of the box to the clipboard. You can now paste it in other parts of Toad or other applications.

Related Topics

[FTP](#)

[Network](#)

[Ping](#)

[RExec](#)

[Telnet](#)

[TNS Ping](#)

SSH

Secure Shell allows you to log into another computer over a network, execute commands in a remote machine, and move files from one machine to another, utilizing password/id and data encryption. It provides strong authentication and secure communications over unsecured channels, and is a secure replacement for TELNET, RLOGIN, RSH, and RCP.

Secure Shell authenticates using one or more of the following:

- Password (the /etc/passwd or /etc/shadow in UNIX)
- User public key (RSA or DSA, depending on the release)

There are two versions of Secure Shell available: SSHv1 and SSHv2. They are two entirely different protocols, which encrypt at different parts of the packets, and are therefore not compatible.

SSHv2 is more secure and is therefore the current development standard.

The SSH tab is located in the Network Utilities window. In addition to the setup area there are three panels on this tab. The top panel displays messages (not SSH commands) to you (the user) from the server. The second panel displays the command that you type in, as well as a Send button for the command that has been input. The bottom panel displays the SSH commands sent and received as part of the protocol.

To connect with SSH

1. From the **Utilities** menu, select **Network Utilities**.
2. Click the **SSH** tab.
3. In the Connection Properties area, enter the:
 4. Host name
 5. Port (the default is 22)

Toad 9.5

4. Select either SSH version 1 or version 2.
 5. In the Authentication Properties area, enter the
 6. User name
 7. Password
 8. Private key file for PUBLICKEY authentication type
 6. Click **Connect**.
-

Quest ScriptRunner

Running Code Using QSR

You can execute scripts using Quest ScriptRunner in several ways.

- From the **Editor** menu, you can select **Execute SQL via QSR**.
 - From the **Execute** toolbar on the menu, select **Execute|Execute SQL via QSR**.
 - From the set parameters window, you can click the **QSR** button.
-

Service Manager

Service Manager

Access this window by selecting the **Utilities menu**, then select **Service Manager**.

The Service Manager can maintain a static list of services on your local machine and other networked computers that you can batch start/stop easily. This list is stored in the *Services.ini* file.

Adding Services

You can add a new service to your service manager list.

To add from the local computer

1. Click **Add**.
2. Click **Search** without entering anything in the Computer Name box. A list of possible services appears.
3. Select the services you want to add to your Toad service manager. You can multi-select by using <Shift> and <Ctrl> clicking.
4. Click **OK** to add the selected services to the services list.

To add from a networked computer

1. Click **Add**.
2. Enter a computer name in the Computer Name box (for example, *testmachine*, or *\\testmachine*) and click **Search**. A list of possible services appears.

Note: You must have administrator rights to the remote machine for the services to display.

3. Select the services you want to add to your Toad Service Manager. You can multi-select by using <Shift> and <Ctrl> clicking.
4. Click **OK** to add the selected services to the services list.

Removing Services

To remove a service

- Select a **service** from the service list and click **Remove**.

Refresh

To refresh the service list

- Click **Refresh** to refresh the service list. If there has been a change in the status of a service (for example, a running service has stopped) the status column will be updated.

Starting and Stopping Services

Once the services are included in the services list, you can easily start and stop them.

To start services

- Select the services you want to start and then click **Start**. They will be started in the order they appear on the list.

To stop services

- Select the services you want to end and then click **Stop**. The services stop in the order they appear in the list.

Task Scheduler

Task Scheduler

The Toad Task Scheduler is an easy-to-use interface to the Windows Task Scheduler. Using this interface, you can create, edit and run tasks.

For detailed information on the Windows Task Scheduler, please see your Windows documentation.

Task toolbar



Button	Command
	New Task - Opens the Windows Task Wizard to create a new Windows task.
	Delete Task - Removes the selected tasks from the Task Scheduler.

	Run Task - Executes the task immediately, regardless of scheduled time.
	Task Properties - displays the Windows properties of the selected task. You can then edit or add to them.
	Delete old tasks.
	Refresh Task list.

Related Topics

[Add Task Wizard](#)

[Viewing Task Properties](#)

[Scheduling a Task](#)

Add Task Wizard

Use the Add Task wizard to easily add tasks with multiple parameters to your Windows Task Scheduler.

To add a task to the Windows Task Scheduler

1. From the **Utilities** menu, select **Task Scheduler**.
 2. Click the **Add Task**  button on the scheduler toolbar.
 3. Enter the full pathname of the application executable in the Application box
Or
Click the drill down button and select the application executable.
 4. Enter any parameters in the Parameters box.
Note: Parameters are the command-line arguments you want to pass to the application when it starts.
 4. Enter the path for the working directory you want to use in the Working Dir box. If you do not enter a working directory, Windows will use the directory that contains the application executable.
 5. Enter any comments. These are available from the [task properties](#) dialog.
 6. Click **Next**.
 7. Enter the name you want to use for the task and select the how often you want the task to run.
 8. Click **Next**.
 9. Enter the schedule for the task.
 10. Click **Next**.
 11. Enter the user information for the task.
Note: The user account is the account for the Windows Operating System, not Oracle user information.
 12. Click **Next**.
 13. Click **Finish** to create the task.
-

Related Topics

[Task Scheduler](#)

[Viewing Task Properties](#)

[Scheduling a Task](#)

Viewing Task Properties

After you have scheduled a task, you may need to view or edit its properties. You can do this from the Task Scheduler screen in Toad.

Task Properties

There are several types of properties that are displayed in the Properties dialog box. Tabs separate these.

Task

Listed here is the most basic information for the task, including:

- Application
- Parameters
- Working Directory

Schedule

The Schedule screen lists both the schedule the task uses, and also last run time and next run time. You can also edit the schedule. (See [Scheduling a Task](#).)

Settings

You can use the Settings screen to set various flags on your task, as well as adjusting the idle time and the priority of the task.

Custom

Use the Custom screen to add comments to your task, or to add binary data that you cannot add otherwise.

To View Task Properties

1. Select **Task Scheduler** from the Utilities menu.
2. Select a task from the task grid.
3. Click the **Task Properties**  button.

Or

- Right-click and select **Properties**.
4. Click the tab of the properties you want to view.
5. When finished, click **OK**.

Related Topics

[Task Scheduler](#)

[Add Task Wizard](#)

[Scheduling a Task](#)

Scheduling a Task

You can edit a schedule for a task that has already been created.

To Edit a task schedule

1. From the Utilities menu, select **Task Scheduler**.
2. Select the task you want to edit in the Task grid.

3. Click the **Task Properties**  button.

Or

Right-Click and select **Properties**.

4. Click the **Schedule** tab.
 5. Click the **Edit** button.
 6. Make changes to your schedule, and then click **OK**.
 7. Click **OK** again to save your changes.
-

Related Topics

[Task Scheduler](#)

[Add Task Wizard](#)

[Viewing Task Properties](#)

TNSNames Editor

TNSNames Editor Overview

From the TNSNames Editor, you can easily edit your TNSNames files. You can add a new service, edit a service, delete a service, or work with two files and transfer services back and forth between the two.

From this window you can:

- [Load and View TNSNAMES files](#)
- [Add Service](#)
- [Edit Service](#)
- [Delete Service](#)
- [Testing a Connection](#)
- [Work with Two Files](#)

To access the TNSNames Editor

- Access this window from the **Utilities menu**|**TNSNames Editor**.

Or

from the [Server Login window](#) (click **TNSNames Editor** at the lower right).

Load and View TNSNAMES Files

To load the active TNSNames file

1. Open the [TNSNames Editor](#).
2. Click the **Open active file**  button. A standard browse window opens.

To load a saved file

You can easily load and view your TNSNames files and specific services within those files.

1. Open the [TNSNames Editor](#).
2. Click the **Load tnsnames.ora**  button. A standard browse window opens.
3. Browse to the directory where your TNSNames file is located, and select it. The file loads into the editor.

To view a file

You can view your file in two ways.

- You can view a particular service entry by clicking on the **entry** in the tree view. The entry is displayed in the bottom area of the screen, in the Text tab.
- You can view part of a service entry by clicking on that portion of the entry in the tree view. For example:
 - ADDRESS_LIST
 - ADDRESS
 - PROTOCOL
 The selected portion of the entry will be highlighted in the bottom panel.

Limitations of the TNSNames Editor

The TNSNames Editor supports much of the standard Oracle syntax. There are, however, certain old or advanced features that it does not support.

Features Toad TNSNames Editor does not support include:

- The BEQ protocol
- The Oracle 7 COMMUNITY keyword
- Multiple Description lists

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- Multiple Address Lists
- No ADDRESS_LIST keyword (The editor parses it correctly, but it adds the ADDRESS_LIST parameter back in to the entry, which produces a completely equivalent configuration.)
- FAILOVER, SOURCE_ROUTE, and LOAD_BALANCE, except in the combinations created by the TNSNames Editor.

In all of these cases, the TNSNames Editor will not change the entry unless the user chooses to edit that particular entry. If you do not try to change a non-supported entry, the file will remain useable.

If you do try to edit a service name with one of these unsupported features, the editor does its best to parse the entry into the Edit Service dialog box. It will write the entry into a structure it does support, if you press **OK** in the Edit Service dialog box and then save the file.

Whenever the TNSNames Editor overwrites a file, it first makes a backup of that file in the same directory. So if you do accidentally cause problems to your file, you can revert to the backup.

Testing a Connection

You can test a new connection or changes you have made, using the [TNSPing](#) facility.

To test a connection

1. Save the file to the location where your TNSping executable reads files.
 2. Select one **connection** in the connection list to test.
 3. Click the **TNSPing**  button on the toolbar. A confirmation dialog box will display stating:
 - Test Failed
 - Test Succeeded
-

Add Service and Details

The TNSNames Editor makes it easy to add a new service entry, or to add details to an entry you have already created.

To add a service

1. Load your **tnsnames.ora** file into one side of the editor, and click the **New Service**  button.
2. Enter the **Service Name** you want to use for the service. Separate multiple aliases with a comma or a space in the name box. (For example, ORACLE10G.WORLD, PRODUCTION10G or ORACLE10G.WORLD PRODUCTION10G.)
3. If you want to use a template for this service, select the **Use Template** check box.
4. Click **OK**.

Adding Details - Template Selected

- In the Tree View, enter the **appropriate service information** into the value column as described below:
- Protocol - select the appropriate choice from the drop down.

- Host - enter the host ip in the box.
- Port - enter the port number in the box.
- Service Name

Adding Details - No Template Selected

1. In the tree view, select the node for the new service.
 2. Click the **Add Detail**  button and select the detail you want to add:
 3. Description
 4. Description list
 3. Select one of the details and click the Add Detail button to add sub-details.
 4. Repeat step 3 until all portions of the service entry have been added.
-

Paste Service From Clipboard

If you have a service list in another media that you need to add to your TNSNames file, you can copy it and paste it directly into your file.

To paste service from clipboard

1. Copy the **information** to the clipboard.
 2. Select the **TNS File** where you want to paste the information. (If you have loaded two files into the TNSNames Editor, click in the panel of the file where you want it to go).
 3. From the TNS Names Editor click the **Paste Service from Clipboard**  button.
-

Edit Service

You can change service information for an existing service.

To edit a service

1. Select the **detail** of the service node you want to edit.
2. Click in the value column of that detail.
3. Change the value of the detail in the box.
4. Repeat for as many values you want to change.
5. The **OK** button saves the file. The **Cancel** button will cancel ALL edits you have made to the file since it was last saved. Click **OK** when you have finished editing the service information.

Adding additional details

You can add additional details to an existing entry. Select the entry where you want to add details and then follow the instructions in [Adding Details - No Template selected](#).

Delete Service or Details

You can easily drop a service or details from your TNSNames file.

Note: When you select a node to delete, all nodes beneath it will also be deleted.

To delete a service

1. Select the **service** you want to delete on your service list.
2. Click the **Delete**  button, or press <DELETE> on your keyboard. You will be prompted to confirm the delete. Click **OK**.

To delete a detail

1. Select the **detail** you want to delete on your service list.
2. Click the **Delete**  button, or press <DELETE> on your keyboard. You will be prompted to confirm the delete. Click **OK**.

Working with Two Files

You may have two TNSNames files that you want to compare and copy services between. The TNSNames Editor lets you do this easily. These files can be the same file or different ones. Loading the same file into both sides of the editor will allow you to easily duplicate service names before you edit them.

To work with two TNSNames files

1. Load one of the **TNSNames files** in the left hand side of the Editor.
2. Load the other into the **right hand** side.
3. You can now select services from either side and **copy** them to the other using the buttons in the center.

Note: The TNSNames Editor does not prevent duplicate entries in the tnsnames.ora file. This allows you to copy a service and then edit it.

Icon	Action
>	Move selected service from left side file to right side file.
<	Move selected service from right side to left side.
>>	Move all services from left side to right side.
<<	Move all services from right side to left side.

Unix Job Scheduler

Unix Scheduler Overview

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Toad UNIX job scheduler allows DBAs to conveniently manage the installation, scheduling and execution of jobs on UNIX database servers using cron.

Once servers and databases are defined in the scheduler, tasks can be assigned and scheduled. All tasks for all databases can then be deployed to multiple servers. The crontab file is created and sent to each server to start the tasks.

The scheduler also offers the ability to track the success of each job through log files that can be managed for each server. Finally, the program allows the user to start or stop cron from the client and view the crontab file.

The Toad UNIX Scheduler includes many different tasks, housed in UNIX shell scripts. These are organized into four different categories: Database Backup, General DBA, Index Maintenance, and Table Maintenance. You can also write your own task files, and the Scheduler can generate a sample template to help with this.

Note: On some servers the user must be included in the cron.allow file for the UNIX scheduler to work properly. For more information, please see your server's help on cron.allow and cron.deny.

Caution: When you deploy, any other cron jobs for this user will be overwritten. If you are using an existing UNIX account, that already has a crontab file, you should back up your crontab config file on the UNIX server if you plan to use Toad to schedule db jobs.

To Access The UNIX Scheduler

- From the **Utilities** menu, select **UNIX Job Scheduler**.

UNIX Scheduler Window

The UNIX Scheduler is composed of two panels. The left panel includes a tree structure of both servers and categories of available tasks. The right panel displays details that refer back to the item selected in the left panel, as follows:

Available tasks (tasks which have not been assigned to a sid)

Displays the contents of that task file on the right.

Available tasks node or a sub node under it (a "category")

Displays the tasks for that category on the right and the task description (parsed out of the file header). Selecting a task on the right and right-clicking offers a "Find/View". When selected, this will find that task and move to it in the tree view on the left.

Server node

Displays SID information on the right. Another tab on the right, called "Log," displays an interface for managing the cron log files.

SID node

Displays all the assigned tasks on the right, a condensed view of when they are to be performed (this view corresponds with how cron sees the schedule) and the parameter values assigned.

Assigned task node

Displays the assigned task property information on the right.

Troubleshooting the Unix Scheduler

If you are having trouble with the Unix Scheduler, there are a couple of things that you might try to solve the problem.

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- You must have your FTP and RExec access configured properly. For information on testing your connection, see [FTP](#) and [RExec](#).
 - On some servers the user must be included in the cron.allow file for the UNIX scheduler to work properly. For more information, please see your server's help on cron.allow and cron.deny.
-

Scheduling and Deploying Tasks

Creating Servers and SIDS

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The first step to using the scheduler involves a typically one-time setup of the servers and their databases in the user's specific environment. The Scheduler eases this process somewhat by reading the Windows client hosts file and the default tnsnames.ora file. For each host found in the hosts file it tries to find HOST entries in the tnsnames.ora file. If any are found, it pre-populates the left-side tree view accordingly.

If no entries are found in the Windows hosts file, the tree view on the left will have only one node upon startup – "All available tasks". The contents of this node will be discussed later.

Caution: This feature should only be used on secure clients. The password for the UNIX server will be stored encrypted on the client, regardless of how the Toad option to store passwords is set. In addition, the password for the database is stored encrypted in the job datafile, and UNENCRYPTED in the actual files Toad deploys to the server. These files appear on both the client and the server. If you have a network install of Toad, these files appear do not appear on the Toad server.

Adding a Server

To create a new server

- Right-click the **tree view** and select **Add server**. The [Server Settings](#) dialog appears with some default values:
- The Server box contains the name of the new server, and the dropdown contains the names of any hosts found in the Windows client hosts file.
If you accidentally delete a pre-defined server, you can use the dropdown to recreate it.
- The IP box contains the IP address of the server. This box is used during the deployment process for the rexec and ftp commands.
- The UNIX user id and password contain the server account information and are used during the deployment process for the rexec and ftp commands.
- Specify the path of the Toad directory on the server.

All fields are required.

Adding a SID

Once a server is defined, you need to define at least one database for the server in order to schedule a task for it.

To add a SID

- From the tree view, right-click the appropriate server and select **Add SID**. Enter the following information.

- SID - contains the name of the SID for the database. Do not confuse this with the server name in the tnsnames file. It is found in the tnsnames file line that begins with either: **SID =** or **Service_Name =** . This is the value of db_name for your database.
Note: Toad does not support dots in the SID.
 - Oracle home - contains the fully qualified directory on the server for the "Oracle home" of the database instance. For example, a default 9i home might be /home/oracle/product/9.0.1.
 - DBA user id and password - must contain valid DBA account information so the jobs can be performed.
All of the fields in the SID parameters group box are required.
 - Toad user id and password - used only by jobs that access the Toad schema. They are required only if you are scheduling those jobs.
 - SYSDBA user id and password boxes - used by certain jobs that require SYSDBA level access, such as database startup and shutdown. They are required only if you are scheduling those jobs.
-

Assigning Tasks in the UNIX Job Scheduler

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Once servers and SIDs are defined, tasks can be assigned to SIDs. There are a variety of ways tasks can be assigned to a SID. You can assign new tasks, or you can copy them from one SID to another. When you have assigned tasks to various SIDs, you must then set the task [Properties](#).

Assigning New Tasks

To assign one task to a specific SID

1. From the tree view in the left panel, select **All available tasks**, or a subcategory under that node. A list of tasks displays in the right panel.

Note: If you select a specific task from the tree structure, the script itself will appear in the right panel.

2. In the right panel, select one or more tasks in the right panel and drag to the SID in the left. When the SID is highlighted, release the mouse button. The tasks are assigned.

To assign tasks to several SIDs at once

You can also assign one or more tasks to all the SIDS under a particular host.

1. From the tree view in the left panel, select All available tasks, or a subcategory under that node. A list of tasks displays in the right panel.
2. In the right panel, select one or more tasks and drag to the host in the left. When the hostname is highlighted, release the mouse button. The tasks are assigned to all the SIDs in that host.

In addition, you can assign tasks by dragging and dropping within the left side tree view.

To copy assigned tasks

Tasks that have already been assigned to a SID can be copied to other SIDs.

- Click the SID to see the assigned tasks under it. Select the task to copy and drag it to another SID.
- All of the tasks for a SID can be copied to another SID by dragging a SID that has assigned tasks and dropping it onto another SID. All tasks assigned to the source SID are copied to the destination SID. This does not overwrite tasks that have already been defined, however.

Deploying Tasks to Servers

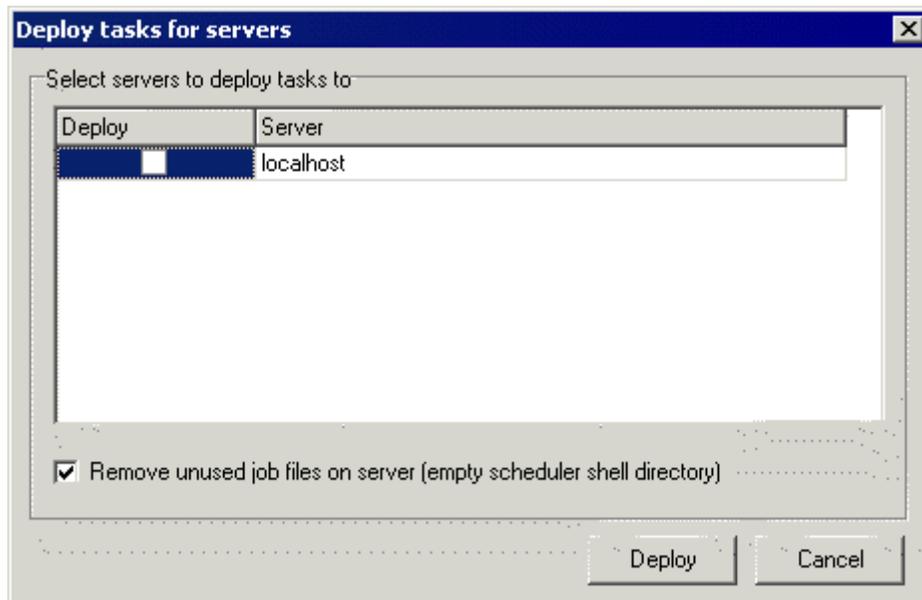
Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Once at least one task has been assigned and any parameters given values, you can deploy to your servers. The deployment process is a fast and efficient series of rexec and ftp commands. It assumes your account information and server are properly configured for both rexec and ftp. If the servers are not properly configured, the deployment process may not complete, or errors may be returned.

Caution: When you deploy, any other cron jobs for this user will be overwritten. If you are using an existing UNIX account, that already has a crontab file, you should back up your crontab config file on the UNIX server if you plan to use Toad to schedule db jobs.

To deploy tasks to servers

1. Click the **Deploy** button.



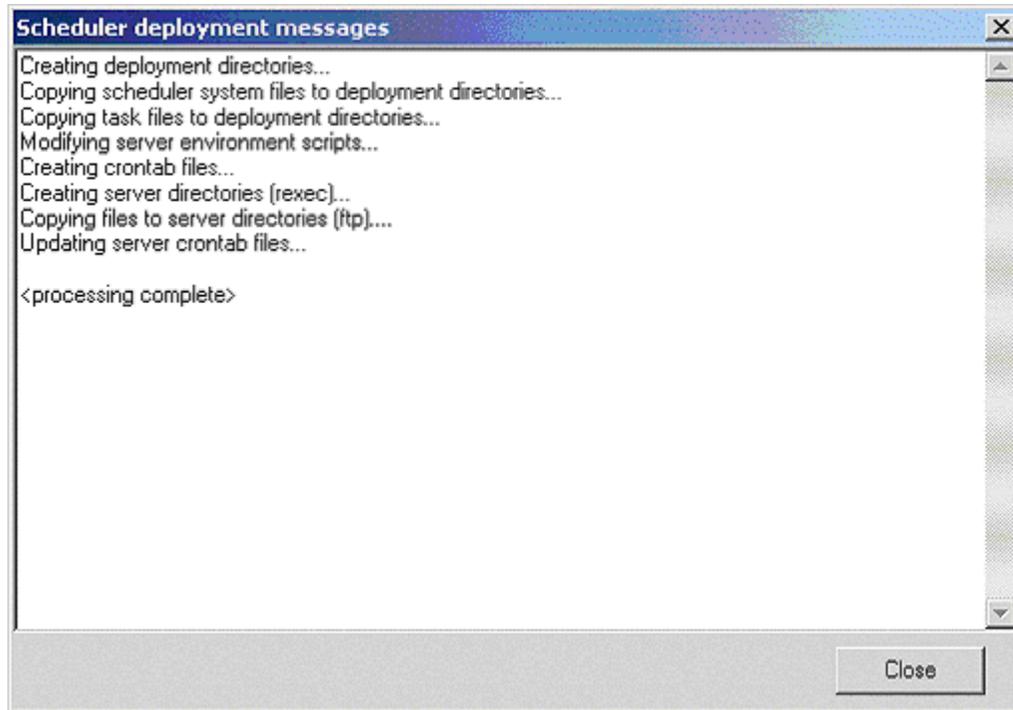
The grid in this dialog box is populated with a list of the servers with tasks assigned to them.

2. Select the **servers** containing tasks you are going to deploy. Choose whether you want to overwrite the previous Scheduler deployment data by checking the "Remove" check box.

Caution: When you deploy, any other cron jobs for this user will be overwritten.

3. Click the **Deploy** button.

A status window opens, showing the progress of the server deployments:



This status window shows precisely what occurs during a deployment.

- The necessary server directories are created using RExec. This includes the Scheduler root directory, as specified in server properties, as well as four subdirectories: dmp, log, shell and tmp.
- The shell subdirectory is where all task files are copied.
- The log subdirectory contains log files.
- The dmp and tmp subdirectories are used by the jobs themselves (dmp for exports, tmp for jobs creating temporary files).
- Scheduler system files are copied to the server's root Scheduler directory. These consist of the script engine used to run tasks, "tjs_run_job.sh," as well as the scripts used in creating log files: "tjs_start_log.sh" and "tjs_stop_log.sh".
- The assigned task files are sent to the servers by ftp, and their executable bit is set.
- The crontab files are then generated and sent to the servers. Cron is then told to use the new crontab file.

Task Properties

Setting Task Properties

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Once tasks have been assigned to SIDs in the [Unix Job Scheduler](#), you must set their properties. This includes [scheduling information](#), and setting any [parameter values](#).

To view and set properties

- Click an **assigned task** under a SID. The properties display in the right panel.

Scheduling Tasks

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Scheduling information for the [Unix Job Scheduler](#) is found in the Perform task area of the right details panel.

Each task provided with the Scheduler has default scheduling information contained in its header. This scheduling information is parsed out and assigned to the scheduling fields automatically when you select that task. For example, this is the header for a task that deallocates one index:

```
#-----
# File: deallocate_index_one_index.sh
# Desc: Perform Index Deallocate - Single Index
# Runs: Four Times per Month = 0 0 1,8,15,22 * *
# Parm: 1 - Index Owner
# Parm: 2 - Index to Analyze
# Parm: 3 - Megabytes to Keep (default 4)
#-----
```

Note: In the "Runs:" field the fields are parsed out and automatically assigned to the scheduling fields.

When you select this task, Toad parses the header and enters the default schedule into the appropriate fields in the details panel. All of the fields can be changed, and parameter listings that have no value listed need to have the correct parameter added.

The schedule below is from the built-in .sh file **execute_stored_procedure.sh**. You can change any of the schedules, as described below. In addition, the parameter grid for this shell needs to have the [parameter values](#) added.

Schedule 1

Predefined schedules: Four Times per Month

Minute: 0 (0-59) Specify ranges with a dash and non-consecutive entries with commas. Use an asterisk

Hour: 0 (0-23)

Day of the month: 1,8,15,22 (1-31)

Month of the year: * (1-12)

Day of the week: * (0-6, 0=Sunday)

Parameter	Value
Stored Procedure Owner	
Stored Procedure to Execute	
String for Parameter list "('a','b',1,2)'	

Pre-defined Schedules

For further convenience, a **Pre-defined Schedules** dropdown offers commonly used dates and times. Selecting a pre-defined schedule will populate the fields with the appropriate values for the selected time sample.

These Pre-defined Schedules are configurable. If you use a schedule regularly, and it is not already on the list, you can add it. Click the **drilldown button** () to edit the list. You can add records, delete records, change the preset times, and so on. Changes in this window are stored in the TOAD.INI file. If you find you need to delete your changes, you can click **Restore Defaults** and the original Toad defaults will be restored.

Options for scheduling

The scheduling details consist of five fields: Minute, Hour, Day of Month, Month of Year, and Day of Week. Taken together, these fields represent an enormous range of date/time possibilities you can use to schedule a task. They also directly represent the fields used in a crontab file entry.

Each crontab entry is a single line composed of these six fields separated by whitespace.

- Minute - specify with the digits 0 through 59
- Hour - specify with the digits 0 through 23 (0 being midnight, and 23 being 11 p.m.)
- Day of the month - specify with the digits 1 through 31
- Month of the year - specify with the digits 1 through 12
- Day of the week - specify with the digits 1 through 6

The different "day" fields (day of the month and day of the week) are present to let you use different scheduling algorithms. For example, you can back up a database every Tuesday, or perform index maintenance every 15th of the month.

- Enter an asterisk (*) in the day field you are not using.

Use both day fields if you prefer to have the task execute on, say, the fifteenth of the month **as well as** every Tuesday.

Ranges

Specify ranges with a dash. If you want to specify the eighth through the fifteenth days of the month, enter **8-15** in the Day of the month field.

Non-consecutive entries

Separate non-consecutive entries in a field with commas. For example: **1,15** in the Day of the month field means the first and fifteenth of the month.

All values

Specify all values for a field, for example every month of the year, with an asterisk (*) in the field.

Note: To specify every day you must enter * in **both** day fields.

Adding Additional Schedules

You can add additional schedule tabs to a task. Having additional schedules for the same task lets you run that task with different parameters, or at widely different intervals.

- Click the **Add** button () above the schedule tab. Another tab is added. Make changes to this schedule as desired and as described above. The task will now run on both schedules.
 - You can remove a schedule tab as well. Simply select the tab you want to remove, and click the **Remove** button () above the tabs. The tab is removed with no confirmation.
-

Setting Parameter Information

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Scheduling some tasks in the [Unix Job Scheduler](#) requires parameters. These parameters are described in the header of the task file. For example, this is the header for a task that deallocates one index:

```
#-----  
# File: deallocate_index_one_index.sh  
# Desc: Perform Index Deallocate - Single Index  
# Runs: Four Times per Month = 0 0 1,8,15,22 * *  
# Parm: 1 - Index Owner  
# Parm: 2 - Index to Analyze  
# Parm: 3 - Megabytes to Keep (default 4)  
#-----
```

There are three parameters defined here. The first is used to specify the index owner, the second describes the index to analyze, and the third specifies the number of megabytes to keep.

These parameters are parsed into the [Assigned Task Properties panel](#). Each parameter for each assigned task must be assigned a value in the parameters grid in the bottom half of the assigned task properties panel on the right hand side.

If a parameter has a default value, the default value is parsed from the header and automatically placed in the grid. These values can be changed by clicking in the value column and entering the appropriate value.

Checking Required Elements

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Before tasks can be successfully deployed to servers, many required elements may need to come together. These include user id's, passwords, task parameter values, and so on.

Before a deploy is executed, an automatic check is performed for all of these elements. You can also perform this check manually.

To check required elements manually

- Click the **Check required elements**  button on the toolbar. A list of unresolved issues is displayed. These issues must be resolved before deployment. If they are not resolved, the list will reappear when you choose to deploy.
-

Creating New UNIX Task Files

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can create new task files for tasks you want to schedule on a regular basis.

If you are proficient with UNIX shell scripts you can use the "New task template" button to get a starting shell template. Or you can use an existing task file as the basis for a new script.

Toad Unix Scheduler requires the header of a task file to conform to its format. This allows the scheduler to parse the code and enter the appropriate boxes in the details panel of the window.

Header

The Toad Scheduler expects the header to contain specific information, in a specific format. This is where Toad gets the information to fill in the details for default values. The header should be formatted as follows:

```
#-----
# File: deallocate_index_one_index.sh
# Desc: Perform Index Deallocate - Single Index
# Runs: Four Times per Month = 0 0 1,8,15,22 * *
# Parm: 1 - Index Owner
# Parm: 2 - Index to Analyze
# Parm: 3 - Megabytes to Keep (default 4)
#-----
```

Saving the Task File

The Toad Scheduler organizes its hierarchy from the \UnixJobs\Base\Shell subdirectory under the Toad executable directory.

To be sure the scheduler can find your new task, save it in this directory. Alternately, you can save it in a subdirectory under the Shell directory. The Scheduler searches the Shell subdirectory and any subdirectory under it for "*.sh" files.

Subdirectories are listed as separate nodes under the "All available tasks" node. You can create new directories in the Shell directory and Toad will recognize them.

Working with Multiple Job Datafiles

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

All of the data defined for servers, their databases and assigned tasks in the Scheduler is stored in an INI file, called "Scheduler.jdf". This file is stored in the \UnixJobs subdirectory.

Typically you will only work with one configuration datafile. However, there may be times when you want to establish two or more completely different environments where jobs are scheduled. You can easily move between different configurations simply by opening and deploying a different Scheduler datafile.

There are three toolbar buttons that facilitate this:

- Load job datafile...
- Save job datafile as...

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- Save job datafile

To create a new datafile

- Start with the default datafile and select **Save job datafile as....** You are now working in a new datafile with the name you just applied.

To load a datafile

- Do one of the following:
- To load a different datafile, assuming you have created a new one, simply click the **Load job datafile** button.
- If you want to save your current work before opening another datafile, click the **Save job datafile** button first.

The rightmost section of the status bar displays name of the datafile currently open.

Using the Logging Facility

Scheduler Logger Overview

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

When you have successfully started jobs running on your servers, you can use the Scheduler logging facility to see the results of those jobs.

To access the scheduler logging facility

1. From the right side, select a **Server**.
2. On the right side, select the **Log tab**.

Fetching the Log File List

To be sure you are seeing the current log files click the **Refresh** button. You will see a list of log files present on the server. This list is either all the log files or a subset, depending on the chosen display mode. By default, only the log files for the last execution are shown. Clicking the **Refresh dropdown** shows the following options:

- All log files (this is the default)
- Last execution
- Failures only
- Failures only, for last execution

The first option will retrieve a list of all log files, a potentially very long process. **Last execution** will show the last log file created for each job. **Failures only** will show a list of all log files that have a status of failure. **Failures only, for last execution** will show the last log file created for each job that failed.

Viewing Log Files

To view the contents of one of the log files, double-click a grid entry or click the "View log file" button. This will ftp the chosen log file and open it in the Toad default editor.

Deleting Log Files

To delete selected log files, select or multi-select them in the grid. Click the "Delete selected log files" button. No confirmation is requested. To delete all log files, click the "Delete all log files" button. A confirmation request is given.

Viewing the Crontab File

If you understand the format of the cron program's crontab file, you can view it for a specific server. Click the "View crontab file" button and the crontab file (named crontab_file.txt) will be ftp'ed from the Scheduler directory on the server and opened in Toad's default editor.

Starting and Stopping the Cron program

You can manually start and stop the cron program on a given server. Click the **Start/Stop cron scheduling**  button on the toolbar. This issues a "cron crontab_file.txt" or a "crontab -r" RExec command, respectively. A confirmation prompt is given, although the success of the command is not verified.

Working from the Command Line

Command Line Syntax

There are several command line options you can use to open and control Toad. There are several features of Toad that you can run in this manner. They include:

- Compare Databases
- Compare Schemas
- Generate Schema
- Generate Schema Script
- and more

In addition, some features can be created using the [Action Palette](#) and scheduled to run using that feature.

Configuration Files

Configuration files are the settings files that you or Toad create for the functionality you want to run. For example, the compare databases file will contain information as to which databases should be compared, and the criteria by which they will be compared. These can usually be created by clicking a toolbar button within the feature you want to run. See the topics for the individual features.

All command line parameter files created by Toad use AES encrypted passwords that are tied to the machine.

Command Line Shortcuts

You can run Toad directly from the command line by entering the command line syntax for the features you want to run and pressing <ENTER>.

In addition, you can set up configured shortcuts and run Toad functionality with the click of a button whenever you need to.

To create a new shortcut

1. From the desktop or Windows Explorer, copy the original shortcut to Toad.
2. Rename the shortcut to reflect the function you want to perform: for example, "Toad Auto Exec DO_PROC".

To include command line options in your shortcut

1. Select the shortcut, right-click and select **Properties**
2. Click the **Shortcut** tab, and enter the command line in the **Target** box

Command Line Formats

The command line should be formatted as follows:

```
Toad.exe -max -c schema/password@db "schema2/password@db as sysdba" -f somefile.sql /exec /print someotherfile.sql
```

Command line syntax

Syntax	Meaning
-c schema/password@db "schema2/password@db as sysdba"	Make connections. The second (and third and fourth and so on) connection should be within quotation marks.
-a "actionsetname"	Run saved action where actionsetname is the name of the Action Set you want to run.
-f File1 File2 File3	Load files into editor. Accepts modifiers like /exec (f9 exec) /script (script exec) and /print (print file)
-min	Minimize Toad
-max	Maximize Toad
/EXEC	Triggers execution of the loaded file as a script. You may use only one of these in a command line.
/PRINT	Triggers printing the source code. You may use only one of these in a command line.
/SCRIPT	Triggers executing the loaded file as a script. You may use only one of these in a command line.

Command syntax example

Using this command structure you can do the following:

```
C:\>Toad.exe -max -c scott/tiger@db "sys/sys@db as sysdba" -f somefile.sql /exec /print someotherfile.sql
```

This will launch Toad maximized, create `scott` and `sys` connections; load `somefile.sql`; execute it using F9 style execution, then print it and load `someotherfile.sql` into the editor.

Command FILE syntax

Command file syntax varies depending on the type of Toad feature you wish to run. See the various features for detailed information. The following are some of the standard commands that can be used.

Syntax	Meaning
OPENTOAD	Open Toad
CMDFILE	Read and process a command file
ANALYZE	Analyze DBMS_STATS objects
COMP	Schema Comparison
COMPDB	Database Comparison
GENHTML	Generate HTML Schema Documentation
RMI	Rebuild Multiple indexes
HC	Run Health Check
GSS	Generate Schema Script
GDBS	Generate DB Script
DATACOPY	Copy Data
REP	Report
RPTMGR	Report Manager
CLOSETOAD	Close Toad at end of script execution

Turning off Team Coding login prompt

You can suppress the prompt for a Team Coding login when working from the command line by adding the following command to your command line:

```
TC=NO
```

Related Topics

[Action Palette](#)

[CodeXpert](#)

[Compare Databases](#)

[Compare Schemas](#)

[Copy to another Schema](#)

[Generate Database Script](#)

[Generate Schema Script](#)

[Health Check](#)

[HTML Schema Generator](#)

[Rebuild Indexes](#)

[Reports Manager](#)

Run CodeXpert from the Command Line

Note: This extended Toad feature is only available in Toad for Oracle Professional Edition and above.

You can run CodeXpert from the command line and create a CodeXpert report that you can access from any location, with or without Toad.

To run CodeXpert from the command line, you must first set up a parameter file. Then you can run CodeXpert. After completion, an html, an xml, and a bin subfolder are placed in the output directory you specify in the parameter file.

To run CodeXpert from the command line

1. Set up your parameter file as described in [CodeXpert Parameter File](#).
2. Run CodeXpert from the command line using the following syntax:
Toad.exe -CX C:\CMDLineCodeXpertINIFile.ini
3. View the html file located in the OUTPUT DIRECTORY you specified.

Note: The web page created (html file) is best viewed in MS Internet Explorer.

Scheduling CodeXpert

When you have created a CodeXpert ini file, you can create a small program to then schedule the scan. Your application should do the following:

1. Dynamically create the **Command Line CodeXpert INI** file.
2. Right-click in the **CodeXpert** window and select **Add to Task Scheduler**
3. Enter the INI file name in the **Command Line Parameter** box.
4. Select or enter an output directory in the **Output Directory** box.
5. Select one or more output type: **HTML**, **XML**, or **DB Inserts**.

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6. Click **OK**.

Command Line Error Log

If there are errors running CodeXpert from the command line, Toad stores a log of these in User Files\CXCmdLineErrors.log. Any errors you would have received in the CodeXpert window are sent to the log file, as well as start and stop times. If no errors occurred, the log will state that as well.

You can use this log file to determine how and why the job failed, and also as documentation as to when and how it ran.

Related Topics

[CodeXpert Parameter File](#)

Running Actions from the Command Line

You can easily run actions from the command line with or without having Toad open.

Command Line Syntax

You can run one action, multiple actions, or one or more action sets.

To execute Actions via the Command Line, use the `-a` parameter and specify the Action, Action Set or series of both.

If you are specifying just the Action, the Action name must be unique across all Action Sets. Otherwise an entry will be made in the Action Log about more than one Action found, and the action will not run.

If there may be more than one action with the same name, fully qualify an Action within an action set, use `ActionSet->ActionName`.

Separate more than one Action or Action Set with a space and surround each item with double-quotes.

Examples of command line syntax

The following runs an Action Set called "MondayQueries." It will execute all Actions within the Action Set:

```
Toad.exe -a "MondayQueries"
```

The following runs an Action called "Email Mom". Only one Action by that name in the entire datafile can exist:

```
Toad.exe - a "Email Mom"
```

The following runs a fully qualified Action, since there may be more than one Action by the name "EmpQuery", the Action Set containing the action is included:

```
Toad.exe -a "CommonQueries->EmpQuery"
```

The following runs a series of Actions and Action Sets:

```
Toad.exe -a "CommonQueries" "EmailSet->Email Mom" "SalesReports->MondayReport"
```

Run Compare Databases from Command Prompt

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You may find you would like to compare databases at regular intervals to monitor for unexpected changes made by others. With a little preparation, you can do the compare from a command prompt when you are away from your desk. Results can be saved to files or sent by email.

Errors are logged to a file called ToadErrors.log in Toad's start directory. The file is written when Toad closes. If an error file is written, Toad will close with a non-zero exit code.

To build the file to run Database Comparison

1. Start **Toad**.
2. From the **Database** menu, select **Compare|Compare Databases**.
3. Make all settings to perform the comparison (see [Compare Databases](#)), but do not click Compare.
4. Instead, on the **Options** tab, click the **Save All Settings to File** button. Click **Save** to save settings information.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like, and file paths and names may be changed). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- **SaveInteractiveResultsAsText('c:\InteractiveResultsFile.txt')** - Saves contents of 'Interactive Results' Tab in a text format. Saving them in an RTF format is not available.
- **SaveRTFResultsAsRTF('c:\RTFResultsFile.rtf')** - Saves contents of 'Results(RTF)' Tab in RTF Format.
- **SaveRTFResultsAsText('c:\TextResultsFile.txt')** - Saves contents of 'Results(RTF)' Tab in Text Format.
- **SaveSummaryAsRTF('c:\RTFSummaryFile.rtf')** - Saves contents of 'Results(Summary)' Tab in RTF Format.
- **SaveSummaryAsText('c:\RTFSummaryFile.txt')** - Saves contents of 'Results(Summary)' Tab in Text Format.
- **SaveSyncScript('c:\SyncScript.sql')** - Saves the SyncScript (sql to transform the comparison source database into the reference source database) in the specified file. You can change the file path and name.
- **EmailInteractiveResultsAsText** - Saves contents of 'Interactive Results' Tab in a text format and emails the file to the address specified in View|Toad Options|[Email Settings](#). RTF format is not available.
- **EmailRTFResultsAsRTF** - Saves contents of 'Results(RTF)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailRTFResultsAsText** - Saves contents of 'Results(RTF)' Tab in Text Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).

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- **EmailSummaryAsRTF** - Saves contents of 'Results(Summary)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSummaryAsText** - Saves contents of 'Results(Summary)' Tab in Text Format and emails the text file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSyncScript** - Saves contents of the SyncScript and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **CloseToad** - Closes Toad after the script finishes
- **CloseComparison** - Closes the database comparison window after the comparison has finished.
- **#** - This line is a comment and will be ignored.

Note: Any email settings are taken from View|Toad Options|[Email Settings](#)|Compare Databases

Run from the Command Prompt

One comparison only

Once your file is ready, you can run the comparison from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@mydb COMPDB c:\MYfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the **-c** command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple comparisons

If you want Toad to do more than one comparison you can call Toad with this command line:

```
Toad.exe -c system/manager@myOradb CmdFile c:\commandfile.txt
```

In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\Comparison1.txt
```

```
COMP=c:\Comparison2.txt
```

```
COMP=c:\Comparison3.txt
```

```
CloseToad
```

Here, Comparison1.txt, Comparison2.txt, and Comparison3.txt are three separate database comparison settings files, and when Toad is called it will run the three database comparisons defined by these files. Toad will close itself when the comparison is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all database comparisons are executed.

Run Compare Schemas from a Command Prompt

You may find you would like to compare schemas at regular intervals to monitor for unexpected changes made by others. With a little preparation, you can do the compare from a command prompt when you are away from your desk. Results can be saved to files or sent by email.

Errors are logged to a file called ToadErrors.log in Toad's start directory. The file is written when Toad closes. If an error file is written, Toad will close with a non-zero exit code.

To build the file to run Schema Comparison

1. Start **Toad**.
2. From the **Database** menu, select **Compare|Compare Schemas**.
3. Make all settings to perform the comparison (see [Compare Schemas](#)), but do not click Compare.
4. Instead, on the **Options** tab, click the **Save All Settings to File** button. Click **Save** to save settings information.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like, and file paths and names may be changed). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- **SaveInteractiveResultsAsText('c:\InteractiveResultsFile.txt')** - Saves contents of 'Interactive Results' Tab in a text format. Saving them in an RTF format is not available.
- **SaveRTFResultsAsRTF('c:\RTFResultsFile.rtf')** - Saves contents of 'Results(RTF)' Tab in RTF Format.
- **SaveRTFResultsAsText('c:\TextResultsFile.txt')** - Saves contents of 'Results(RTF)' Tab in Text Format.
- **SaveSummaryAsRTF('c:\RTFSummaryFile.rtf')** - Saves contents of 'Results(Summary)' Tab in RTF Format.
- **SaveSummaryAsText('c:\RTFSummaryFile.txt')** - Saves contents of 'Results(Summary)' Tab in Text Format.
- **SaveSyncScript('c:\SyncScript.sql')** - Saves the SyncScript (sql to transform the comparison source schema into the reference source schema) in the specified file. You can change the file path and name.
- **EmailInteractiveResultsAsText** - Saves contents of 'Interactive Results' Tab in a text format and emails the file to the address specified in View|Toad Options|[Email Settings](#). RTF format is not available.
- **EmailRTFResultsAsRTF** - Saves contents of 'Results(RTF)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailRTFResultsAsText** - Saves contents of 'Results(RTF)' Tab in Text Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSummaryAsRTF** - Saves contents of 'Results(Summary)' Tab in RTF Format and emails the file to the address specified in View|Toad Options|[Email Settings](#).

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- **EmailSummaryAsText** - Saves contents of 'Results(Summary)' Tab in Text Format and emails the text file to the address specified in View|Toad Options|[Email Settings](#).
- **EmailSyncScript** - Saves contents of the SyncScript and emails the file to the address specified in View|Toad Options|[Email Settings](#).
- **CloseToad** - Closes Toad after the script finishes
- **CloseComparison** - Closes the schema comparison window after the comparison has finished.
- **#** - This line is a comment and will be ignored.

Note: Any email settings are taken from View|Toad Options|[Email Settings](#)

Run from the Command Prompt

One comparison only

Once your file is ready, you can run the comparison from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@myOraDB COMP c:\myfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple comparisons

If you want Toad to do more than one comparison you can call Toad with this command line:

```
Toad.exe -c system/manager@myOraDB CmdFile=c:\commandfile.txt
```

In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\Comparison1.txt  
COMP=c:\Comparison2.txt  
COMP=c:\Comparison3.txt  
CloseToad
```

Here, Comparison1.txt, Comparison2.txt, and Comparison3.txt are three separate schema comparison settings files, and when Toad is called it will run the three schema comparisons defined by these files. Toad will close itself when the comparison is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all schema comparisons are executed.

Run Copy to another Schema from Command Prompt

Build the file to run Copy Data to another Schema

1. Start **Toad**.
2. From the **Schema Browser, Tables** page, select one or several tables and right-click.

3. On the menu, select **Copy data to another Schema**.
4. Make all settings on all tabs (see [Copy Data to another Schema](#)), but do not click Execute.
5. Instead, on the toolbar, click the **Save All Settings to File** button. A Save file dialog box appears. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order in which you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

You may edit this file, but you must observe the following rules:

1. The **DestSchemaName** line should be commented out if source tables are from multiple schemas. It should NOT be commented out (as it is required) if source tables are all from one schema.
2. If required, **DestSchemaName** should be specified AFTER connection info.
3. Line feeds in WHERE clauses must be represented by {NL} Not following this line feed representation will cause part of your 'where' clause to be ignored.

Run from the Command Prompt

Once your file is ready, you can run the Save from the command prompt.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
c:\toad\Toad.exe -c system/manager@mydb DATACOPY c:\thisfile.txt
```

Your path to Toad may differ, along with your connect info. 'c:\thisfile.txt' represents the file you created.

Run Generate Database Script from a Command Prompt

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To build the file to run Generate Database Script

1. Start **Toad**.
2. From the **Database** menu, select **Export|Generate Database Script**.
3. Make all settings on all tabs (see [Generate Database Script](#)), but do not click Execute.
4. Instead, on the toolbar, click the **Save All Settings to File** button. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

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The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- CloseToad - Closes Toad after the script finishes
- CloseGDBS - Closes the Generate Database Script window after generate database script has finished.
- # - This line is a comment and will be ignored.

Run from the Command Prompt

Generate one script only

Once your file is ready, you can run the generate database script from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@myOraDB COMP=c:\myfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple scripts

If you want Toad to generate more than one script, you can call Toad with this command line:

```
Toad.exe -c system/manager@myOraDB CmdFile c:\commandfile.txt
```

In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\script1.txt  
COMP=c:\ script2.txt  
COMP=c:\ script3.txt  
CloseToad
```

Here, Script1.txt, Script2.txt, and Script3.txt are three separate generate database script settings files, and when Toad is called it will generate the three database scripts defined by these files. Toad will close itself when the command is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all schema scripts are generated.

Run Generate Schema Script from Command Line

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To build the file to run Generate Schema Script

1. Start **Toad**.
2. From the **Database** menu, select **Export|Generate Schema Script**.
3. Make all settings on all tabs (see [Generate Schema Script](#)), but do not click Execute.
4. Instead, on the toolbar, click the **Save All Settings to File** button. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- CloseToad - Closes Toad after the script finishes
- CloseGSS - Closes the Generate Schema Script window after generate schema script has finished.
- # - This line is a comment and will be ignored.

Run from the Command Prompt

Generate one schema script only

Once your file is ready, you can run the generate schema script from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@myOraDB GSS c:\myfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
- Change c:\myfile.txt to the path of the settings file you saved above.

Multiple schema scripts

If you want Toad to generate more than one script, you can call Toad with this command line:

```
Toad.exe -c system/manager@myOraDB CmdFile=c:\commandfile.txt
```

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In this case, commandfile.txt will be a separate file containing specific commands. The file might look like this:

```
COMP=c:\script1.txt
COMP=c:\ script2.txt
COMP=c:\ script3.txt
CloseToad
```

Here, Script1.txt, Script2.txt, and Script3.txt are three separate generate schema script settings files, and when Toad is called it will generate the three schema scripts defined by these files. Toad will close itself when the generate is finished.

Note: Even if you have a CLOSEToad command in any of the comparison settings files, Toad will not close until all schema scripts are generated.

Related Topics

[Generate Schema Script](#)

[Source and Output](#)

[Object Types](#)

[Objects](#)

[Filters](#)

[Script Options](#)

Health Check - Run from Command Prompt

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You may find you would like to run health checks at regular intervals to monitor for unexpected changes. With a little preparation, you can do the health check from a command prompt when you are away from your desk. Results are saved to files.

To build the file to run Health Check

1. Start **Toad**.
2. From the **Database** menu, select **Diagnose|Health Check**.
3. Make all settings to perform the comparison (see [Health Check](#)), but do not click Execute.
4. Instead, on the toolbar, click the **Save All Settings to File**  dropdown. Select **Save Options to File**. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Note: You can also save your options to file by right-clicking over the options tab and selecting **Save Options to File**.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

You can put commands at either the end or the beginning of the file. Write them in the order of execution. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

You may notice that within this file are one or more rows of connection information that have been partially commented out. These connections have nothing to do with the connection you use in the command line to open Toad. This is connection info for the various health checks you are running. The commented portion of the lines do not contain all the info that is contained in the encrypted connection information, but they give you a way to tell what part of the file goes with what connection. These comments can be removed, but they let you identify the connect info. If the connect info needs to be changed and you don't care if it is encrypted you can change the lines to: SELECTEDDB:USER/PASS@DB.

Commands

Each of these commands must be entered exactly as shown (except capitalization can be however you like). **No spaces** are allowed before or after the commands, or between the commands and their parameter lists. The file should contain NO BLANK LINES, except as comments or at the end of the file.

- CloseToad - Closes Toad after the script finishes
- CloseHealthCheck - Closes the health check window after the health check has finished.
- # - This line is a comment and will be ignored.

Run from the Command Prompt

Once your file is ready, you can run the comparison from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@mydb HC c:\thisfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your user id and Oracle database.
 - Change c:\thisfile.txt to the path of the settings file you saved above.
-

Related Topics

[Database Health Check](#)

[Health Check - Checks and Options](#)

[Health Check - Check Descriptions](#)

[Health Check - Schemas](#)

[Health Check - Email Results](#)

[Health Check - Saving Results](#)

Run HTML Schema Generator from Command Prompt

You can run the HTML Schema Documentation Generator from a command line, using the file you saved, and making a few modifications.

To build the file to run the HTML Schema Generator

1. Start **Toad**.
2. From the **Tools** menu, select **HTML Schema Generator**.
3. Make all settings to generate the document (see [HTML Schema Doc Generator](#)).

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4. Instead, click the **Save Settings to File** button. A Save file dialog box appears. Click **Save** to save settings information.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order in which you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Commands

- `CreateHTMLDocumentation('c:\HTMLDir\index.htm')` - This command starts the generation process. "c:\HTMLDir\index.htm" is the destination file pathname and can be changed.
- `CloseHTML` - This command closes the HTML Schema Doc Generation window within Toad.
- `CloseToad` - This command closes Toad after the process is finished.
- `#` - This is a comment and will be ignored when this command file is run.

Run from the Command Prompt

When your file is ready, you can run the generator from a command prompt.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c SYSTEM/manager@mydb GENHTML c:\thisfile.txt
```

Note: you must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your userid and Oracle database.
 - Replace C:\THISFILE.TXT with the path and filename of the settings file.
-

Run Rebuild Objects from the Command Prompt

You may find you would like to rebuild indexes or tables at regular intervals, or have them rebuilt during off-hours. With a little preparation, you can do the rebuild indexes from a command prompt. If commands are saved to a batch file, the batch file can be scheduled using the NT scheduler to execute when you are away from your desk. Results are saved to files.

You can both check indexes and rebuild them from the command prompt.

To build the file to run Rebuild Multiple Objects

1. Start **Toad**.
2. From the **Database|Optimize** menu, select **Rebuild Multiple Objects**.
3. Make all settings to perform the comparison (see [Rebuild Indexes](#)), but do not click either Rebuild or Examine indexes.

4. Instead, on the toolbar of one of the options tabs, click the **Save All Settings to File** button. A Save file dialog box appears. Click **Save** to save settings information. The settings are saved by default into the Toad folder, but you can save them wherever you choose.

Adjust the file

The file resulting from the above procedure can be edited with Notepad or any text editor. For it to be of use in the command line, commands must be activated in the settings file to form a script.

The commands can be at the end or the beginning of the file, and they need to be in the order in which you want them executed. For your convenience, all of the available commands are written into the settings file and commented out. You can easily remove the comments and cut and paste the commands into the order you want them to execute. An abbreviated set of these instructions is also in the settings file comments.

Uncomment any or all of the command lines in the settings file for actions to perform. All file names and items in quotes are editable. Do not put more than one command per line. Do not leave spaces before the commands. Email settings are taken from **View|Toad Options|Email Settings**.

Commands go in a logical order, as they are presented in the settings file. You need to load indexes before you rebuild them, and so on.

Comments

Any lines in the file that begin with **#** are comments, and commands contained within will not be performed. To activate a command, remove the **#**.

Commands to load the grid

- `LoadUserIndexes('USERA', 'USERB', 'USERC')` - This command loads the User indexes for the specified users. Change, remove and add users as necessary.
- `LoadTableIndexes(TABLEOWNER='USERA')(TABLES='TABAA', 'TABBB', 'TABCC')` - This command loads indexes for the specified tables. Change, remove, and add tablename as necessary. Note that you need to specify the tableowner, and then the tables.
- `LoadTablespaceIndexes('TABLESPACEA', 'TABLESPACEB')` - This command loads tablespace indexes. Change, remove, and add tablespacenames as necessary.
- `LoadUserTables('USERA', 'USERB', 'USERC')` - This command loads the User tables for the specified users. Change, remove and add users as necessary.
- `LoadTablespaceTables('TABLESPACEA', 'TABLESPACEB', 'TABLESPACEC')` - This command loads tablespace tables. Change, remove, and add tablespacenames as necessary.
- `ImportTablestFromText('c:\MyTextFile.txt')` - This command lets you import the settings for your tables list from a previously saved text file. You can edit the path and filename.
- `ImportTablesFromBinary('c:\MyBinaryFile.bin');` - This command lets you import the settings for your tables list from a previously saved binary file. You can edit the path and filename.
- `ImportIndexesFromText('c:\MyTextFile.txt')` - This command lets you import the settings for your index list from a previously saved text file. You can edit the path and filename.
- `ImportIndexesFromBinary('c:\MyBinaryFile.bin');` - This command lets you import the settings for your index list from a previously saved binary file. You can edit the path and filename.

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Commands to reload

- `ReloadAllIndexes` - This command is reloads information about the currently loaded indexes. You might use it after loading indexes from a text or binary file to make sure all the information is current.
- `ReloadAllTables` - This command is reloads information about the currently loaded tables. You might use it after loading tables from a text or binary file to make sure all the information is current.

Commands to Choose Tables/Indexes to Rebuild or Examine All

- `CheckAllIndexes` - This command marks all indexes with a checkmark. It is used with the ...Selected commands described below.
- `CheckAllTables` - This command marks all tables with a checkmark. It is used with the ...Selected commands described below.
- `CheckUnusable` - This command marks indexes and tables that have a status of Unusable with a checkmark. It is used with the ...Selected commands described below.
- `RemoveIndexConsiderationFailures` - This command checks settings under the **Consider Indexes for Rebuild Only If** section of the **Thresholds and performance options** tab. It removes indexes from the list that do not meet the configured settings. Use this to exclude indexes that are small or do not have very many extents.
- `RemoveTableConsiderationFailures` - This command checks Conditional Threshold settings for tables in the section of the **Thresholds and performance options** tab. It removes tables from the list that do not meet the configured settings. Use this to exclude tables that are small or do not have very many extents.

Commands to Rebuild or Examining Checked Indexes

- `ExamineSelectedIndexes` - This command examines all selected indexes and marks them if they are recommended for rebuild. It must be performed before a **RebuildRecommended** command can be performed.
- `RebuildRecommendedIndexes` - This command rebuilds all indexes marked as **Rebuild Recommended** by an Examine command.
- `RebuildSelectedIndexes` - This command rebuilds all marked indexes, regardless of whether they have been recommended for rebuild.
- `RebuildSelectedTables` - This command rebuilds all marked tables.

Use Results

This group of commands is for sending the results to file or email.

Note: There is an on-screen option to send results by email. This option is included in the settings file, so if it is checked, results will be sent by email, even if the settings are run from the command line. See [Email Notification - Rebuild Multiple Indexes](#) for more information.

- `ExportIndexesToHtml('c:\MyHTMLFile.htm')` - This command exports the results of the rebuild or examine indexes commands to an HTML file. The path and filename can be edited.

- `ExportIndexesToExcel('c:\MyExcelFile.xls')` - This command exports the results of the rebuild or examine indexes commands to an Excel file. The path and filename can be edited.
- `ExportIndexesToText('c:\MyTextFile.txt')` - This command exports the results of the rebuild or examine indexes commands to a text file. The path and filename can be edited.
- `ExportIndexesToBinary('c:\MyBinaryFile.bin')` - This command exports the results of the rebuild or examine indexes commands to a binary file. The path and filename can be edited.
- `ExportTablesToHtml('c:\MyHTMLFile.htm')` - This command exports the results of the rebuild tables command to an HTML file. The path and filename can be edited.
- `ExportTablesToExcel('c:\MyExcelFile.xls')` - This command exports the results of the rebuild tables command to an Excel file. The path and filename can be edited.
- `ExportTablesToText('c:\MyTextFile.txt')` - This command exports the results of the rebuild tables command to a text file. The path and filename can be edited.
- `ExportTablesToBinary('c:\MyBinaryFile.bin')` - This command exports the results of the rebuild tables command to a binary file. The path and filename can be edited.

Close

- `CloseRMO` - This command closes the Rebuild Multiple Indexes page after the previous commands are completed.
- `CloseToad` - This command closes Toad after all command line activities are completed.

Backwards Compatible commands

If you are using settings files created with older versions of Toad, the following commands apply to indexes only. Quest Software, Inc. strongly suggests using the most current commands available.

- `ImportFromText('c:\MyTextFile.txt')`
- `ImportFromBinary('c:\MyBinaryFile.bin')`
- `ExportToHtml('c:\MyHTMLFile.htm')`
- `ExportToExcel('c:\MyExcelFile.xls')`
- `ExportToText('c:\MyTextFile.txt')`
- `ExportToBinary('c:\MyBinaryFile.bin')`
- `ReloadAll`
- `CheckAll`
- `CheckUnusable`
- `RemoveConsiderationFailures`
- `ExamineSelected`

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- RebuildRecommended
- RebuildSelectedInds
- CloseRMI

Run from the Command Prompt

One setting file only

Once your file is ready, you can run the examine/rebuild file from a command line.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
Toad.exe -c system/manager@mydb RMI c:\thisfile.txt
```

Note: You must either be in the same directory where Toad.exe is located, or you must enter the full path name in the command line.

- The characters after the -c command should reflect your userid and Oracle database.
- Change `thisfile.txt` to the path of the settings file you saved above.

Multiple setting files

You can call Toad with this command line to run the Rebuild Multiple Indexes function from a command file.

```
Toad.exe -c system/manager@myOraDB CmdFile=c:\commandfile.txt
```

You can also call the index rebuild from a command file like this:

```
c:\toad\Toad.exe Connect=system/manager@mydb CMDFILE=c:\mycommandfile.txt
```

In this case, `mycommandfile.txt` will be a separate file containing specific commands. The file might look like this if you are doing 2 index rebuilds, a schema comparison and finally building some html schema documentation.

```
RMI=c:\rebuild1.txt
```

```
RMI=c:\rebuild2.txt
```

```
COMP=c:\schemacomp1.txt
```

```
GENHTML=c:\html1.txt
```

Here, `rebuild1.txt` and `rebuild2.txt`, are the index rebuilds. `Schemacomp1.txt` is the schema comparison settings files. When Toad is called it will run the two index examination/rebuilds defined by these files, then the schema compare, and then create the HTML files. Toad will close itself when the comparison is finished.

Note: Even if you have a `CLOSEToad` command in any of the settings files, Toad will not close until all commands from the command file are executed.

Run Reports Manager from the Command Line

You can easily export, print, or email reports from the Reports Manager using the command line. This functionality allows you to batch reports together easily and run them at a convenient time.

Create the command file

To create the command file

1. Open the **Reports Manager**.
2. Select the reports you want to run: you can multi-select from multiple categories in the grid by holding down <SHIFT> or <CTRL> as you click.
3. Click the **Create Command File**  button and save the file.

Adjust the command file

There is no need to adjust the file. Toad automatically puts the appropriate commands into the file when you select click OK. However, this file can be modified with notepad if you choose. The file contains information about how to use it in a command line.

Email settings are stored in the registry by FastReports. Because of this, you will need to send a report by email manually before using the command line interface. After the initial email, the settings will be saved and the command line will suffice.

To send email manually from Reports Manager

1. Preview any report.
2. In the **Preview** dialog, Click **Export** button and choose **Email**.
3. In the **Send By Email** dialog, click the **Account** tab to enter your email settings.

Comments

Any lines in the file that begin with # are comments, and commands contained within will not be performed. To activate a command, remove the #.

Running the command file

The path to Toad is taken from the connection you have open when you create your file, as are the username, database, and file. If you move the file you will need to change the filename.

Once your file is ready, you can run the Reports Manager from the command prompt or from a batch file.

Open the command prompt and enter the command line in standard [command line syntax](#). It should look similar to the following:

```
C:\toad\TOAD.exe -c <username>/<password>@<database> RPTMGR  
"C:\thisfile.txt"
```

Your path to Toad may differ, along with your connect info. 'c:\thisfile.txt' represents the file you created.

Export Tables, Views, SQL queries

Export Tables, Views, SQL Queries from the Command Line

You can export tables, views, and SQL queries from a command line prompt.

Build the Command File

Before you can run an export command from the command line, you must build the command file.

To export tables and views

1. From the **Schema Browser**, select the **Table** or **View** you want to export, right-click it, and select **Save As** from the menu. The Save Table/View dialog box appears.
2. Choose the settings you want the exported file to contain, and enter a directory name in the **Destination Directory** box.
3. Click the **Save Settings to File**  button.

To export SQL queries

1. From the **Editor**, open the [Save Grid Contents](#) dialog box.
2. Choose the settings you want the exported file to contain, and enter a file name and path in the **Save to File** box.
3. Click the **Save Settings to File** button ().

Adjust the Command File

You should check the generated settings file and make any changes necessary at this point. Basic instructions are included in the generated settings file. More detailed information about the commands and format are described below.

The command file for exporting is a simple text file. There are two types of commands in the file: settings commands and action commands (see [Commands](#)). Each command can be repeated as necessary.

Repetition of a setting command changes the value of that setting. Action commands can be repeated as necessary to export as many tables, views, and queries as you need to export. This means that you can export tables, views, and queries, in any combination of formats and output directories.

The file can contain blank lines. This can make it more readable later. Single Line Comments (marked by a #) can be anywhere in the file except between the BEGINQRY and ENDQRY commands.

Tables and Views will be exported into files named after them, and placed in the directory specified in [Build the Command File](#). If the specified output directories or files do not exist, they will be created.

Run from the Command Prompt

Note: Because the command file launches Toad, Toad must be closed before you run this from the command prompt.

Direct Option

```
c:\toad\Toad.exe connect=system/manager@myoradb EXP=c:\exp_file.txt
```

Where `exp_file.txt` is a file that contains the export commands and settings.

Command File Option

```
c:\toad\Toad.exe connect=system/manager@myoradb CMDFILE=c:\command_file.txt
```

Where `command_file.txt` is a file that contains lines similar to the direct option, such as :

```
EXP=c:\exp_file.txt
```

Using this option, you could perform multiple export runs from different export settings files, and you could also do other things in Toad available from command line (such as a schema compare, generate schema script, generate html schema doc, execute a health check, or rebuild indexes).

With either option, your path, connect info, and file names will differ.

Errors

Errors do not stop the rest of the export. If there are errors, they will be written to a file called ToadError.log in Toad's starting directory.

Commands

Settings Commands

Command	Description	Acceptable Values	Default	Example
FORMAT	Defines export format	Ascii, DelimTab, DelimOther, HTML, XLS, XML, INSERTS, SQLLDR	Ascii	FORMAT=XLS
QUOTES	Enclose Strings in quotes?	Yes or No	No	QUOTES=YES
COLUMNS	Include Column Names?	Yes or No	No	COLUMNS=YES
COMPRESS	Leave files compressed in .zip format	Yes or No	No	COMPRESS=YES
NULLS	Include Null Text? (for inserts, ascii, and delim exports)	Yes or No	No	NULLS=YES
DELIMCHAR	Delim Char for DelimOther format	Any character except a space	Tab	DELIMCHAR=!
DELIMINT	Numeric value for Delim Char for DelimOther format	Any integer value	9 (9=TAB)	DELIMINT=134
OUTPUTDIR	Destination dir for tables and views	Any valid directory on your pc	The 'start in' directory	OUTPUTDIR=c:\exports\

INSERTTABLE	Specifies the table name which is used in the insert statements and SQL*Loader	Any string acceptable for use as a table name	None	INSERTTABLE=EMP
INSERTOWNER	Specifies the schema owner used in the insert statements and SQL*Loader	Any string acceptable for use as a schema name	None	INSERTOWNER=SCOTT
FIELDSEP	SQL*Loader only. Specifies characters to separate boxes with	Any string value	;	FIELDSEP=!~!
STRENCLOSE	SQL*Loader only. Specifies characters used for enclosing string fields	Any string value	"	STRENCLOSE=""
SQLDRMODE	SQL*Loader only. Specifies insert mode.	APPEND, INSERT, REPLACE, or TRUNCATE	TRUNCATE	SQLDRMODE=INSERT
OWNER	Specify schema name in inserts?	Yes or No	Yes	OWNER=YES
COMMIT	Commit interval for insert statements	Any integer	None	COMMIT=1000

NOTES:

- When exporting from queries to insert statements or SQL*Loader files, the table you are inserting must be specified with INSERTTABLE, and optionally INSERTOWNER. When exporting from tables or views to insert statements, the table name does not need to be specified because the insert statement will insert into the table or view it was extracted from.
- If no commit interval is specified, then there will be no commits at all. To specify a commit just at the end of the script, use COMMIT=0. To specify a commit at any other interval, use COMMIT=n where n is the interval.
- If you need to specify a delim char for the DELIMOTHER format, you can use DELIMCHAR or DELIMINT; there is no need to specify both as they both set the same value as on the 'Grid-Save as' screen in Toad.
- Specifying INSOWNER=something will override a previous OWNER=NO. Specifying OWNER=YES without specifying the INSOWNER will result in INSOWNER=login user id.

Single Line Action Commands

Command	Description	Acceptable Values	Example
CLOSEToad	Closes Toad after command line activities		CLOSEToad
SCHEMATABLES	Export all tables in a schema	Any schema name	SCHEMATABLES=SCOTT
SCHEMAVIEWS	Export all views in a schema	Any schema name	SCHEMAVIEWS=SCOTT
TABLE	Export a single table	Any table name	TABLE=SYS.TAB\$
VIEW	Export a single view	Any view name	VIEW=SYS.DBA_TABLES

Multi Line Action Commands

There is only one multi- line action command. It is the command to export a query that you can enter.

Caution: Do not end the query with a semicolon or a slash.

This action works as follows:

```
BEGINQRY fully_qualified_destination_file_name
```

the text of your query goes here.

Use as many lines as necessary.

```
ENDQRY
```

Sample File

Before you can run this file you must save it as a text file and close Toad as described in [Run from Command prompt.](#)

The following example file:

1. Closes Toad when the command line activities are done.
2. Exports SCOTT's tables to d:\temp\scott in HTML format
3. Exports SYSTEM's views to d:\temp\system in XLS format
4. Exports SYS.TAB\$ and USER_TABLES to d:\temp\misc in HTML format
5. Exports a script to insert data into a table called MYCONS
6. Specifies a DELIMCHAR, but it is not needed since the DELIMOTHER format is not used.
7. Exports TEST_SCHEMA's tables to SQL*Loader files.

Example File

```
CLOSEToad
FORMAT=HTML
COLUMNS=YES
QUOTES=NO
NULLS=NO
```

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DELIMCHAR=@

OUTPUTDIR=D:\TEMP\SCOTT

SCHEMATABLES=SCOTT

FORMAT=XLS

OUTPUTDIR=D:\TEMP\SYSTEM

SCHEMAVIEWS=SYSTEM

FORMAT=HTML

OUTPUTDIR=D:\TEMP\MISC

TABLE=SYS.TAB\$

VIEW=USER_TABLES

FORMAT=INSERTS

OWNER=NO

COMMIT=100

INSERTTABLE=MYCONS

BEGINQRY D:\TEMP\QRY\mycons.sql

select * from user_constraints

ENDQRY

FORMAT=SQLLDR

OUTPUTDIR=D:\TEMP\LDR

SQLLDRMODE=TRUNCATE

SCHEMATABLES=TEST_SCHEMA

Working with Code

Editor

Toad Editor

The Toad Editor lets you edit many types of statements and code. You can code SQL and PL/SQL within the same tab and Toad can recognize each part of the code in the editor.

The editor will attach itself to the active connection in Toad, but if you do not have a connection you may still use it as a text editor. You can also change the active session from the [Editor Toolbar](#).

The editor is organized into three areas: the navigator panel, the editor area, and the area below the editor, where Toad displays results, DBMS output, breakpoints, watches, and any other information necessary to better understand and work with the code. The desktop areas can be arranged and configured.

Navigator Panel

The [Navigator Panel](#) displays an outline of the editor contents in the active tab. You can click on the items listed to navigate to that statement in the editor.

Editor

The main editor window displays code in separate tabs. You can create tabs for different bits of code, or different types of code. SQL and PL/SQL can go in the same tab. Toad can tell where the cursor is located and compile PL/SQL or run SQL as required.

NOTE: If you have multiple statements in the editor, you must trail them with a valid statement terminator such as a semi-colon.

In addition, you can open tabs to edit and debug Java and Hex code.

Lower Panel

The lower panel contains several options for tab display, depending on what kind of code you are working with, and what you want to do with it. Some of the options include:

- SQL Results
- DBMS Output
- Breakpoints
- Watches
- Code Xpert
- Script Debug
- Query Viewer
- And more!

Note: Some of these options are available only with specific Toad editions.

To display and hide tabs in the lower panel

- Right-click over the row of tabs and select **Desktop**. Select or clear the tabs you want to display or hide.

Related Topics

[Editor Toolbars](#)

Toad Editor

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- Breakpoints
- Watches
- Code Xpert
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- Query Viewer
- And more!

Note: Some of these options are available only with specific Toad editions.

To display and hide tabs in the lower panel

- Right-click over the row of tabs and select **Desktop**. Select or clear the tabs you want to display or hide.
-

Related Topics[Editor Toolbars](#)

Auto Backup

You can have Toad automatically create backups of your editor files using a temporary filename. If Toad closes abnormally, you will then be prompted to recover or discard backups when you next open Toad.

Auto backup is automatically enabled, with a backup interval of every 3 minutes. You can change this from the [View|Toad Options|Editor|Behavior](#) page.

You can also use the auto-backup to recover documents manually.

To recover documents from the menu

- From the File menu, select **Recover Documents**.

Related Topics[Options - Editor Behavior](#)

Editor Macros

You can record and play limited macros in the editor with the built-in macro recorder and editor. Only commands that are Editor-specific can be included in a macro. Commands that are available for use in macros can be seen from the [Macro Configuration dialog](#).

Macro Toolbar

Use the macro toolbar to select macro functionality.



Button	Command
	Select and play macro
	Record macro
	Stop recording macro
	Cancel recording macro
	Edit macros

To record a macro

1. From the macro toolbar, click the Record macro  button.
2. Enter the text/commands you want to compose the macro.
3. Click the Stop recording macro  button.
4. Enter a name for your macro.
5. Click **OK**.

Related Topics

[Editing Editor Macros](#)

Macro Configuration

You can easily edit your macros to add or delete commands or text. You can also use the macro editor to create new macros, and to delete macros that you have created.

The macro editor is divided into two areas: a list of Macros, and the Commands area, which provides the specifics for the selected macro. This second area is where you will do your editing.

To edit a macro

1. On the macro toolbar, click the **Edit Macros**  button.
2. In the **Macros** list, select the macro you want to edit.
3. Add commands to the macro by clicking **Add** and then entering the appropriate information in the columns.

Commands will always be added at the end of a macro. You can place them in the correct location by selecting them and then clicking the Move Up button.

4. Delete commands by selecting the column you want to delete and clicking **Delete**.
5. Move commands up and down in the list: Click the **Up** and **Down** arrows.
6. When you have finished editing your macros, click **OK** to save them and close the window.

Viewing Possible Macro Commands

Commands that can be used within macros are limited. You can view a list of these commands and select from them when editing a current macro or creating a macro from scratch in the Macro Configuration dialog.

To view macro commands

1. Click the **Edit Macro**  button.
2. In the command grid of either a new macro or an existing one, click in the Description field of a command.
3. When the drop down menu appears, click the arrow to open the list of commands.
4. Select a command and it appears in the grid.

Note: this will change the command that is already in that box.

Configuring your Desktop

You can easily configure which panels display on your Editor desktop, and where they display.

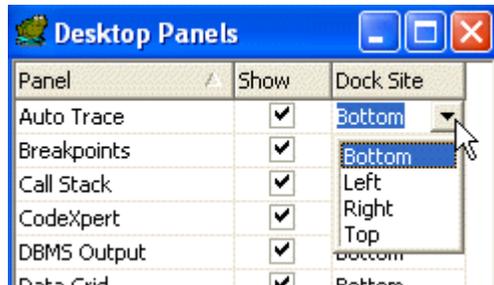
You can select panels to display one at a time, or in groups. When you have configured it, you can save the desktop with its own name, returning to it whenever the need arises. In addition, you can turn on Auto-save current desktop, and however you have the desktop set when you change tabs or close Toad will be how your desktop is defined the next time you open the editor.

To display panels one at a time

1. Right-click in the panel area near the bottom of the window.
2. Select **Desktop** and then select the panel you want to display or hide.

To configure your desktop at once

1. Right-click in the panel area near the bottom of the window.
2. Select **Desktop** and then select **Configure Desktop**.
3. From the Desktop Panels dialog, select the panels you want to display in the Show column, and click the drop down menus in the Dock Site column to change where the panel is docked.



4. When you have selected (or hidden) all the panels you want, click **OK** to save your changes.

To save your desktop

1. From the **Desktops** toolbar, click the **Save desktop**  button.
2. Enter the name you want to use for this desktop.
3. Click **OK**. The desktop is now saved, named, and available from the dropdown desktop menu.

Restoring the desktop

You can restore your desktops in one of two ways. If you have made changes to the desktop you can restore it back to the point when you first opened it. Alternately, you can restore it back to its default.

To restore the last saved desktop

1. Click the dropdown arrow on the **Save Desktops**  button.
2. Select **Revert to Last Saved Desktop**.

To restore current desktop to default

1. Click the dropdown arrow on the **Save Desktops**  button.
2. Select **Restore Default Desktop**.

Related Topics

[Desktop Toolbar](#)

XML Editor Overview

Toad's text editor can act as an XML editor with an XML navigator on the left hand side that shows the elements of the XML in a treeview, with grids to show the selected element's attributes and child elements. The right hand side shows the text of the XML and uses the parser script for HTML by default (See [Changing the Parser Script](#)).

To access the XML Editor

1. Click the **Text Editor**  button to open the text editor.
2. Click the **Open File**  button and select an **XML file**. When the file opens, the editor is configured to edit XML.

XML Modes

The text editor has three modes available for editing XML code:

- [Offline mode](#) (available from the Tools menu)
- [Data-bound mode for character data](#) (popup from the grids for CHAR, VARCHAR2, or CLOB data)
- [Data-bound mode for XML data](#) (popup from the grids for XMLTYPE data)

Offline mode

In offline mode, the text editor will try to act as an XML editor whenever

- the loaded file starts with the string `<?xml version=`
- the loaded file has extension `.xml`

Data-bound mode for character data

In data-bound mode for character data, the text editor will act as an XML editor whenever the data that is initially loaded from a cell starts with the text `<?xml version=`

Data-bound mode for XMLTYPE data

In data-bound mode for XMLTYPE data, the text editor will always act as an XML editor.

Related Topics

[Offline Editor](#)

[Text Editor](#)

Troubleshooting the Editor

The Editor is an easily configured window. If it becomes configured in a such a way that you lose sight of things you need, you can easily remedy the matter.

Missing Panels

If you cannot see a panel it has probably been removed from the desktop, or hidden inadvertently.

To restore a missing panel

1. Right-click in the editor window and select Desktop.
2. Make sure the panel you are looking for is marked with a check. If it isn't, select it now.

Hidden Panels

Sometimes, a panel will appear to be visible: it will be marked with a check as described above. However, it will still be hidden. Hidden panels are generally hidden because they have been scrolled beyond the visible range.

To view a hidden panel

- In the area where the panel should appear, click the **active scroll**  button.

Missing Toolbar buttons

The toolbars in Toad are configurable. The default toolbars in the editor are minimal, in order to leave plenty of space for editing. You may find that some of the buttons included are not commands you use regularly, and that there are some commands you do use that you would like on the toolbar. You can easily adjust the toolbars to reflect the way you work. See [Configurable toolbars](#) for more information.

Missing Toolbar

It is possible to delete all the toolbars in the toolbar area. If this happens, you can restore them.

To restore missing toolbars

- Right-click in the **Editor** and then select **Customize toolbars**. Select at least one toolbar to display.

Configuring the Editor

You can use the Toad editor in the main editor window to edit SQL text. The same editor is used in read-only mode on many other windows throughout Toad. This editor provides the following features:

- User configurable [Syntax Color Highlighting](#)
- [Bookmarks](#)
- [User defined keystrokes](#) for common editing commands
- [Auto Replace Substitutions](#) (replaces as you type)
- [Code Completion Templates](#)
- Undo/Redo
- [Comment Code Block](#)
- [Locate Closing Parenthesis](#)

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- Find, Find Next, and Replace
- [Show All following a search](#)
- [Configurable Print Options](#)
- Word Wrap, Auto Indent, and all other common editor functions

Altering Editor Options

Editor Options can be altered from the Toad Options|Editor nodes.

Related Topics

[Editor - Behavior](#)

[Editor - Code Assist](#)

[Editor - Display](#)

[Editor - Open/Save](#)

[Editor - Printing](#)

Opening Files

When opening files from disk, you can do one of several things.

- You can let Toad decide what format the file uses. This is the default, and the way most applications work.
- You can specify a format and force Toad to use it for that file.
- You can add a file to a Favorites list.

Forcing a format

You can force Toad to use a format other than the most obvious format. For example, if you have a file that has been misclassified as a procedure, but you know that it is a hex file, you can force Toad to open it as a hex file. The format defaults to Auto.

To force a format

1. Select the file you want to open.
2. In the file format box, select the format you want to use. For example, Hex.

Adding Files to Favorites

You can add files to your favorites list as well. This is useful for files that you must load from disk on a regular basis, rather than loading them from the database.

To add a file to favorites

1. From the Open window, select the file you want to add to your favorites.
2. Click the **Add Favorite** button.

The path for that favorite is now listed in the Favorites dropdown.

Note: Selecting a favorite does not change the File type. If it has been set to force to hex, your favorite will open as a hex file.

Closing an Editor tab

You can leave Editor tabs open as long as you like. Toad is limited in number of tabs and size of the scripts you enter only by the memory of your machine.

You can easily close one of the Editor screens.

To close an Editor tab

- Right-click on the tab you want to close and select **Close Tab**.
-

Related Topics

[Editor](#)

[Editor Toolbar](#)

[Creating a Script](#)

[Opening a Script](#)

[Navigation](#)

Navigator Panel

This panel displays an outline of the code in the active window. You can click on the items listed to navigate to that statement in the editor.

To access the Navigator

1. Right-click in the **Editor** window.
2. Select **Desktop Panels|Navigator**.

The left panel contains the Navigator List, a list of statements, objects or package contents contained in the editor.

The list is displayed in a hierarchy, with each element broken out separately (if you want to hide some of these elements, you can right-click the hierarchy and select [Configure Navigator Panel](#)). Elements in the code are broken out and indicated as follows:

Icon	Meaning
DDL	DDL statements
DML	DML statements
SQL	SQL statements
	Procedure
	Function
	Constant
	Cursor
	Exception
	Field

	Parameter
	Record
	Subtypes
	Variable

Reload Object

The reload object options give you an easy way to synch your PL/SQL source with objects also existing on the database.

You can reload objects in one of several ways.

To reload an object from the Navigator

1. In the Navigator panel, select the object you want to reload.
2. Right-click and select **Reload Object**.

To reload all objects from the Navigator

1. In the Navigator panel, select the object you want to reload.
2. Right-click and select **Reload All Objects**.

To reload from the Toolbar

1. Place your cursor in the object in the Editor that you want to reload.
2. Click the **Reload from Database**  button on the toolbar.

Using the Navigator Panel

From the toolbar in the Navigator list, you can:

Icon	Meaning
	Refresh the Navigator list
	Sort the Navigator list alphabetically (depressed, items appear alphabetically, up, the list appears in source code order)
	Pin the Navigator list open or let it slide open and closed
	Close the Navigator list

In addition to these, from the right-click menu you can also expand or collapse the entire tree.

To display the entire statement

- Hover the pointer over an item in the Navigator. The entire statement is displayed as a tooltip.

To jump to the statement

- Click on the statement in the Navigator and the cursor jumps to that point in the Editor.

To refresh the navigator panel

- Save the current file

Or

Click the **Refresh**  button.

Grouping and Sorting Statements

You can group and sort statements within the Navigator panel.

By default Group is checked and Sort is unchecked.

Note: If both Sort and Group are checked then items are sorted alphabetically and grouped so that ALL statements in the script of the same type are under a single node.

Group Similar

Group similar groups all consecutive runs of a single statement type under a single node in the tree (for example, all consecutive SELECT statements will be grouped under a SELECT node). If there is another series of SELECTs farther down the script then they will be under a separate SELECT node.

The default is checked.

Sort

Select Sort to sort the tree alphabetically. When unchecked the tree is sorted so that items in the tree appear in the same order as they appear in the script.

Related Topics

[Navigator Panel](#)

[Configuring the Navigator Panel](#)

Navigator Options

In the Editor, you can configure the navigator panel to only display declarations that you want to see. In addition, you can change the look of the panel to suit the way you work.

To access the Configure Navigator Panel

- From the **Navigation Panel**, right-click and select **Navigator Options**.

From the Configure Navigator panel you can set the options described below.

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General

Initial Node Expansion

In this area you can choose how the hierarchy is expanded when first opened. You can choose to expand to one level, all levels, or no levels.

Exclude Comments

When checked, comments are not displayed in the navigator panel. When checked, comments are included in their own node.

Lower-case text

With this option selected, declarations display in lowercase. If it is not selected, they display in uppercase. Lowercase takes up less screen space.

The default is checked.

Sort

When this option is selected, declarations are sorted alphabetically within the hierarchy. Unselected, declarations display in the same order they are declared in the code.

The default is unselected.

Font

Click the **Font** button to select the font you want to use in the Navigator tree.

Statements

In the Statements area, you can select the items you want to display in the navigator. By default, all statement types are included. These include packages, package bodies, functions, SQL*Plus, anonymous blocks, and so on. In addition, you can rearrange the order in which they are displayed in the tree structure.

To rearrange the tree structure

1. Click the item you want to move.
2. Click the Up or Down button to move it up or down in the display.

PL/SQL Components

In the PL/SQL Components area, you can select the PL/SQL items you want to display in the navigator. By default, all types are included. These include constants, exceptions, subtypes, cursors, ref cursors, local subprograms and so on. In addition, you can rearrange the order in which they are displayed in the tree structure.

To rearrange the tree structure

1. Click the item you want to move.
2. Click the Up or Down button to move it up or down in the display.

Other configuration options

Beside the tree structure area are several other options you can use to configure your Navigator Panel.

Include parameter direction

Declarations appears differently if the parameter is an input or output parameter. If this is selected, labels on the tree will take up a bit more room.

The default is selected.

Include Datatype

When this option is selected, the datatype is displayed beside the declaration. for example, a variable will display as follows:

i x: number

When unchecked, the variable will display as follows:

i x

Action Console

The Action console lets you easily perform any number of actions on an object from within Toad. Currently it is available in:

- Object Palette
- Object Search results grids
- Data grids
- Editor Navigator
- Editor

When you open the action console, Toad provides you with a list of all the actions you can perform on that object. This makes it easy, for example, to rename an object while working with SQL results. If you work with the object palette open, you can easily change objects on the fly.

Results of actions

Most actions occur immediately. For example, Alter Object opens the alter window for the selected object. Actions such as Drop, that will have an immediate and drastic effect on your database open a confirm dialog before acting. Actions such as create script create the script in the clipboard so that you can paste it wherever it is needed.

To use the action console

1. Right-click on an object within Toad.
 Note: Within the data grids, right-click on a cell that contains a database object.
 2. Select **Action Console**.
 3. Select the action you want to perform.
 4. Click **OK**.
-

Related Topics

[Object Palette](#)

[Object Search](#)

[Data Grids](#)

Toolbars

Editor Toolbars

The toolbars in the Toad editor can be arranged and configured in a way that works for you. The standard toolbars for the editor are minimal. There are many commands available, however, and you can add them to any of the toolbars as you like (see [Alter Toolbar](#) for more information).

The standard toolbars found on the editor include:

- [Desktop](#)
 - [Debugger toolbars](#) (for Toad editions that include the debugger)
 - [Edit toolbar](#)
 - [Execute \(no debug\) toolbar](#)
 - [Source Control toolbar](#)
 - [Standard Editor toolbar](#)
 - [Tabs toolbar](#)
-

Related Topics

[Default Toolbar](#)

[Altering Toolbars](#)

Current Schema Toolbar

The Current Schema toolbar lets you work with a schema other than the one where you are connected. This can be useful if, for example you have tested a SQL statement in your test schema and now want to execute it on several other schemas without disconnecting and reconnecting. To use this feature, you must have the ALTER SESSION privilege.

By default, the current schema is set to your current connection. When you use this command Toad follows this procedure:

- Issues an ALTER SESSION SET current_schema command
- You can now execute the sql statement against that schema
- Toad issues the ALTER SESSION SET current_schema command again to return to the connection schema.

Note: This feature does not work with script execution or debugging commands.

Button	Command
Current Schema: <input type="text" value="GMUELLER"/>	Use the dropdown to set the schema.

Debugger Toolbars

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

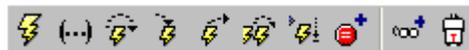
Depending on the debugging mode you have activated (see [Debugger Overview](#)), you will see different debugging buttons on the debugger toolbar.

PL/SQL and Java Toolbar



Icon	Command
	Execute procedure using existing arguments
	Set Parameters
	Step Over
	Trace Into
	Trace Out
	Run to Cursor
	Add Breakpoint
	Add Watch
	Attach debugger to external session (See Just in Time Debugging Overview)

Script Debugger Toolbar



Icon	Command
	Execute procedure using existing arguments
	Set Parameters
	Step Over
	Trace Into
	Trace Out
	Start Step Mode from Cursor
	Run to Cursor
	Add Watch

	Add Breakpoint
	Attach debugger to external session (See Just in Time Debugging Overview)

Desktop Toolbar

The desktop toolbar is available from the Editor and the main Toad toolbar.



Button	Command
	Select desktop dropdown
	Save current desktop
	Delete current desktop

Saving the desktop

When you click the Save current desktop button, the Save Desktop dialog appears. If you find you no longer need the saved desktop, you can delete it.

To save the desktop

1. Click the **Save Current Desktop**  button
2. Enter a name for your new desktop and click **OK**.

To delete the current desktop

1. Click the **Delete Current Desktop**  button.
2. Click **OK** to confirm the deletion.

Related Topics

[Configuring your desktop](#)

Edit Toolbar



Button	Command
	Recall previously saved SQL.
	Run explain plan .
	Tune code using the SQL Tuning Optimization module.

	Format the selected code.
	Profile the selected code.
	Make code .
	Strip code .

Related Topics

[Schema Browser Toolbar](#)

[SQL_Edit_Toolbar](#)

[Procedure_Edit_Toolbar](#)

Execute (no debug) Toolbar



Icon	Command
	Set Parameters
	Execute procedure using existing arguments

Source Control Toolbar

The source control toolbar can be displayed in both the SQL Editor and the Editor. This toolbar covers [basic source control](#) only, and should not be confused with Team Coding.



Icon	Command
	Check out from Source Control
	Check into Source Control
	Undo Checkout
	Get latest version from Source Control
	Add to source control



Select active project of source control

Related Topics

[Basic Source Control](#)

[Team Coding Overview](#)

Standard Editor Toolbar

Button	Command
	Recall previously saved SQL.
	Run explain plan .
	Tune code using the SQL Tuning Optimization module.
	Format the selected code.
	Profile the selected code.
	Make code .
	Strip code .

Tabs Toolbar



Icon	Command
	Open new editor tab. Use dropdown to select type of editor.
	Close the active editor tab.
	Navigate back through objects in the call stack . These were opened using <Ctrl> mouse click.
	Navigate forward through objects in the call stack . These were opened using <Ctrl> mouse click.

Editing Functionality

Bookmarks

Use bookmarks to help you manage files. They mark a position within the Editor so that you can easily jump back to that line. You can set up to ten separate bookmarks within one editor.

Access bookmarks through the popup menu or using the following keyboard commands:

To set a bookmark

- Press <CTRL><SHIFT># where # is a number between 0 and 9.

A small green box containing the bookmark number will display in the editor gutter.

To jump back to a bookmark

- Press <CTRL># where # is a previously defined bookmark between 0 and 9. The # must be called from the number row on the keyboard. Using the Number pad will not call the bookmark.

Note: These keystrokes assume you have not altered the default editor keys.

Formatting Tools

You can format your code from the Editor in Toad.

Format multiple scripts at one time from the Project Manager. (See [Formatting Files.](#))

To format a SELECT statement

1. Highlight the **statement** you want formatted.
2. **Right-click** and select **Formatting Tools**.

To format an entire script

1. Open the script in the editor.
 2. Right-click and select **Formatting Tools** and then select **Format Code**.
-

Related Topics

[Formatting Files](#)

[Formatting Options](#)

Uncomment Code Block

This command removes comments from the selected block of text by removing "--" from the beginning of each line. This is available on the Right-Click menus of the editor tabs and also on the Edit menu.

Related Topics

[Comment Code Block](#)

[Edit: Comment Block and Uncomment Block](#)

Comment Code Block

This function comments the selected block of text by adding "--" before each line.

You can access this function by right-clicking in the editor tabs. It is also located on the **Edit** menu.

Related Topics

[Uncomment Code Block](#)

[Comment Block and Uncomment Block](#)

Find Closing Block

Closing blocks are controlled by the Language Management options. You can turn the staples on and off to mark them. See [Language Management | Rules tab | Draw Block Staple](#).

Editing XML Code

XML Editor Overview

Toad's text editor can act as an XML editor with an XML navigator on the left hand side that shows the elements of the XML in a treeview, with grids to show the selected element's attributes and child elements. The right hand side shows the text of the XML and uses the parser script for HTML by default (See [Changing the Parser Script](#)).

To access the XML Editor

1. Click the **Text Editor**  button to open the text editor.
2. Click the **Open File**  button and select an **XML file**. When the file opens, the editor is configured to edit XML.

XML Modes

The text editor has three modes available for editing XML code:

- [Offline mode](#) (available from the Tools menu)
- [Data-bound mode for character data](#) (popup from the grids for CHAR, VARCHAR2, or CLOB data)
- [Data-bound mode for XML data](#) (popup from the grids for XMLTYPE data)

Offline mode

In offline mode, the text editor will try to act as an XML editor whenever

- the loaded file starts with the string `<?xml version=`
- the loaded file has extension `.xml`

Data-bound mode for character data

In data-bound mode for character data, the text editor will act as an XML editor whenever the data that is initially loaded from a cell starts with the text `<?xml version=`

Data-bound mode for XMLTYPE data

In data-bound mode for XMLTYPE data, the text editor will always act as an XML editor.

Related Topics

[Offline Editor](#)

[Text Editor](#)

Changing the XML Parser script

You can change the parser script the XML Editor uses.

To change the parser script

1. From the View menu, select **Toad Options**.
 2. Click on **Editor - Behavior** in the left panel, and select the language you want to use to parse in the **Language Management** area.
 3. Click **OK**.
-

Formatting XML

You can format your XML code within the editor.

To format XML code

1. Select the code you want formatted. If no code is selected in the editor, Toad will format all the code in the editor.
2. Right-click and select **Format XML**.

Formatting conventions

Nodes of the form:

```
<nodename att1="val"/>
```

are formatted as:

```
<nodename att1="val"></nodename>
```

In the XML parser, these are equivalent formats.

The **Duplicate node** function on the right-click menu of the tree makes a similar conversion.

Related topics

[XML Editor](#)

XML Editor Options

XML Editor Options

There are several options accessible from the XML editor.

To access XML Editor options

1. Open the **XML editor** as described in [XML Editor Overview](#).
 2. At the top of the left side panels, click the **Options**  button.
 3. Select the options you want to change. Options include:
 4. [Updating text when tree changes](#)
 5. [Moving Cursor in Source on Navigation Tree](#)
 6. [Defining Small files](#)
 4. When you have selected the options, click **OK** to continue.
-

Update Text when Tree Changes

The options in this area determine whether the source text will be updated automatically when the user edits anything in the XML navigator tree, the subnodes grid, or the attributes grid.

Note: Synchronization may be slow for large files.

Always

Source text is always automatically updated.

Only when XML is "Small"

Source text is automatically updated only if the total size of the text is less than or equal to the size specified in [Defining Small files](#).

Never

Source text is not updated. If changes are made on the left hand side, then a synchronize button will appear so that you can update the text at your convenience.

Moving Cursor in Source on Navigation Tree

These options determine when the editor will automatically scroll to the corresponding point in the text when you click on a node in the tree view.

Note: Automatic navigation may be slow for large files.

Always

Automatic navigation occurs whenever you click on a node in the tree view.

Only when XML is "Small"

Automatic navigation occurs only if the total size of the text is less than or equal to the size specified in [Defining Small Files](#).

Never

The selection in the source text is not affected when you click in the navigator tree.

Defining Small Files

You can define what Toad considers a "small file" for the purposes of the other XML options.

To define a small file

1. Open the [XML Editor Options](#).
 2. In the "**Small Files**" **are less than:** boxes, specify how large a file Toad should consider a "small file." The default is 1 MB.
-

Working with Results

SQL Results Grid

The SQL Results Grid is found in the Data tab in the lower portion of the Editor, and the Data tab in the right hand detail panel of the Schema Browser. Results are displayed in the Editor Data grid. There are many things you can do with the results of a query. These are described in the [Toad Data Grids](#) topic.

AutoTrace

AutoTrace is a mini version of SQL Trace that displays quick results directly on the client. In Toad, the results are displayed beneath the Editor or the Query Builder window.

To enable AutoTrace

- Right-click in the **Editor** and click the **AutoTrace** menu option.

To view AutoTrace results

- In the **Editor** results area, click the **AutoTrace** tab.
- If the AutoTrace tab is not visible, right-click and then select **Desktop|Autotrace**.

The AutoTrace results panel will display and every statement issued in AutoTrace mode will have results generated.

Note: AutoTrace will force a read of all data from the result of the query. This can take some time. If a query will return a large number of rows, and time is a factor, AutoTrace is not advisable.

From the AutoTrace results area you can sort columns, print the grid, and copy the results to the clipboard.

AutoTrace is one of many Optimization features Toad provides. For more of these features, see the [Optimization](#) topic. You will need access to certain V\$ views to use this feature: See [V\\$ Tables Required: AutoTrace](#) for more information.

DBMS Output to Debug PL/SQL Code

Oracle provides a specifically designed package called DBMS_OUTPUT with functions for debugging PL/SQL code. It uses a buffer that your PL/SQL code writes into and then a separate process queries the buffer out and displays the contents, like this:

```
"The current value of x is 15"
```

Output only comes after the procedure has completed execution, not while you are single stepping through the code. In nested procedure calls, all procedures must have run to completion before any DBMS Output content is displayed.

Contact your Oracle DBA to make sure the DBMS_OUTPUT package is enabled on your database.

Assume you create a PL/SQL procedure in Toad's Editor window like the following:

```
CREATE OR REPLACE PROCEDURE TEST_DBMS_OUTPUT IS
x NUMBER;
BEGIN
for x in 1 .. 5 loop
DBMS_OUTPUT.PUT_LINE ( 'The value of x is '||to_char(x) );
end loop;
END TEST_DBMS_OUTPUT;
/
```

Then you compile the procedure. The function within the DBMS_OUTPUT package to write information to the debug buffer is PUT_LINE. A shortcut to typing that line is in the Right-Mouse Menu of the PL/SQL editor: Blank Output Statement. ("Make Output Statement" is for when text is already selected.)

Now, go to the Editor window and enter the following anonymous PL/SQL block that will run our test procedure:

```
begin
test_dbms_output;
end;
```

Open the DBMS Output window by clicking the "Open a new DBMS Output window" button in the main Toad toolbar. The ON/OFF button is ON (green) by default. Toad will periodically scan for and display DBMS Output content every 5 seconds. Click the **ON/OFF** button to turn off the output. This will change the button to red. You can adjust the frequency using the slider from 2 to 15 seconds.

Run the anonymous PL/SQL block in the Editor window using F9.

After a second or two, the DBMS Output window displays this:

```
The value of x is 1
The value of x is 2
The value of x is 3
The value of x is 4
The value of x is 5
```

To view the DBMS Output window

- In the lower pane, right-click, select Desktop and select **DBMS Output**.

Optimization

Toad offers several features to help you optimize queries or view the performance statistics for the server. Although Toad provides access to these statistics and/or Oracle utilities, this section describes only how to use the features within Toad: not how to interpret the results. For an excellent guide on SQL tuning, we suggest *Oracle SQL - High Performance Tuning* by Guy Harrison available from Prentice Hall Press. His book was the blueprint for many of these features.

Explain Plan

This is the most useful client-side facility within Oracle for tuning statements. Explain Plan shows the path and order in which Oracle will process your statement. By processing Explain Plan on variations of a statement, you can see how the adjustments will affect the execution. See this [Explain Plan](#) topic for more information.

AutoTrace

AutoTrace is a mini version of SQL Trace that displays quick results directly on the client. In Toad, the results are displayed beneath the Editor window. To enable AutoTrace, Right-Click in the Editor and click the AutoTrace menu option. The AutoTrace results panel will display and every statement issued in AutoTrace mode will have results generated.

Note: AutoTrace will force a read of all data from the result of the query! If a query will return a large number of rows, AutoTrace is not advisable.

SQL Trace (tkprof)

SQL Trace is a server side trace utility that will show CPU, IO requirements, and resource usage for a statement. SQL Trace is a much more complete utility than AutoTrace; however, viewing the results can be difficult because the output file is created on the server. SQL Trace can be activated for the current Toad session on the Right-Click Menu of the Editor.

Server Statistics

The server statistics window displays Wait, Latch, and derived (calculated) statistics using the Oracle V\$ tables. If you have any problems accessing the required tables for this window, see [Hints and Tips: Table Does Not Exist Errors](#).

Optimizer Mode

This is a Right-Click option on the Editor that selects the Optimizer Mode for the current session. This will affect all queries (including Toad's own) for the duration of the session or optimizer setting. For more info, see *Oracle7 Server Concepts* manual.

Note: Optimizer mode is not available in Oracle 10g databases. Therefore Toad disables this option when it is connected to a 10g database.

SQL Tuning

If you have a Toad Edition that includes the SQL Tuning package, you can use it to help you optimize your code. See [SQL Tuning](#) for more information.

Row Numbers

Toad will display row numbers in the Editor data grid if the option to do so is enabled. Make sure the **View > Options > Data Grids** tab > **Show row numbers in all grids (applies to data grid on Browser also)** check box is checked.

The total number of rows returned in the resultset will display in the status bar at the bottom of the window only after you have scrolled to the end of the resultset. This is because the resultset is fetched only as required, to improve overall performance. When the last row is fetched, Toad will display the total count.

To return the Oracle pseudo-column ROWNUM in the SQL Results grid, add "ROWNUM" to the query:

```
select rownum, emp.* from employee emp
```

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Remember that rownum is an Oracle pseudo-column, not stored with the table definition or data, but derived when queried.

To return the ROWID in the query, specify the column and the datatype:

```
select rowidtochar(rowid), emp.* from employee emp
```

Note: You can also enable "Show ROWID in data grids" from **View > Options > Data Grids** tab by clicking in the check box. This will accomplish the same thing without resorting to coding.

Saving Toad Query Results

Any of Toad's window query results can be saved to the Windows Clipboard or to a file by the procedure below. Some of the dialog boxes do NOT have a "Copy to Clipboard" or "Save to Disk" function. Here is how you can duplicate that functionality.

To save query results

1. Turn on spooled output to disk file: **Database|Spool SQL|Spool SQL To File**.
 2. Run the desired Toad window (for example, the Schema Differences window) select each desired tab.
 3. From the **Toad TEMPS** folder, open **DEBUG.SQL**.
 4. Copy each **SQL** into the Editor window.
 5. Run each **SQL** in the Editor window, substituting hard coded values for the bind parameter variables, or just enter them when prompted in the Variables dialog box.
 6. Save the **grid contents** to clipboard or disk file, using **Grid > Save As** menu item.
-

Script Output Tabs

After you have run a script, Toad maintains a running list of system variables and user variables. This lets you keep track of what has been set. The list is refreshed execute it in its entirety.

If you have the debugging module, it is also refreshed when you begin stepping through the code. Toad also maintains a history of breakpoints, and a call stack to help you through the navigation of various windows.

Environment Tab

System Variables

System variables are displayed under the System Variables node in the Environment area. System Variables include, but are not limited to:

- autocommit setting
- echo on/off
- linesize
- heading on/off

To view system variables

- Double click the **System Variables** node

Or

Click the < + > beside the System Variables node.

User Variables

User variables are displayed under the User Variables node in the Environment area. The user variables area describes the variables assigned by the user for the script.

To view user variables

- Double click the **User Variables** node

Or

Click the < + > beside the User Variables node.

Output

The output tab displays any output from the script you are running. This may include, but is not limited to:

- errors.
- status of system variables (for example, AUTOTRACE ON, AUTOCOMMIT OFF).
- data in output format.

Data Grids

Data grids display the data selected by the script. One grid will display for every select statement.

To view data grids

1. Run the script.
2. If it is not already selected, click the Script Output tab in the bottom panel of the Script Debugger.
3. Click a **Grid** tab to display the data grid.

History

History displays output for all the scripts run during this session, or until the history tab is cleared.

If history is not displayed, you can display the history tab as follows:

To display history

1. Right-click on one of the other two tabs.
 2. Select **Show History tab**.
-

Related Topics

[Script Debugger Overview](#)

[Debugger Toolbars](#)

[Quest Extensions](#)

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[Executing Statements](#)

[Navigator Panel](#)

[Script Output Tab](#)

[Using Source Control](#)

[Breakpoints window](#)

[Call Stack window](#)

Time Values

When displaying times with dates, Delphi, and thus, Toad, will suppress the time values if they are 12:00:00 AM (midnight). The time portion of the date fraction is zero, so Toad adds no value to the display of the date.

Remember that Oracle stores dates as a big fraction number offset from January 1, 4712 B.C. It is then converted to a complete date and time. It is also good well past Y2K.

Performing a query "Select sysdate from dual" will display the time, and similarly, queries of DATE datatype columns will display the time if it is not midnight.

The time dropdown in **View|Toad Options|Data Grids** does not affect this output of time.

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Editor Shortcut Keys

Below is a list of Shortcut keys used in the Editor. See [General Shortcut Keys](#) for more information about shortcut keys in other areas.

Note: If you have configured your shortcuts, shortcuts added in Toad upgrades will need to be added. You can also revert your customizations to the default to gain access to all shortcuts and new features. See [Toad Options|Toolbars|Configurations|Toad Default \(all items\)](#).

Shortcut Key	Function
F1	Windows Help File
F2	Toggle Full screen Editor
F3	Find Next Occurrence
<SHIFT> <F3>	Find Previous Occurrence
F4	Describe Object at cursor. Describe Table, View, Procedure, Function, or Package in popup window
F5	Execute as Script
F6	Toggle between Editor and Results tabs
F7	Clear All Text
F8	Recall previous SQL statement
F9	Execute statement
<CTRL> F9	Describes statement at cursor
<SHIFT> F9	Execute snippet at cursor
F10	Popup Menu
F11	Execute code without using the Debugger
<CTRL> A	Select All Text
<CTRL> C	Copy

<CTRL> E	Execute Explain Plan on the Current Statement
<CTRL> F	Find Text
<CTRL> G	Goto Line
<CTRL> H	Highlight snippet
<CTRL>I	Init caps for highlighted code.
<CTRL> L	Converts Text to Lowercase
<CTRL> M	Make Code Statement
<CTRL> N	Recall Named SQL Statement
<CTRL> O	Opens File
<CTRL> P	Strip Code Statement
<CTRL> R	Find and Replace
<CTRL> S	Save File
<SHIFT>	Save File As
<CTRL> S	
<CTRL> T	Columns Dropdown
<CTRL> U	Converts Text to Uppercase
<CTRL> V	Paste
<CTRL> X	Cut
<CTRL> Z	Undo Last Change
<CTRL> .	Display popup list of matching tablenamees
<SHIFT>	Redo Last Undo
<CTRL> Z	
<ALT> <UP>	Display Previous Statement
<ALT> <DOWN>	Display Next Statement (after <ALT> <UP>)
<ALT>	Navigate to the previous tab in the editor
<PageUP>	
<ALT>	Navigate to the next tab in the editor
<PageDOWN>	
<CTRL> <ALT>	Navigate to the previous results panel tab
<PageUP>	
<CTRL> <ALT>	Navigate to the next results panel tab
<PageDOWN>	
<CTRL><HOME>	In the data grids, goes to the top of the recordset
<CTRL><END>	In the data grids, goes to the end of the recordset
<CTRL><SPACE>	Display the code template pick list
<CTRL><TAB>	Cycles through the collection of MDI Child windows

Related Topics

[Configure Menu Shortcuts](#)

[Debugger Shortcut Keys](#)

[General Shortcut Keys](#)

Configuring the Editor

You can use the Toad editor in the main editor window to edit SQL text. The same editor is used in read-only mode on many other windows throughout Toad. This editor provides the following features:

- User configurable [Syntax Color Highlighting](#)
- [Bookmarks](#)

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- [User defined keystrokes](#) for common editing commands
- [Auto Replace Substitutions](#) (replaces as you type)
- [Code Completion Templates](#)
- Undo/Redo
- [Comment Code Block](#)
- [Locate Closing Parenthesis](#)
- Find, Find Next, and Replace
- [Show All following a search](#)
- [Configurable Print Options](#)
- Word Wrap, Auto Indent, and all other common editor functions

Altering Editor Options

Editor Options can be altered from the Toad Options|Editor nodes.

Related Topics

[Editor - Behavior](#)

[Editor - Code Assist](#)

[Editor - Display](#)

[Editor - Open/Save](#)

[Editor - Printing](#)

Creating a Script

When you first open the Editor, you are faced with a blank editing window, the tab of which is labelled "No Name."

You can begin typing SQL or PL/SQL code directly in this window. If you want to use the XML or Hex editors, right click on the tab, select **New Tab|XML** or **New Tab|Hex** and a new tab that is enabled for that type of code will open.

To save a script

- Click the **Save as**  button on the Editor toolbar.
-

Related Topics

[Executing SQL Scripts](#)

[Executing Statements](#)

[Toad Editor](#)

[Editor Main Toolbar](#)

[Creating a Script](#)

[Opening a Script](#)

Sessions for Script Execution

In previous versions of Toad, scripts were executed by borrowing the main Toad session. Therefore any session operations executed in the main Toad session also affected scripts during execution.

In Version 9.0 and later, there has been a change in the script engine technology. Scripts are now executed in their own session by default. This means that operations which act on the active session (executing DBMS_SESSION procedures manually in the editor, and so on) were not affecting subsequent scripts during execution, because the commands were happening in different sessions.

The option [Execute Scripts in Toad Session](#) allows scripts to execute in the main Toad session.

This provides considerably more flexibility for how scripts perform. For example, you can now execute a script with a DISCONNECT command in it:

- If the option is checked, it will act on the Main Toad session.
- If the option is unchecked, the disconnect will execute correctly in its separate session, having no adverse affect on the main Toad session.

In previous versions of Toad, the DISCONNECT command would simply have been ignored by the script engine.

Related Topics

[Options - Oracle - Transactions](#)

Executing Statements

Toad supports query statements, DDL statements, blocks of procedure SQL, and so on.

In addition, Toad recognizes substitution variables in quotes as follows:

- If **&** is escaped, Toad will not prompt for a value.
- If **&** is the last character in a string, it is not considered a substitution variable.

Commands to execute code

<F9>

Pressing <F9> runs the statement at the cursor, or compiles the PL/SQL at the cursor. This does not include the contents of the entire window, unless the entire window contains only the statement or script at the cursor.

Any values entered for substitution variables are remembered.

To execute the statement at the cursor

- Press <F9>.
- Or

Click the **Execute Statement** button on the toolbar.

To process a portion of the editor text

- Highlight that portion and **press** <F9>.

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Or

Click the **Execute Statement** button on the toolbar.

<SHIFT><F9>

Pressing <SHIFT><F9> runs only the snippet at the cursor. This does not run or compile entire procedures, functions, or triggers. When you press <SHIFT><F9> Toad runs everything between two of the following:

- ; (a semi-colon)
- a blank line
- / (a forward slash)
- End and beginning of file indicators

To execute a single statement among many statements (separated by at least one blank line)

1. Click or place the caret/cursor within the statement, or on the blank line after the statement you want to execute.
2. Press <SHIFT><F9>, or <CTRL><ENTER>.

Or

Click the **Run Current Statement** button on the toolbar.

Highlighting SQL Snippets

You can easily highlight bits of code so that an explain plan is run on only that code, or so that you can see what Toad is including as a part of the statement before you Execute it. Highlighting code uses the same logic as [<SHIFT><F9>](#).

To highlight a SQL Snippet

- Place your cursor in the code you want to highlight and then press <CTRL><H>.
-

SQL *Plus Commands

Toad does not support all SQL*Plus commands. The lists below describe the commands Toad [supports](#), [ignores](#), or [does not support](#).

SQL*Plus Syntax - Supported

SQL*Plus commands supported by Toad include:

@ and @@

/ (slash)

Required as a separator between certain commands (anonymous blocks, PL/SQL, and Create Type statements)

This does not run the contents of the buffer, because Toad does not store a command buffer as SQL*Plus does.

& (ampersand)

&&(2 ampersands)

ACCEPT

BREAK/BRE

BTITLE/BTI

CLEAR

- CLEAR SCREEN not supported
- SQL not supported
- BUFFER not supported

COLUMN/COL

COMPUTE/COMP

- SUM, MIN, and MAX supported at one level of detail

CONNECT/CON and DISCONNECT/DISC

DEFINE/DEF and UNDEFINE/UNDEF

- CONNECT IDENTIFIER not supported
- SQLPLUS RELEASE not supported
- EDITOR not supported

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EXEC/EXECUTE

EXIT/QUIT

HOST

MERGE

PAUSE/PAU

PASSWORD

PROMPT/PRO

PRINT

REM/REMARK

REPFOOTER

REPHEADER

SET APPINFO (only changes the module name when running scripts)

SET AUTOCOMMIT

SET AUTOPRINT

SET AUTOTRACE/AUTOT (default OFF)

SET COLSEP

SET DEFINE/DEF (default ON)

SET ECHO (default OFF)

SET ESCAPE/ESC

SET FEEDBACK/FEED

SET HEADING/HEA (default ON)

SET HEADSEP

SET LINESIZE/LINES (default 80, maximum 2000)

SET LONG

SET LONGCHUNK SIZE

SET NEWPAGE

SET NULL

SET NUMFORMAT

SET NUMWIDTH

SET PAGESIZE

SET RECSEP

SET RECSEPCHAR

SET SCAN (default ON)

SET SERVEROUTPUT/SERVEROUT (default OFF)

- ON and OFF supported
- SIZE supported

SET SHOW

SET SQLCONTINUE

SET SQLNUMBER

SET SQLPROMPT

SET SQLTERMINATOR

SET TERMOUT/TERM (default ON)

SET TIMING

SET TRIMOUT

SET TRIMSPPOOL

SET UNDERLINE

SET VERIFY

SET WRAP

SHOW

SPOOL Filename and SPOOL OFF (also SPO).

- In Toad, non-pathed files are created in the Toad directory.
- In Quest ScriptRunner, non-pathed files are created in the same directory as Quest ScriptRunner.
- Supports relative spool paths
- Like SQL*Plus, passes SPOOL file to sub-scripts

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START

STORE SET

TTITLE

VARIABLE

WHENEVER OSERRER

WHENEVER SQLERROR

SQL*Plus Syntax - Ignored

These commands are ignored, but do not cause an error.

SET ARRAYSIZE	SET DESCRIBE	SET MARKUP
SET AUTORECOVERY	SET EDITFILE	SET PAUSE
SET BLOCKTERMINATOR	SET EMBEDDED	SET SHIFTINOUT
SET CMDSEP	SET FLAGGER	SET SQLBLANKLINES
SET COMPATIBILITY	SET FLUSH	SET SQLCASE
SET CONCAT	SET INSTANCE	SET SQLPREFIX
SET COPYCOMMIT	SET LOBOFFSET	SET SUFFIX
SET COPYTYPECHECK	SET LOGSOURCE	SET TAB
		SET TIME

SQL*Plus - Unsupported

These SQL*Plus commands will cause a "Statement Ignored" error on the Script Output tab.

APPEND	COPY	LIST
ARCHIVE LOG	DEL	RECOVER
ATTRIBUTE	EDIT	RUN
CHANGE	GET	SAVE
CLEAR SCREEN	HELP	SHUTDOWN
CLEAR SQL	INPUT	STARTUP
CLEAR BUFFER		

Executing SQL Scripts

The Editor window can process simple SQL scripts that contain DDL statements, INSERT statements, and more. Some SQL*Plus commands are ignored as Toad processes a SQL script. See the [SQL*Plus Commands](#) topic for more information.

An alternative, using Quest ScriptRunner to run long scripts can be useful. Because Quest ScriptRunner executes in the background, Toad is free to perform other tasks. See the Quest ScriptRunner Helpfile (In Quest ScriptRunner, press <F1>) for more information.

To execute a SQL script in Toad

1. Load the script into the Editor window.
2. From the **Editor** menu, select **Execute as Script**.

Note: Linesize in Toad defaults to 80, just as in SQL*Plus. If you want to change this to a longer amount, you can do it using the SET LINESIZE command in your script.

Alternately, you can add the following lines **exactly** in the TOAD.INI file:

[SCRIPTS]

LineSize=300

(Or enter any linesize you want where we have included 300. Do NOT put a space after the number.)

Caution: If any changes have been made, the script in the current window is **automatically saved**, and then executed as a script.

To execute a SQL script in Quest ScriptRunner

1. Load the script into the Editor window.
2. From the **Editor** menu, select **Execute SQL via QSR**. Quest ScriptRunner opens using your current connection and the script executes.

To execute the current window as SQL Script

- From the **Editor** menu, select **Execute SQL via SQL*Plus**. The script in the current window is saved and then executed as a script.

Note: Bind variables are not supported from the **Execute Current Window as Script** command.

Code Folding

Code folding lets you collapse portions of your code so that you can see more of the code you need to see. Then you can expand it when you need to work with the folded code.

Language management is the basis of code folding. Although some standards settings for code folding are included with Toad, the strength of this feature is found in the ease of configuration. You can set Toad to fold code where you want it to fold.

To enable code folding

- From Toad **Options|Editors|Behavior**, select **Enable code folding**.

To fold code selection

1. In the **editor window**, select the code you want to fold or unfold.
2. Right-click and select **Fold Selection**.

Folding and Unfolding all code

You can fold and unfold all code within an editor window at one time.

To fold (or unfold) all code

- In the editor window, right-click and select **Fold all** (or **Unfold all**).

Marking Code to Fold

You can create new areas for Toad to fold code by creating new ranges within the Language Management area. When code folding is enabled, you can then fold the code within that range.

To set a code folding range

1. In **Toad Options|Editors|Behavior|Language Management**, select the type of code you want to fold, and then click **Edit**.
 2. Click the **Rules** tab.
 3. Add a new Rule. When you name the rule, you may want to include Start in it, as in If start. Create another rule that will define where you want the range to end, such as If end.
 4. Select the starting condition you have just created.
 5. Set up the conditions you want to use to define the start of your range. For example, Identifier = one or more tokens.
 6. Click the **Properties** tab.
 7. Select **Range start** in the rule type box.
 8. Set the range end condition to the rule where you want to end the condition.
 9. Set the style you want to display when the range is selected. In the case of If start, the default style is **Current block**.
 10. Select any other options you want to activate. Make changes to the [Advanced](#) tab if you wish.
 11. Set the Range end condition in the ending rule you have created in the same manner, only selecting Range End as the rule type.
 12. Click **Apply** or **OK**.
-

Related Topics

[Language Management Overview](#)

[Rules tab](#)

Sample Statements

Here are some sample SQL statements that could be executed in the Editor window:

```
CREATE DATABASE LINK JFPROD CONNECT TO PRODUCTION
IDENTIFIED BY PRODUCTION USING 'JFPDB'
```

```
INSERT INTO DONOR_REP_TYPES
SELECT * FROM DONOR_REP_TYPES@JFPROD
```

```
DELETE FROM DONORS WHERE DONOR_NO = 3
```

```
INSERT INTO INDIVIDUALS
SELECT * FROM INDIVIDUALS@TEMPDEV
WHERE IND_NO IN
( SELECT DNR_IND_NO FROM DONORS
WHERE DNR_IND_NO IS NOT NULL AND
DNR_INDIVIDUAL_BOOL = 1 )
```

```
SELECT * FROM FUNDING_NEEDS
WHERE
FND_UNFUNDED_AMOUNT IS NOT NULL AND
FND_UNFUNDED_AMOUNT > 0 AND
FND_ALLOCATION_MEETING_BOOL = 1
```

```
DESC DONORS
```

```

DECLARE
t_owner varchar2(30) := 'MYNAME';
CURSOR all_obj_cur IS
SELECT table_name
FROM all_tables
WHERE owner = UPPER (t_owner);
disable_cursor INTEGER;
out_str VARCHAR2(1000);
BEGIN
FOR obj_rec IN all_obj_cur
LOOP
disable_cursor := DBMS_SQL.OPEN_CURSOR;
out_str := 'ALTER TABLE ' || obj_rec.table_name ||
' ENABLE ALL TRIGGERS';
DBMS_SQL.PARSE (disable_cursor, out_str, DBMS_SQL.V7);
DBMS_SQL.CLOSE_CURSOR (disable_cursor);
END LOOP;
END;

```

Table Name Autocomplete

Toad can help you easily find a table name without excessive typing.

Toad will look through the list of tables matching the letters you type. If only one matches, the table name is automatically completed in the editor. If there is more than one match, a popup list appears for you to select the desired table.

Note: Table names must be loaded before this feature can be used. If table names have not been loaded, Toad will prompt you to do so.

To autocomplete a table name

- Type the first few letters of a table name in your schema, then press **<CTRL>**. **(period)**.
-

Results Grids

At the bottom of the Editor are tabs that display results of your actions within the edit window.

Depending on your Toad Edition, any of these may display results:

- [Data Grid](#)
- [DBMS Output area](#)
- Script Output area
- [Script Debugging area](#)

Data Grid

The data grid displays fetched data. The results panel contains tabs for Data, Explain Plan, Auto Trace, DBMS Output, Code Statistics, and Script Output. If you have the debugger module, you may also have the Script Debugger displayed.

A horizontal splitter between the editor and results panel lets you size each component.

The data grid is user configurable. It includes:

- optional movable columns

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- support for LONG and LONG RAW columns by popup windows
- support for exporting data to disk
- printing
- editing data

The grid also has a right mouse menu for quick access to grid configuration options. If the resulting dataset is editable, several of the buttons on the [results grid toolbar](#) will become enabled (insert, delete, post updates, and so on).

Note: Dates can only be entered in mm/dd/yy, mm/dd/yyyy, or the Windows Control Panel, Regional Settings, Date, Short Date Style format. For example, in French, date entry of dd/mm/yy or dd/mm/yyyy is acceptable. Dates entered in dd-mon-yy format will be rejected.

DBMS Output

You can view the DBMS Output in the same Editor window.

To see the DBMS output window

- In the Results area, click the **DBMS Output** tab.
-

Related Topics

[SQL Results Grid](#)

[Script Output](#)

[Script Debugging](#)

File to FTP

You can upload a file directly from the Editor to FTP using the Project Manager.

To move a file from Editor to FTP

- From the **Editor**, click and drag the tab of a loaded file from the Editor to an **FTP** node in the Project Manager.
-

Aliases

Aliases

Setting up table aliases lets you create shortcuts to columns of a query. You can then use the alias in a SQL statement instead of a long column name or path.

ALIASES.TXT file

Because aliases.txt is a text file, you can edit it manually using a text editor. Do this when Toad is not running. Otherwise the file will be overwritten at shutdown, or whenever you save options.

You might want to manually edit the file to pre-build a list of aliases. Alternatively, you may want to edit it manually to perform maintenance on it and remove extraneous or multiple entries. Currently there is no way to do this from within Toad.

The text file that controls the alias list is found in /Toad/User Files/aliases.txt. The format of aliases.txt is as follows:

```
table_name=alias
```

for example:

```
AAX_ACCESSGROUP_APPLICATION=aax
```

```
ADD_ADDENDUM=add
```

```
ADT_ADDRESS_TYPE=adt
```

```
AFP_ACTIVITY_FIRM_PARTIC=afp
```

```
AGX_APPLICATION_GROUP_ITEM=agx
```

```
DEPARTMENT=dept
```

Using Aliases

No ini changes are required to use aliases. Use them in the Editor by entering the alias instead of the full table name, for example:

```
SELECT DEPT.
```

and a column list will pop up for the correct Oracle table (in this case, DEPARTMENT).

If you set up these table aliases in ALIASES.TXT they will be presented on the Query Builder dialog box when you select that table to build your query.

To complete the SELECT SQL statement above, use [Auto Replace Substitutions](#) names similarly to the table aliases. These are accessible through the **View|Editing Options|Auto Replace** tab.

Also, see the [Code Completion Templates](#) topic.

Skipping Aliases

There may be times when you have an object name that also happens to be an alias for another table. If you try to use the normal Columns Select methods, Toad will return the columns for the table to which the Alias refers.

You can skip the alias and open the columns list for the object, rather than the alias.

To skip an alias

- From **Edit|Picklist dropdown no alias**.

Or

Press <CTRL><Shift> T.

SQL Scanning

Toad will keep track of aliases for you as you create them using SQL. Toad scans the FROM clause of a select statement to check for tables and aliases.

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Note: Toad only finds the first FROM clause in any one statement. So extra tables and aliases in complex statements such as unions or subqueries will not be found.

If a table alias is found in the FROM clause of a current SQL statement, Toad will do the following:

- For aliases already on the list, you do not need an alias defined in the FROM clause for Toad to use the columns dropdown feature.
 - If an alias is identified in the SQL statement, and a Columns Select is used on the alias, it is automatically added to aliases.txt.
 - If there is already an entry for that alias in aliases.txt, the pair defined in the current FROM clause replaces the old entry.
-

Editing Scripts and Statements

Opening a Script

You may want to open and edit a script that you have previously saved. You can do this easily from the Editor Main toolbar.

To open a saved script

1. From the **Editor|File** toolbar, click the **Open File**  button.
2. Select the file from the **Load File** dialog and click **Open**.

To open a recently used saved script

1. From the **Editor|File** toolbar, click the **Open File**  drop down.
 2. Select the file from the list provided.
-

Related Topics

[Creating a Script](#)

Calling Stored Procedures

From Editor window

This is an example of a small anonymous block of PL/SQL that can be executed in an Editor window. A call to a stored procedure must be a full anonymous PL/SQL block (in other words, must have a BEGIN and END).

```
begin  
CallMyProc();  
end;
```

From Schema Browser

You can also call stored procedures in the Schema Browser window.

To call a stored procedure from the Schema Browser

1. Open the **Schema Browser**, and select **Procedures** from the Object Panel.
 2. Select a **PL/SQL procedure, function, or package**, and click **Execute**.
-

Related Topics[Schema Browser: Procs](#)[Procs: Popup menu](#)[Create new procedure](#)**Variables**

The Variables window appears when you execute a statement from the Editor window, if you have specified parameters in your SQL query. For example, execute the following:

```
SELECT * FROM EMPLOYEE WHERE EMPLOYEE_ID = :EMPID
```

OR

```
SELECT * FROM EMPLOYEE WHERE EMPLOYEE_ID = &EMPID
```

Once the variables window comes up, select each bound variable, select the data type, and enter the desired value. Click **OK** to complete running the resulting SQL statement.

Note: Bound parameter substitution is NOT supported in anonymous PL/SQL blocks.

To delete a bound variable

- Select it and click **Delete**.

To add a deleted bound variable

- Click **Scan SQL**. Toad will rescan the SQL and reenter the variables.
-

Strip Code Statement and Make Code Statement Functions

The Editor window contains two functions that simplify copying SQL statements from Toad to code development tools such as Delphi, VB, C++, Java, or Perl, and from those code development tools back to Toad. The functions are **Strip Code Statement** (<CTRL>P) and **Make Code Statement** (<CTRL>M), available from the **Editor** menu.

Strip Code Statement

Strips off the code development tool syntax from the SQL statement, ready to execute in Toad.

For example, taking this VB code from the VB development tool, copying it, pasting it into Toad, and running Strip Code Statement, changes the SQL statement from this:

```
Sql = " select count(*) as cnt"
Sql = Sql & " from all_tables"
Sql = Sql & " where owner = 'DEMO'"
Sql = Sql & " and table_name = 'EMPLOYEE'"
```

to this:

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```
select count(*) as cnt
from all_tables
where owner = 'DEMO'
and table_name = 'EMPLOYEE'
```

Now the SQL is ready to execute in Toad.

If you have multiple SQL statements in the Editor, highlight the statement you want to strip before executing the Strip Code Statement function.

Make Code Statement

Adds the code development tool syntax to the SQL statement in the Editor and makes it ready to paste into the development tool code.

When making code statements, rather than changing the code in the Editor window as the Strip Code Statement function does, the Make Code Statement function takes the currently highlighted SQL statement, translates it into the code development tool syntax, and copies it to the clipboard. You can now switch to the code development tool and paste in the results. A message appears in the status panel such as "VB statement was copied to the clipboard".

If you have multiple SQL statements in the Editor, highlight the statement you want to make before executing the Make Code Statement function.

Selecting the Code Development Tool

You select the code development tool in the **View|Toad Options|Editor|Code Assist|Make Code Format** box. The Make Code Format box lets you select a language syntax for Toad to convert a SQL statement into (Make Code Statement function) and out of (Strip Code Statement function). Currently, Delphi, VB, C++, Java and Perl are supported. The default selection is VB. You can also create your own language templates. For more information, see the Toad Options|[Editor](#) topic.

Creating Make Code Templates

From [Toad Options|Editor - Code Assist](#) window, you can create your own Make Code Templates.

Use the following variables to create your own language template:

- %SqlVar% - this is the MakeCode variable entered in the [Toad Options|Editor|Code Assist|MakeCodeVariable](#) box. Using a variable here is optional.
- %SqlLength% - This will be replaced by the number of characters in all selected SQL, on one or multiple lines.
- %SqlText% - This is replaced by the first line of SQL you have selected.
- %SqlTextNext% - This will be replaced by any subsequent lines of SQL you have selected. This is cumulative and includes ALL subsequent lines of SQL.

Note: For the best output result, it is recommended that the %SqlTextNext% variable be included on a separate line. Use the left and right brace for comments.

Remarks (such as template name) should be included in brackets.

Examples:

Using the following SQL:

```
Select *
from
Employees
```

and using the following code templates, you will get the results below.

Template	Result
<pre>{ C# Language Template } string %SqlVar%& = "%SqlText% " + "%SqlTextNext% " { C++ Language Template } char %SqlVar%[%SqlLength%]; strcpy(%SqlVar%,"%SqlText%"); strcat(%SqlVar%,"%SqlTextNext%"); { Java Language Template } "%SqlText% " + "%SqlTextNext% "</pre>	<pre>string SQL = "Select * " + "from " + "employees " ; char SQL[23]; strcpy(SQL,"Select * "); strcat(SQL,"from "); strcat(SQL,"employees"); "Select * " + "from " + "employees "</pre>

Related Topics

[Strip Code Statement and Make Code Statement Functions](#)

[Toad Options|Editor - Code Assist](#)

Quick Describe

You can place the cursor over a Table, View, Procedure, Function, or Package name in the code and see a popup window that completely describes the object.

To describe an object

1. Place select an **object name** in the code.
2. Press <F4>.

Note: In addition to the <F4> describe, you can also <CTRL>Click over the object, or right click on it and choose Describe.

Keeping Popup Describe Windows on Top

If you want the popup windows to stay on top, see Toad Options Editor. You can elect to place the results of "DESCRIBE TABLE" in either the SQL Results panel or the popup windows.

Related Topics

[Editor Options](#)

[Edit: Describe](#)

[Object Palette](#)

SQL Recall

SQL Statement Recall

The SQL Statement Recall window is dockable, and can be pinned or hidden.

Every statement executed in the Editor is added to the statement recall list. This list is organized with the most recent SQL at the top. You can select a statement from this list and run it, you can remove a statement from this list, and you can name your statements for easy recall. In addition, you can classify a SQL statement as either a [Personal SQL](#) or [Named SQL](#).

All statements (to a maximum set in **Toad Options|Editor|Execute/Compile|SQL Recall**) are saved between sessions of Toad, in the file Toad for Oracle\User Files\SAVEDSQL.xml.

The SQL Recall window displays the following information:

- Name of SQL (if any)
- SQL statement
- Connection information
- Date and time of last connection

Saving only valid SQL statements

You can save only those SQL statements that executed successfully. This saves the list from containing misspelled column names, SQL clauses, etc.

To set Toad to only save valid SQLs

- In the **View|Toad Options|Editor|Execute/Compile** window, select the **Save Only Statements that are Valid** check box.

Editing Saved SQL Attributes

You can edit Saved SQL statement attributes like Name, Type, and SQL within the SQL Recall grid.

To edit saved SQL attributes

1. Double-click the appropriate cell of the selected SQL statement.
2. Make any changes.
3. Click outside the selected cell, or press **<Enter>**.

Related Topics

[SQL Statement Recall Toolbar](#)

[Add to Personal SQLs](#)

[Add to Named SQLs](#)

[Viewing and Working with Recalled SQL](#)

SQL Statement Recall Toolbar

The SQL Statement Recall toolbar has two parts to it, which you can hide or show individually depending on your needs.

Main Toolbar

The main SQL Statement Recall toolbar includes commands for working with the SQL statements Toad has archived.



Button	Command
	Save selected SQL statements to a file.
	Copy selected SQL statements to clipboard
	Remove selected SQL statements from the SQL list
	Copy selected SQL statements to the Editor.
	Previous statement
	Next statement
Show db and date	Display or hide connection information and date last executed.

SQL Filter Toolbar

The SQL Filter toolbar contains filtering options for your list of SQL statements.



Button	Command
SQL Contains	Filter the list by a character string contained within the SQL.

Related Topics

[SQL Statement Recall](#)

[Add to Personal SQLs](#)

[Add to Named SQLs](#)

[Viewing and Working with Recalled SQL](#)

Viewing Recalled SQL

You can view recalled SQL Statements in groups or individually, and easily move them into editors to work. You can view SQL Statements in several ways.

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To view a history of SQL statements

1. From the **View** menu, select **SQL Command Recall|History**
2. At the bottom of the window, click the **All SQL** tab.

To view Personal and Named SQL

1. From the **View** menu, select **SQL Command Recall|Personal** or **Named**.
2. At the bottom of the window, click the **All SQL** tab.

To view individual SQLs

1. From the **View** menu, select **SQL Command Recall**.
2. Select the appropriate tab at the top of the grid.
3. Select one or more SQL statements.
4. At the bottom of the window, click the **Single SQL** tab.

Note: In the Single SQL tab, the operators of **F4**, **<CTRL>click**, and right-click **DESCRIBE** are available, as in the Editors.

Related Topics

[SQL Statement Recall](#)

[SQL Statement Recall Toolbar](#)

[Add to Personal SQLs](#)

[Add to Named SQLs](#)

[Options - Editor - SQL Recall](#)

Working with Recalled SQL

You can open SQL statements in the Editor, or drag them into the Editor or Text Editor.

To drag and drop SQL statements

1. Select one or more SQL statements in the SQL Recall window.
2. Drag to the editor and drop them in the editing window.

To edit SQL in the Recall window

1. Select one or more SQL statements in the SQL Recall window.
2. Right-click and select **Edit**.

To open SQL statement directly in the Editor

- Double click on the desired SQL statement.
-

Add to Personal SQLs

This command adds the SQL statement that you have highlighted in the Editor to your personal SQLs.

To add a SQL statement to your personal SQLs

- Click on the **Editor|Add to Personal SQLs** menu item.

All statements (to a maximum set in [Toad Options|Editor|Code Assist|SQL Recall area](#)) are saved between sessions of Toad, in the file Toad for Oracle\Temps\SAVEDSQL.xml.

Related Topics

[SQL Statement Recall](#)

[SQL Statement Recall Toolbar](#)

[Add to Named SQLs](#)

[Viewing and Working with Recalled SQL](#)

Add to Named SQLs

You can add a SQL statement to your named favorite list from this window.

To add a SQL to your list of Named SQL statements

1. Highlight the statement.
2. Select the **Editor|Add to Named SQLs** menu item.
3. Type a name for this SQL statement, one that you can easily recall at a later time.

This differs from the list of favorite SQL statements, because favorites are not named, and the standard recall SQL statement stores the list of statements executed.

To recall a SQL statement from this list of named SQL statements, press <CTRL>N, or select the **Named SQL** tab.

The name is case sensitive: you can store both "sql1" and "SQL1".

If you attempt to add a named SQL statement with the same name as one that already exists, Toad displays a dialog box asking you if you want to replace it. Click **Yes** to add it, and **No** to cancel. If you click No, Toad will notify you that the Named Statement was not created.

All statements (to a maximum set in **Toad Options|Editor|Execute/Compile**) are saved between sessions of Toad, in the file Toad for Oracle\User Files\savedsql.xml.

Related Topics

[SQL Statement Recall](#)

[SQL Statement Recall Toolbar](#)

[Add to Personal SQLs](#)

[Viewing and Working with Recalled SQL](#)

Using the Editor File Splitting Options

The Editor is designed to make developing packages, types, procedures and functions easy. In Oracle, the spec and body of a package or type are two separate objects, although they work together. Because the Editor is not a script editor or processor, multiple objects are maintained in separate tabs: one tab per object.

Maintaining one object per tab allows Toad to provide advanced features such as interactive debugging, Team Coding, and advanced parsing capabilities.

Keeping objects on individual tabs makes it easy to jump from the spec to the body, simply by pressing <CTRL><SHIFT> and clicking over an **object name**.

However, some developers may prefer to save both the spec and the body of a package in one file. Toad can accommodate this using the file splitting options.

If you have files from previous versions of Toad that contain both spec and body, you can set [File Splitting Options](#) to split them into appropriate tabs when the file is opened. You can then choose to save them into a single file or save them as separate files (one per object).

Create New PL/SQL Object

Use this dialog box to use a template for your new procedure, function, package, or trigger.

To create a new PL/SQL Object

1. From the Editor, click the Create New PL/SQL Object button in the toolbar.
2. Select the type of object you want to create:
 - Function
 - Procedure
 - Package (spec)
 - Package Body
 - Type (spec)
 - Type Body
 - Trigger
3. Enter the name of your new object in the New Object Name box, or leave this blank for now and enter a name when you save the object.
3. The default templates are read from the Toad for Oracle\User Files folder. If you want to use a template you have created other than the default, choose it from the drop down menu. The following default templates are located in the Toad for Oracle\User Files folder:
4. NEWPROC.SQL For creating a new Procedure
5. NEWFUNC.SQL For creating a new Function
6. NEWPackage.SQL For creating a new Package spec
7. NEWPackageBody.SQL For creating a new Package body
8. NEWType.SQL For creating a new Type spec
9. NEWTypeBody.SQL For creating a new Type body
10. NEWTrigger.SQL For creating a new Trigger spec

Note: In addition to the above templates, there are two others stored in the Toad/User Files folder and editable as described below. These are useable within a created package and include both Package Procedures and Package Functions. See [Using Templates within Packages](#) for more information.

4. You can edit these files in the Editor as desired, perhaps to adjust the comment prolog, standard error handling section, and so on. Use any text editor, or select the file from the Toad Options|Editor|[Proc Templates](#) topic and click **Edit**.
5. You can also delete, change, or add new files as desired. See Toad Options|Editor|[Proc Templates](#).
6. You can load these New Procedure templates from any network path.

Simply specify where the files are located when you add them to the list. To change the path, you will need to add the new path and delete the old entry.

Auto Replace Keywords

There are several keywords in the templates for which Toad will automatically substitute in values when you open the templates. In addition to these, you can also specify custom keywords from [Options: Editor - Proc Templates](#).

KEYWORD RESULT REPLACEMENT

```
%YourObjectName% Object Name
%SYSDATE% Workstation date, for example, mm/dd/yyyy
%DATETIME% Workstation date and time, for example, mm/dd/yyyy hh:mm:ss am
%DATE% Workstation date, for example, mm/dd/yyyy
%TIME% Workstation time, for example, hh:mm:ss am
%USERNAME% Username specified in Toad Options, Editor node
%TRIGGEROPTS% Trigger Options for triggers only, for example, Before insert on, for each row
```

Note:

- `**YourObjectName*` is also supported for backwards compatibility.
- The keywords ARE NOT case sensitive.
- The date and time formats come from the Windows Control Panel settings.
- This feature is only in the Commercial version of Toad, not the freeware Toad.

Related Topics

[Schema Browser: Procs](#)

[Procs: Popup menu](#)

[Calling stored procedures](#)

[Using Templates within Packages](#)

[Options: Editor: Proc Templates](#)

Running SQL from within PL/SQL code

When you run something containing the @ command (such as `@whereami.sql`) as script in the Editor, Toad follows a hierarchy of where to look for the `whereami.sql` file to execute.

The hierarchy it follows is:

1. Parent script directory (If you load `scripta.sql` that has an `@scriptb.sql` command in it, Toad first looks in the directory where `scripta.sql` is located).
 2. Current Editor directory (File > open in editor).
 3. Toad dir/User Files.
 4. SQLPATH environmental variable.
-

Using Templates within Packages

There are two template types that you can use only within packages. These are Package Function and Package Procedure. You can create and edit these templates from the [Toad Options|Editor|Proc Templates page](#), but you cannot access them from the [Create PL/SQL Object window](#).

To use a package function or package procedure template

1. In the Editor, load a **package spec** or create a new one.
2. Enter a new declaration for a package procedure or function into the spec.
3. Press **<Ctrl><Shift><C>**. The default package procedure or package function template is used to create a new procedure in the package body.

Note: If you have created multiple templates, the template you want to use **MUST** be designated the default. Any other template will not be used.

Related Topics

[Schema Browser: Procs](#)

[Procs: Popup menu](#)

[Calling stored procedures](#)

[Using Templates within Packages](#)

[Options: Editor: Proc Templates](#)

Formatting Tools

You can format your code from the Editor in Toad.

Format multiple scripts at one time from the Project Manager. (See [Formatting Files](#).)

To format a SELECT statement

1. Highlight the **statement** you want formatted.
2. **Right-click** and select **Formatting Tools**.

To format an entire script

1. Open the script in the editor.
 2. Right-click and select **Formatting Tools** and then select **Format Code**.
-

Related Topics

[Formatting Files](#)

[Formatting Options](#)

Load Database Object

Use this dialog box to load an existing object into the Stored Edit/Compile window for further editing.

To load an object from the database

1. From the Editor window, **Load Database Object** toolbar button.
 2. From the **Schemas/Owners** dropdown, select the **Schema/Owner** of the object you want to load.
 3. Select the **type of object** you want to load from the dropdown list. This option lets you choose to load only a package body or spec, or the complete package, as well as functions, triggers, and so on.
 - For databases with few objects, just select **All**.
 - For databases with many objects, select a **type of object** and then **filter** to show a manageable list in the left hand panel below.
 4. From the left hand panel, you can click an object to select it. A preview automatically appears in the right hand panel. You can turn this preview off by using the toggle icon in the upper right of the dialog box.
-

Comment Code Block

This function comments the selected block of text by adding "--" before each line.

You can access this function by right-clicking in the editor tabs. It is also located on the **Edit** menu.

Related Topics

[Uncomment Code Block](#)

[Comment Block and Uncomment Block](#)

Uncomment Code Block

This command removes comments from the selected block of text by removing "--" from the beginning of each line. This is available on the Right-Click menus of the editor tabs and also on the Edit menu.

Related Topics

[Comment Code Block](#)

[Edit: Comment Block and Uncomment Block](#)

Find Closing Block

Closing blocks are controlled by the Language Management options. You can turn the staples on and off to mark them. See [Language Management | Rules tab | Draw Block Staple](#).

Save All

The Save All command on the Editor toolbar lets you save changes to all open files quickly. If files are not named, you are prompted to provide a name and location. Names provided are in the order of the tabs in the Editor.

To add the command to the toolbar

You must add this button to your toolbar manually.

1. Right-click over the **Editor** toolbar and choose **Customize**.
 2. Select the **Commands** tab, and select **File**. Drag **Save All** up into the **Editor** toolbar and close the **Customize** window.
-

Edit Menu

Edit: Undo

The **Edit | Undo** command undoes the last keystroke.

Edit: Redo

The **Edit | Redo** command redoes the last undo.

Edit: Popup Menu

Click the **Edit | Popup Menu** item to display the associated popup menu (right-click menu).

You can also access this menu with a right-click of the mouse while in the Editor.

Related Topics

[Hints and Tips: The Right Mouse Button](#)

External Editor

You can use an external editor of your choice, and swap out the text from the Toad Editor to the external editor, edit the text, and bring the results back into Toad.

To set up your External Editor

1. From the **View** menu, select **Toad Options | Executables | Editor**.

2. In the **Editor** box, enter the full path of the external editor you want to use, a space, and %s
For example: **c:\winnt\notepad.exe %s**

To open text in External Editor

Once your external editor is set up, you can open text from your Editor in it.

- From the Editor, press **<Ctrl><F12>** (or, from the Edit menu, select Load in External Editor). The external editor opens and loads the current Toad Editor contents.

Note: if you have not saved the contents of the Toad editor to a file, you will be prompted for a filename before launching the external editor.

To return to Toad from the External Editor

1. Save the file from the external editor and then close the editor.
 2. Click back on Toad. You will be prompted to reload the contents of the file only if the **View|Toad Options|Editor|Open/Save|Prompt for reload on activation if timestamp has changed** option is checked.
-

Edit: Toggle Fullscreen Editor

Click **Edit|Toggle Fullscreen Editor** (while in the Editor) to toggle between the split screen edit/ results window to a full screen edit window. You can also toggle the fullscreen editor by pressing the **<F2>** key.

Edit: Swap This/Prev Lines

The **Edit| Swap This/Prev Lines** menu item switches the line your cursor is on in the SQL script with the previous line.

For example, if the cursor is on Line 8, then when you swap, what was on line 8 would now be on line 7 and what was on line 7 would now be on line 8.

Edit: Comment Block and Uncomment Block

The Comment Block and Uncomment Block commands apply to the Editor. To comment a section of your SQL script, select the block, and then click the **Edit|Comment Block** menu item. Your selection will now appear as a comment. To uncomment a section, select the block, and then click the **Edit|Uncomment Block** menu item.

The Comment Block and Uncomment Block commands are also available in the Right-Click menu of the SQL Editor.

Edit: Upper Case and Lower Case

You can change the case of a selected block of text.

- To change the selection to Upper Case click the **Edit|Upper Case** menu item, or press **<CTRL> <U>**.

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- To change the selection to Lower Case, click the **Edit | Lower Case** menu item, or press <CTRL> <L>.

Capitalization Effects that you have set up in the **Toad Options** can override your Upper Case and Lower Case conversions. For information on how to change your syntax highlighting settings, please see the Language Management|[Highlighting](#) topic.

Related Topics

[Language Management](#)

[Highlighting tab](#)

[Syntax Highlighting](#)

Edit: Columns Dropdown

Columns Dropdown displays a list of columns in a selected table from which you can select columns to include in your code.

To activate the columns dropdown

- Place the cursor on a table name and then click **Edit | Pick List Dropdown**

Or

Press <CTRL><T>

Describe

This displays a popup window that describes the selected object. If the item is a procedure, it displays the procedure popup window.

To use describe

- Select an **object** in the Schema Browser, Object Palette, or Editor window.
 - Do one of the following:
 - From the **Edit** menu, select **Describe**.
 - Press <F4>
 - Right-click and select **Describe**.
-

Related Topics

[Hints and Tips: The Right Mouse Button](#)

Action Console

The Action console lets you easily perform any number of actions on an object from within Toad. Currently it is available in:

- Object Palette
- Object Search results grids

- Data grids
- Editor Navigator
- Editor

When you open the action console, Toad provides you with a list of all the actions you can perform on that object. This makes it easy, for example, to rename an object while working with SQL results. If you work with the object palette open, you can easily change objects on the fly.

Results of actions

Most actions occur immediately. For example, Alter Object opens the alter window for the selected object. Actions such as Drop, that will have an immediate and drastic effect on your database open a confirm dialog before acting. Actions such as create script create the script in the clipboard so that you can paste it wherever it is needed.

To use the action console

1. Right-click on an object within Toad.
Note: Within the data grids, right-click on a cell that contains a database object.
 2. Select **Action Console**.
 3. Select the action you want to perform.
 4. Click **OK**.
-

Related Topics

[Object Palette](#)

[Object Search](#)

[Data Grids](#)

Editor Menu

Editor: Execute Statement

To execute your SQL script in the SQL window you can either press <F9> or select the **Editor|Execute SQL All** menu item. This command executes everything in the Editor window or whatever you have selected (highlighted).

The Editor window can process SQL Scripts that contain DDL statements, Insert statements, and more. Some SQL*Plus commands are ignored as Toad processes a SQL script. These commands include Describe, Show Errors, Set, Remark, and Prompt. For scripts that contain other SQL*Plus commands, you can still execute your script using the SQL Editor > Execute SQL Window using SQL*Plus menu item.

Related Topics

[Sample Statements](#)

Editor: Execute Snippet

You activate the Execute Snippet command by clicking the **Editor|Execute Snippet** menu item or pressing the <SHIFT><F9> keys.

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The Execute Snippet command executes the current statement at the cursor in the Editor and executes the current source in the Editor for PL/SQL debugging.

Highlight Snippet

Highlights the code at the cursor.

Describe (Parse) Select Query

Use this function to see what columns would be returned IF the query were executed.

To describe a query

- Execute this function from the **Editor|Describe (Parse) Select Query** menu item
OR

Press <CTRL>F9.

This will pop up a window listing all column names, data types, and data lengths of the columns that would be returned from the query IF it were executed. This is useful for tuning a LONG query BEFORE it is executed.

Execute as Script

This command executes the contents of the current Editor window as a script.

In addition, you can click the dropdown beside the Execute as Script toolbar button. This will let you execute the script using **Quest ScriptRunner** instead of Toad.

To execute the contents of the Editor as a script

- Click the **Editor|Execute as Script** menu item or the toolbar button.
-

SQL Window: Load and Execute a Script File

The **Editor|Load and Execute a Script File** menu item opens the **Select Script File for Execution** window. You can select a file to load into the Editor. Toad loads the file into the Editor and executes the file.

Execute SQL via SQL*Plus

This opens a DOS box and executes the contents of the Editor using SQL*Plus.

*To access MS DOS for SQL*Plus*

- Select **Editor|Execute SQL via SQL*Plus**.

Executing SQL Scripts

The Editor window can process simple SQL scripts that contain DDL statements, INSERT statements, and more. Some SQL*Plus commands are ignored as Toad processes a SQL script. See the [SQL*Plus Commands](#) topic for more information.

An alternative, using Quest ScriptRunner to run long scripts can be useful. Because Quest ScriptRunner executes in the background, Toad is free to perform other tasks. See the Quest ScriptRunner Helpfile (In Quest ScriptRunner, press <F1>) for more information.

To execute a SQL script in Toad

1. Load the script into the Editor window.
2. From the **Editor** menu, select **Execute as Script**.

Note: Linesize in Toad defaults to 80, just as in SQL*Plus. If you want to change this to a longer amount, you can do it using the SET LINESIZE command in your script.

Alternately, you can add the following lines **exactly** in the TOAD.INI file:

```
[SCRIPTS]
```

```
LineSize=300
```

(Or enter any linesize you want where we have included 300. Do NOT put a space after the number.)

Caution: If any changes have been made, the script in the current window is **automatically saved**, and then executed as a script.

To execute a SQL script in Quest ScriptRunner

1. Load the script into the Editor window.
2. From the **Editor** menu, select **Execute SQL via QSR**. Quest ScriptRunner opens using your current connection and the script executes.

To execute the current window as SQL Script

- From the **Editor** menu, select **Execute SQL via SQL*Plus**. The script in the current window is saved and then executed as a script.

Note: Bind variables are not supported from the **Execute Current Window as Script** command.

Explain Plan Overview

Explain Plan is an Oracle function that analyzes SQL statements for performance issues. The Explain Plan determines the execution plan Oracle follows when executing a specified SQL statement. It inserts a row describing each step of the execution plan into a specified table. If you are using cost-based optimization, this statement also determines the cost of executing the selected statement.

The results of the Explain Plan include:

- Order that Oracle will search and join tables
- Types of access employed (index search or full table scan)
- Names of indexes used.

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Toad uses the Windows User name plus the date and time to generate a unique statement id for the Explain Plan. If the user has a longer than normal user name, you may need to expand the Statement_ID column of the Plan table.

If you have not set up the Explain Plan tables, or the plan table specified in Toad Options|Oracle|General, Toad will ask you to do so. If you do not want to store previous Explain Plan results, disable the option Save previous Plan results in the Toad Options|Oracle|General window. This will keep Toad from asking you repeatedly to create the table.

Note: If you do not set up the Explain Plan tables, you will not be able to recall previous Explain Plan results.

For more information on Explain Plan results, see: [Explain Plan Results](#).

Viewing the Explain Plan for the Current Statement



The Explain Plan button on the Editor toolbar executes the Explain Plan for the current statement (either the entire window, or any highlighted portion). Results are then displayed in the Explain Plan tab below the editor.

Results can be displayed in several formats. By default, the plan is displayed in a tree view. You can also choose to display the plan information in plain English, or one of two graphical modes. In addition, you can view the explain plan one record at a time.

To view in single record view

- Right-click over the Explain Plan and then select [Single Record View](#).

To change the display format

1. Right-click over the Explain Plan and then select **Display Mode**.
2. Select the display format you want to view:
 - Tree
 - Plain English
 - Graphic
 - MS Graph (MS SQL Server flow chart format)

Executing Explain Plan

You can run an Explain Plan on a statement inside a full script as well as on a single SQL statement.

[Execute Explain Plan on SQL Statements](#)

If you attempt to activate an Explain Plan and you have not created the needed Toad temp tables, you get an error message telling you the table or view does not exist.

This does NOT affect the display of the Explain Plan window accessible from **Database|Optimize|Explain Plan**.

Explain Plan histories are stored in Toad_PLAN_SQL and Toad_PLAN_TABLE

To execute Explain Plan on a SQL statement in the SQL Editor

- Place the cursor on a SQL statement. Select **Editor|Explain Plan Current SQL**
Or

Type <CTRL>E.

Strip Code Statement and Make Code Statement Functions

The Editor window contains two functions that simplify copying SQL statements from Toad to code development tools such as Delphi, VB, C++, Java, or Perl, and from those code development tools back to Toad. The functions are **Strip Code Statement** (<CTRL>P) and **Make Code Statement** (<CTRL>M), available from the **Editor** menu.

Strip Code Statement

Strips off the code development tool syntax from the SQL statement, ready to execute in Toad.

For example, taking this VB code from the VB development tool, copying it, pasting it into Toad, and running Strip Code Statement, changes the SQL statement from this:

```
Sql = " select count(*) as cnt"
Sql = Sql & " from all_tables"
Sql = Sql & " where owner = 'DEMO'"
Sql = Sql & " and table_name = 'EMPLOYEE'"
```

to this:

```
select count(*) as cnt
from all_tables
where owner = 'DEMO'
and table_name = 'EMPLOYEE'
```

Now the SQL is ready to execute in Toad.

If you have multiple SQL statements in the Editor, highlight the statement you want to strip before executing the Strip Code Statement function.

Make Code Statement

Adds the code development tool syntax to the SQL statement in the Editor and makes it ready to paste into the development tool code.

When making code statements, rather than changing the code in the Editor window as the Strip Code Statement function does, the Make Code Statement function takes the currently highlighted SQL statement, translates it into the code development tool syntax, and copies it to the clipboard. You can now switch to the code development tool and paste in the results. A message appears in the status panel such as "VB statement was copied to the clipboard".

If you have multiple SQL statements in the Editor, highlight the statement you want to make before executing the Make Code Statement function.

Selecting the Code Development Tool

You select the code development tool in the **View|Toad Options|Editor|Code Assist|Make Code Format** box. The Make Code Format box lets you select a language syntax for Toad to convert a SQL statement into (Make Code Statement function) and out of (Strip Code Statement function). Currently, Delphi, VB, C++, Java and Perl are supported. The default selection is VB. You can also create your own language templates. For more information, see the Toad Options|[Editor](#) topic.

Add to Personal SQLs

This command adds the SQL statement that you have highlighted in the Editor to your personal SQLs.

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To add a SQL statement to your personal SQLs

- Click on the **Editor|Add to Personal SQLs** menu item.

All statements (to a maximum set in [Toad Options|Editor|Code Assist|SQL Recall area](#)) are saved between sessions of Toad, in the file Toad for Oracle\Temps\SAVEDSQL.xml.

Related Topics

[SQL Statement Recall](#)

[SQL Statement Recall Toolbar](#)

[Add to Named SQLs](#)

[Viewing and Working with Recalled SQL](#)

Add to Named SQLs

You can add a SQL statement to your named favorite list from this window.

To add a SQL to your list of Named SQL statements

1. Highlight the statement.
2. Select the **Editor|Add to Named SQLs** menu item.
3. Type a name for this SQL statement, one that you can easily recall at a later time.

This differs from the list of favorite SQL statements, because favorites are not named, and the standard recall SQL statement stores the list of statements executed.

To recall a SQL statement from this list of named SQL statements, press <CTRL>N, or select the **Named SQL** tab.

The name is case sensitive: you can store both "sql1" and "SQL1".

If you attempt to add a named SQL statement with the same name as one that already exists, Toad displays a dialog box asking you if you want to replace it. Click **Yes** to add it, and **No** to cancel. If you click No, Toad will notify you that the Named Statement was not created.

All statements (to a maximum set in **Toad Options|Editor|Execute/Compile**) are saved between sessions of Toad, in the file Toad for Oracle\User Files\savedsql.xml.

Related Topics

[SQL Statement Recall](#)

[SQL Statement Recall Toolbar](#)

[Add to Personal SQLs](#)

[Viewing and Working with Recalled SQL](#)

Debugging

Debugger Overview

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Toad's optional Debugger module provides you with the functionality to easily debug PL/SQL procedures, functions, and triggers. In addition, you can debug SQL scripts using Script debugging, and Java using Java debugging.

Note: There are [minimum Oracle database requirements](#) for using this feature.

Selecting Debug type

Debugging in Toad requires you to select one type of debugging at a time for all database instances open per instance of Toad. For example, if you have three database connections in one instance of Toad, they must all be in the same debugging state: PL/SQL, script, or Java. If you then opened another instance of Toad, with the same or different connections, they could be in a different debugging state.

To select Debug type

- From the Debug menu, select one of the following:
- DBMS Debugger
- JDWP Debugger
- Script Debugger

Toggle Compile with Debug Information

To use the debugger fully with the PL/SQL or Java packages, you need to compile your object with debug information. If you have not compiled with debug information, in databases in versions before 10g you can step into a unit, step over and so on, but you cannot see watches unless the object is compiled with debug. In a 10g database you cannot step into code or step over unless the object was compiled with debug. You can only execute.

To compile with debug information

- From the **Session menu**, select  **Toggle Compiling with Debug Information**.

Note: By default this option is selected when you open the Editor. If you want it to default to unselected, you can change it in [Toad Options|Execute/Compile|Default to "Compile with Debug."](#)

Compiling Dependencies with Debug Information

In addition, if you are debugging an object that has dependent objects, you cannot step into the dependents unless they, too, are compiled with debug information. See [Dependencies](#) for more information.

For a tutorial on using Toad's debugger, please see the Debugging Tutorials book ([Debugging a Procedure or Function](#), or [Debugging a Package](#)).

Debugging PL/SQL

The PL/SQL Debugger works within the Editor. Using the Debugger, you can set breakpoints, watches, see call stacks, and set parameters for your code. In addition, you can debug DBMS output.

Note: When using the PL/SQL Debugger and connecting to a RAC instance, you must have the TNSNAMES entry for the instance where the server directed the use connection or session here. Or, you must connect directly to an instance of the cluster without letting the server assign an instance.

Debugging Java

The JDWP debugger uses the same basic user interface as the PL/SQL debugger. Because it uses the Oracle package DBMS_DEBUG_JDWP in place of the DBMS_DEBUG package to access the debugging features, it is entirely Oracle-oriented. This means that there are Oracle-imposed limitations on the debugging procedures you can use through Toad.

Script Debugging

You can also debug SQL scripts. You can work with regular editor features, and in addition, can Set Breakpoints, Run to Cursor, Step Over, Trace Into, and Halt Execution of your scripts. This will help you troubleshoot your scripts quickly. When you are in the script debugger, the debugger toolbar will display with different icons than when you are in the PL/SQL or Java debugger.

Related Topics

[Minimum Oracle Database Requirements](#)

[PL/SQL Debugger Toolbar](#)

[Setting up the Debugger](#)

[Script Debugger](#)

[Java Debugger](#)

[Code Xpert](#)

Registering the Debugger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

To check Toad optional modules

1. Check the options that are currently installed in your version of Toad. From the **Help** menu, select **About**.
2. Installed options are listed under the version line, for example, "**Options: Debugger, DBA.**" If Debugger is listed among these options, it has already been installed and you can use it.
3. Open a new Procedure Editor window. The items on the Debug menu should be enabled. If not, proceed to **Installing the Debugger**.

To install the debugger

1. Once you have the key, start **Toad**.
 2. From the **Help** menu, select **Register Toad**. The Product Authorization window appears.
 3. Enter the software registration key given to you by Quest Software in the **Enter authorization key:** box.
 4. Click **OK**.
 5. Open a new Editor window. The items on the Debug menu should now be enabled.
-

Debugger Toolbars

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Depending on the debugging mode you have activated (see [Debugger Overview](#)), you will see different debugging buttons on the debugger toolbar.

PL/SQL and Java Toolbar



Icon	Command
	Execute procedure using existing arguments
	Set Parameters
	Step Over
	Trace Into
	Trace Out
	Run to Cursor
	Add Breakpoint
	Add Watch
	Attach debugger to external session (See Just in Time Debugging Overview)

Script Debugger Toolbar



Icon	Command
	Execute procedure using existing arguments
	Set Parameters
	Step Over
	Trace Into
	Trace Out
	Start Step Mode from Cursor
	Run to Cursor
	Add Watch
	Add Breakpoint
	Attach debugger to external session (See Just in Time Debugging Overview)

Debugging on a RAC

During debugging, Toad creates two background sessions for handling debugger calls: Target and debug sessions. These sessions **MUST** be on the same instance as the main Toad session.

Requirements:

- Have an additional entry in your TNSNames.ora file for the connected instance
Or
- Connect directly to an instance of the cluster without letting the server assign one.

Toad accomplishes debugging as follows:

- Queries the data dictionary to find the current instance name
 - Searches the TNSNames.ora file for the first entry that matches SERVICE_NAME or INSTANCE_NAME.
 - Uses the secondary TNSNames entry when creating the background debugger sessions.
-

Minimum Oracle Database Requirements

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

For all databases, you must have the Oracle Probe API v2.0 or later installed in order to debug PL/SQL using Toad.

To check the Oracle Probe API version

1. Make sure a packaged called **DBMS_DEBUG** exists in the SYS schema.
2. To find out what version of the Probe API you have, run the following anonymous PL/SQL block in the SQL editor with a DBMS Output window tab selected:

```
declare  
  
  probe_major_ver varchar2(10);  
  probe_minor_ver varchar2(10);  
  
  begin  
  
    dbms_debug.probe_version(probe_major_ver, probe_minor_ver);  
    dbms_output.put_line('MAJOR=' || probe_major_ver);  
    dbms_output.put_line('MINOR=' || probe_minor_ver);  
  
  end;
```

3. If the DBMS Output window appears:

```
MAJOR=2  
MINOR=2
```

Then the version of Oracle Probe API is 2.2.

Issues with Database versions

The Debugger works on the following database versions with the following caveats:

Database Version Notes

Oracle Version	Notes
Oracle 7.3.4	For the Call Stack to display, you must set the BLANK_TRIMMING value to TRUE in the init.ora Oracle Initialization parameters file and restart your database. Otherwise, you will receive a load error invoking the Call Stack window. Refer to your Oracle documentation regarding the effects of the BLANK_TRIMMING setting.
Oracle 8	BLANK_TRIM requirement also refers to databases 8.0.4 and 8.0.5. The PL/SQL Debugger works without issues on Oracle8 databases.
Oracle 8i	No notes or issues. The PL/SQL Debugger works without issues on Oracle8i databases.
Oracle 10g	You must have the DEBUG CONNECT SESSION privilege, or Oracle will not let you use DBMS_DEBUG.

ADDITIONAL NOTES

- You cannot use the Evaluate/Modify window to change argument values.
- On Oracle 7 databases, if you receive "Debugger is not responding" message, comment out all DBMS_OUTPUT statements and then recompile, and use watches to display the values. Also uncheck Enable DBMS Output before every debugging session.
- Watches on package variables are only allowed for Probe v2.2 or higher.

Troubleshooting the Debugger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Debugger runs very slowly

The option "Show executable line indicators in gutter" places blue dots in the gutter beside every executable line of code and may slow down the debugger.

If your debugging is going slowly and these dots are displayed, go to **View|Toad Options|Editor|Debug** and uncheck this option.

For more information see the **Toad Options|Editor|Debug** help topic.

Debugger highlighting comment blocks

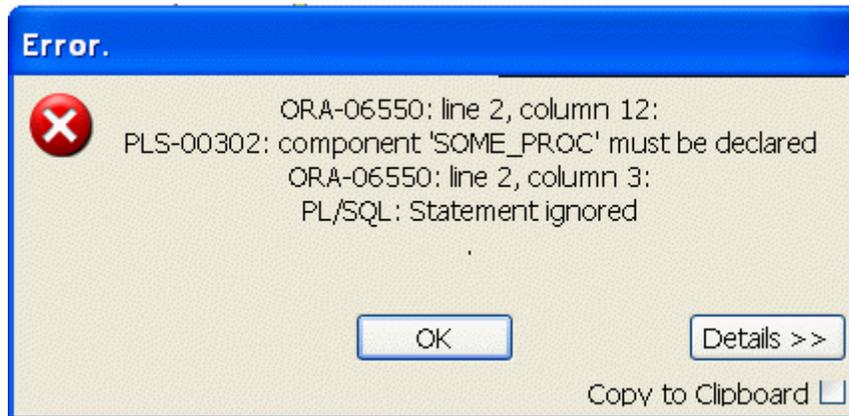
When you have a comment block **before** the CREATE statement, it is stripped out and not stored on the server. Therefore the code that is visible on the screen is not the code that is actually running.

If you want to preserve the comment block and have it work correctly with the Debugger, you need to move the comment block to **after** the CREATE statement.

Exception in Anonymous Block - PLS-00302 error

There is an Oracle limitation that causes the Debugger to fail if the user has an object named the same as their user name. So for example, if the user JSMITH has a table named JSMITH, he will not be able to debug it, or any other object named JSMITH.

When you attempt to step into code containing this situation, an exception in the anonymous block occurs that includes a PLS-00302 error. Toad displays an error message similar to the following:



Note: A public synonym that is the same as the user name could also cause this error.

Recommended actions (do one of the following):

- Rename or delete the object
- Edit the schema name out of the anonymous block in the Set Parameters window before debugging.

Debugger doesn't recognize complex datatypes

If you received a warning on startup that the **Formatter dll** wasn't found or that you have the wrong version of the Formatter dll, the Debugger's functionality will be impaired in this way.

Update the **Formatter dll** to the correct version.

Toad locks when debugging

When using both the Debugger and the small OCISPY utility at the same time, Toad will lock. Close OCISPY and run the Debugger alone.

Other general debugging problems

Other debugging problems can often be avoided by double-checking that the database meets the Minimum Oracle Database Requirements. See the topic [Minimum Oracle Database Requirements](#) for more information.

Starting the Debugger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Toad's Editor allows debugging of only one PL/SQL object per tab. When you open a complete package or type in the Editor, the Spec and the Body will open in separate tabs.

As both of these tabs have the same name, they are indicated with icons as follows:

Icon	Tab
	Spec
	Body

The options to control how objects are split, reassembled and saved are found in [Toad Options|Editor|Open/Save|File Splitting](#).

To start the Debugger

1. Open the **Editor**, and then:

Note: If you are running OCISPY to monitor your Toad session, close it before using the Debugger.

2. Load a **PL/SQL object** into the editor (either from a file on disk or an existing object from the database), compile the procedure by pressing **F9** or clicking the **Compile button** on the Editor toolbar.
3. Press **Shift-F7** to start stepping through the code. This will automatically generate the symbol table required to obtain debug information for this procedure only.

If you intend to step into other procedures and view debug information in them, then you will need to

compile them by clicking the Compile With Debug  button on the toolbar.

Note: Using multiple editors while debugging is not recommended.

However, if you do so, please be aware that the Debugger windows (DBMS Output, Breakpoints, Watches, and Call Stack) will apply to both Editors even if they are docked to one of the Editors.

Stopping the Debugger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

To stop the Debugger while it is debugging

1. Click the **Halt**  button.
- Or

From the Debug menu, select **Halt Execution**.

The status panel will reset from "Running" to "Idle".

2. When you have finished debugging your PL/SQL code, discard the debug symbol table: compile it again by pressing **F9**.

Debugger Shortcut Keys

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

This is a list of keyboard shortcuts used in the Debugger. See [General Shortcut Keys](#) for more information about shortcut keys in other areas.

Note: If you have configured your shortcuts, shortcuts added in Toad upgrades will need to be added. You can also revert your customizations to the default to gain access to all shortcuts and new features. See [Toad Options|Toolbars|Configurations|Toad Default \(all items\)](#).

Shortcut Key	Function
<SHIFT>F5	Set or Delete a Breakpoint on the current line.
<CTRL>F5	Add watch at cursor.
<SHIFT>F7	Trace Into.
<SHIFT>F8	Step Over.
<SHIFT>F10	Trace Out.
<SHIFT><CTRL>F9	Set Parameters.
F10	Display Right-Click Menu.
F11	Run statement using the method appropriate for the debugger selection: <ul style="list-style-type: none"> • Script debugger - execute as script. • DBMS or JDWP debugger - execute as PL/SQL.
F12	Run to Cursor.
<CTRL><ALT>B	Display Breakpoints.
<CTRL><ALT>D	Display DBMS_Output.
<CTRL><ALT>E	Evaluate/Modify.
<CTRL><ALT>S	Display Call Stack.
<CTRL><ALT>W	Display Watches.
<CTRL><Pg Up>	Move up in the Navigator Tree.
<CTRL><Pg Down>	Move down in the Navigator Tree.
<CTRL>MouseClicked	Load source into Editor for object at cursor.

General Options

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

To change options for debugging

- From the **View** menu, select **Toad Options**, and click **Editor|Debug** in the left panel. A list of options appears in the right panel.

All these option settings are saved in TOAD.INI and restored the next time Toad is opened. They are described in the Options: Debugging topic.

Setting Parameters

Some PL/SQL has variable parameters that need to be set before you can run the code. If values for these variables are not set, running the code will result in an Oracle error.

To set parameters

1. From the **Debug** menu, select **Set Parameters** or click the **Set Parameters**  button on the toolbar.

2. Enter any necessary values in the **Arguments** grid.
3. Click **Output Options** (See [Output Options](#)) to specify how you want output displayed.
4. Click **Rebuild code** to see the variables entered in the code.
5. Click **OK** to return to the Editor.

Running in QSR

After you have set parameters, you can choose to run the code in [Quest ScriptRunner](#). This button will be enabled unless you have selected the return REF Cursor results from memory option.

To run in QSR

- Set parameters and click **QSR** at the bottom of the window.

Related Topics

[Options: Execute/Compile](#)

Debugger Output Options

You can choose to set output options for Output Arguments and REF CURSORS as described below.

Print OUT arguments/RETURN values to DBMS Output

This option controls all printable datatypes other than ref cursors.

Print to DBMS Output (char/number columns only)

Checking this will generate code to fetch data from the ref cursor and print it to DBMS output one row per line. A header row is also printed showing the column names.

Note: `DBMS_output_print_line()` will raise an exception if a line is more than 255 characters long. This option will only print values of char/number datatypes. For other datatypes, the name of the datatype is printed in square brackets.

RPAD columns to a width of N characters

This option allows simple formatting of output. Checking this will modify the generated code to apply the `RPAD()` function to all values printed to DBMS output, passing the user-specified width. This will not only right-pad values with spaces, but also truncate values longer than the given width. It is also applied to the column names.

Create and write to table (DROP existing table)

This option generates code to create a table (in the current schema) based on the ref cursor's record type, and insert the fetched data into it. The table is given a name like `Toad_DEBUG_SOME_RC` where `SOME_RC` is the name given to the ref cursor in code.

Note: This does not work for tables with a storage table, nor does it handle `VARCHAR2(n CHAR)` columns. They are declared as `VARCHAR2(n)`.

Fetch no more than N rows per cursor

Limits the number of rows fetched. Applies to both DBMS output and table options.

Dependencies

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

You can use the Debugger to check for dependencies.

Automatically Searching for Dependent Objects

Toad can automatically run an additional query to see if any procedures call the current procedure. To set up the options to do this, select options.

When selected, if the query includes dependencies (procedures that call your procedure) the **Compile**

Dependencies  button is enabled. To recompile all procedures that call your procedure, click the **Compile Dependencies** button.

The button is disabled when there are no dependencies, or when all dependencies have been compiled. When you make additional edits and compile the procedure, the button is enabled.

If unchecked, the **Compile Dependencies** button is always enabled until clicked. It is re-enabled again after you compile.

To set options to handle dependent objects

1. From the **View** menu, select **Options**.
2. In the left pane, select **Editor|Debug**.
3. In the Compile Dependencies area, select one of the following:
4. Yes - Toad will always compile dependencies.
5. No - Toad will never compile dependencies.
6. Prompt - Toad will check for dependencies and ask if you want to compile them.

Viewing Dependencies and their Status

You can visually view dependencies and their status.

To view dependencies

1. From the Schema Browser, objects panel, click the **Procedures, Functions, or Packages** tab.
 2. Select the procedure you are debugging, then in the details panel, click the **Deps(uses)** and **Deps (used by)** tabs. Status of the procedure is listed in the Status column in the details panel as **valid** or **invalid**.
-

Preparing PL/SQL Code for Production

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

When you have finished debugging your PL/SQL code, the debug symbol tables are left in the code. This makes your code larger and can slow performance.

To improve performance

- Compile your procedure and any called procedures one last time without debug information (with the debug toggle  button off). This recompiles without the debug symbol tables. This will make your code smaller, so it will run faster.
-

Debugging Types

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

At some point, you may find you need to debug a type body. Although the Debugger does not support loading a type body into the Editor and pressing "Run" to debug it, you can debug type bodies indirectly as described below.

To debug type bodies indirectly

1. Call the **type body** from a procedure.
 2. When you debug the procedure, step into the code for the type body as well.
-

Debugging Java

Java Debugger Overview

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

The JDWP debugger uses the same basic user interface as the PL/SQL debugger. Because it uses the Oracle package DBMS_DEBUG_JDWP in place of the DBMS_DEBUG package to access the debugging features, it is entirely Oracle-oriented. This means that there are Oracle-imposed limitations on the debugging procedures you can use through Toad.

With the Toad Java debugger, you can:

- Create Java Source in the Editor window.
 - Step into Java code.
 - Set breakpoints in Java code.
 - Watch values of Java variables.
 - Profile code.
-

Related Topics

[Getting Started with the Java Debugger](#)

[Setting Breakpoints](#)

[Setting Watches](#)

[Stepping into Java Code](#)

[Troubleshooting Java Debugging](#)

Getting Started with the Java Debugger

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Before you can work with the Java debugger, you need to configure Toad to work with Oracle's Java Debugger.

To prepare to debug Java code

1. Be sure you are running Oracle 9.2 or higher.
2. Confirm that the debug package DBMS_DEBUG_JDWP is present and in a valid state.

If it is not, then:

1. Logon as **SYS**
 2. Run the **dbmsjdwpl.sql** and **prvtjdwpl.plb** scripts, located in the **\$ORACLE_HOME/rdbms/admin** directory.
 3. From the Toad **Main** menu, select **View|Toad Options**, and in the left side, click **Editor|Debug**.
 4. Select **Use JDWP debugger for Oracle 9.2+**.
 5. Include configuration information as described below:
 1. Host - This must be an IP address (of any machine that has the Oracle client 9.2 or above installed) or the name of your local machine. It will function as the debugger host during a debugging session
 2. Port - Choose a TCP port for the Toad Debugger to listen to. Leave this value as Use any available to make Toad pick one for you.
 3. Allow stepping into Java Source - On some platforms stepping into Java code may cause the debugger to hang. This check box was introduced to prevent this from occurring. Uncheck this check box if you are experiencing such problem to continue debugging your PL/SQL code.
 4. Enable DBMS_JAVA – By default, System.out.* java calls do not display locally. In order to redirect this output to the DBMS_OUT, a call to DBMS_JAVA must be used with the appropriate buffer size. Check this option if you desire to send System.out.* java calls to the DBMS Output window.
-

Related Topics

[Java Debugger Overview](#)

[Setting Breakpoints](#)

[Setting Watches](#)

[Stepping into Java Code](#)

[Troubleshooting Java Debugging](#)

Stepping into Java Code

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Using the Java Debugger, you can step into Java code for debugging.

To step into code

- Press <Shift - F7> to step through the code.

Troubleshooting

Determine that the Java debugger is selected

To determine if Java debugging is set

- From the Debug menu, make sure that **JDWP debugger** is selected.

Oracle debugger hanging

On some platforms, stepping into code may make the Oracle debugger hang. If this is the case, you will not be able to step into Java code.

To continue debugging

- From **Toad Options|Editor|Debugging**, uncheck the Allow stepping into Java Source box.
-

Related Topics

[Java Debugger Overview](#)

[Getting Started with the Java Debugger](#)

[Setting Breakpoints](#)

[Setting Watches](#)

Troubleshooting Java Debugging

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

The Java debugger uses the same basic user interface as the PL/SQL debugger. Because it uses the Oracle package DBMS_DEBUG_JDWP to access the debugging features, it is entirely Oracle-oriented. This means that there are Oracle-imposed limitations on the debugging procedures you can use through Toad.

General Limitations

The Java debugger does not support triggers.

Oracle 9iR2 Issues

The debugger package (DBMS_DEBUG_JDWP) was first released with Oracle 9iR2. In this release there are some limitations.

Stepping into Code

When the debugger steps into Java source, sometimes ORA-03113 errors will be generated by the database.

To continue debugging

- From **Toad Options|Editor|Debugging**, clear the **Allow stepping into Java Source** box.

Note: You will not be able to step into Java Source code with this box cleared.

Oracle 10g Issues

Debugger jumps over bulleted lines of code

On a Windows server, the debugger may jump over bulleted lines of code in the Java Source. There is no known work around at this time.

Debugger gutter line execution bullets not visible

In JDWP debugging, the line map cannot be retrieved until the debugger is called and initialized. This will keep the gutter bullets from displaying until debugging or execution starts.

Directing Output to the DBMS Output window

On a line that uses the `dbms_java.set_output` command, if you are using 9iR2 on a Windows OS, Oracle may return ORA-3113 errors.

When you trace into code that calls the DBMS Output window, errors are generated.

Tracing into `System.out.println`

Tracing into `System.out.println` can generate ORA-3113 errors.

Related Topics

[Java Debugger Overview](#)

[Getting Started with the Java Debugger](#)

[Setting Breakpoints](#)

[Setting Watches](#)

[Stepping into Java Code](#)

Debugging Scripts

Script Debugger Overview

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

The Script Debugger is an extension to the Editor that you can use to debug short scripts.

You can load multiple scripts; each will open in its own tab (see [Opening Scripts](#) for more information)

Using the Script Debugger, you can do the following in addition to standard Editor functions:

- Set Breakpoints
- Run to Cursor
- Step Over

- Trace Into
- Halt Execution

To commit changes

- From the Main Toolbar, click the **Commit**  button. This will commit changes in both sessions.

Related Topics

[Script Debugger Toolbar](#)

[Quest Extensions](#)

[Executing Statements](#)

[Navigator Panel](#)

[Script Output Tab](#)

[Script Debugger Tab](#)

[Using Source Control](#)

Script Output Tabs

After you have run a script, Toad maintains a running list of system variables and user variables. This lets you keep track of what has been set. The list is refreshed execute it in its entirety.

If you have the debugging module, it is also refreshed when you begin stepping through the code. Toad also maintains a history of breakpoints, and a call stack to help you through the navigation of various windows.

Environment Tab

System Variables

System variables are displayed under the System Variables node in the Environment area. System Variables include, but are not limited to:

- autocommit setting
- echo on/off
- linesize
- heading on/off

To view system variables

- Double click the **System Variables** node
- Or

Click the < + > beside the System Variables node.

User Variables

User variables are displayed under the User Variables node in the Environment area. The user variables area describes the variables assigned by the user for the script.

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To view user variables

- Double click the **User Variables** node
- Or

Click the < + > beside the User Variables node.

Output

The output tab displays any output from the script you are running. This may include, but is not limited to:

- errors.
- status of system variables (for example, AUTOTRACE ON, AUTOCOMMIT OFF).
- data in output format.

Data Grids

Data grids display the data selected by the script. One grid will display for every select statement.

To view data grids

1. Run the script.
2. If it is not already selected, click the Script Output tab in the bottom panel of the Script Debugger.
3. Click a **Grid** tab to display the data grid.

History

History displays output for all the scripts run during this session, or until the history tab is cleared.

If history is not displayed, you can display the history tab as follows:

To display history

1. Right-click on one of the other two tabs.
2. Select **Show History tab**.

Related Topics

[Script Debugger Overview](#)

[Debugger Toolbars](#)

[Quest Extensions](#)

[Executing Statements](#)

[Navigator Panel](#)

[Script Output Tab](#)

[Using Source Control](#)

[Breakpoints window](#)

[Call Stack window](#)

Quest Extensions

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Quest Extensions are extensions to the scripting, used to control script output within Toad's Script Debugger.

Quest extensions reside within remarks, and are designated by \$QX. **\$QX** must be the first thing inside the remark. \$QX is not used in remarks in PL/SQL blocks or EXECUTE statements, only in separate script remark statements.

Show/Hide Grid

You can easily turn off display of grids within the Script Output tab by using a Quest Extension.

To hide grids

- In a **remark**, enter the following command:

\$QX \$GRID HIDE

All grids generated by the script from that line forward are hidden until after the line you display them again as described below.

To show grids

- In a remark, enter the following command:

\$QX \$GRID SHOW

All grids generated by the script from that line forward will be displayed.

Related Topics

[Script Debugger Overview](#)

[Script Debugger Toolbar](#)

[Executing Statements](#)

[Navigator Panel](#)

[Script Output Tab](#)

[Script Debugger Tab](#)

[Using Source Control](#)

Debugger Output

REF CURSOR Results Window

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

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You can have Toad send REF CURSOR results to a separate window. This window is dockable to the other debugger windows.

When a debug session terminates, this window displays each table that was created for REF CURSORS for the Create and write to table option described in [Setting Parameters](#). Each table is shown in a grid on a separate tab in the window.

Note: The REF CURSOR window has the following limitations:

- Works only with strongly-typed REF CURSORS.
- Works only when the REF CURSOR type is declared in a package belonging to the currently logged-in user.

The three toolbar buttons are:

- **Refresh** - refreshes the grid in the current tab (re-executes the select * statement).
- **Close Tab** - closes the current tab.
- **Drop Table** - drops the current table and closes the tab.

The grid supports all the usual popup editors, but it is a read-only query.

Debug DBMS Output

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

When debugging in the Editor, a DBMS Output window automatically displays the results of "DBMS_OUTPUT.PUT_LINE()" statements in the editor.

Note: Output only displays after the procedure has completed execution, not while you are single stepping through the code. In the case of nested procedure calls, all procedures must have run to completion before any DBMS Output content is displayed.

The DBMS Output window can be docked with the [Watches](#), [Call Stacks](#) and [Breakpoints](#) windows, or dragged aside on its own. Grouped together, all of them can be docked at the bottom of the Editor window.

Note: If you have undocked these windows from the bottom one at a time, Toad will not remember that they are undocked. To undock all of the debugging windows at once, double-click the vertical bar to the left of the docked windows.

Disabling DBMS Output

You can disable DBMS Output so that it does not display in the DBMS Output window.

To disable DBMS output

- At the top of the DBMS Output window, click the **Enable/Disable** toggle button.
-  If the button is green, DBMS Output is enabled.
-  If the button is red, DBMS output is disabled, and (disabled) appears next to the name of the window.

DBMS Output Specific Commands

You can use the right-click menu to access DBMS Output specific commands. These include:

- Enabled (toggle)

- Clear Output
- Save to File
- Print
- Set Buffer Size
- Stay on Top
- Dockable

Editing DBMS Output Content

You can also edit the DBMS Output content to make comments, delete specific lines of output, and so on. The standard copy, cut, and paste keys also work in the DBMS Output box.

Related Topics

[DBMS Output Window](#)

[Polling for Output](#)

Breakpoints

Breakpoints Window

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

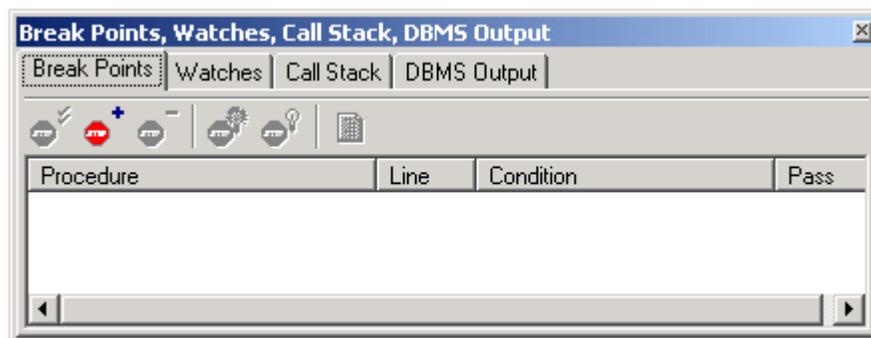
Breakpoints are markers in your code where you want to stop execution during debugging. The breakpoints window displays as a tab in the desktop panel beneath the main editor window. If you cannot see the Breakpoints tab, you may need to add it to your desktop.

To add the breakpoints tab to your desktop

- Right click in the desktops area and select Breakpoints. The breakpoints tab appears.

To open the breakpoints window

- In the desktop area, click the Breakpoints tab.



- From the Breakpoints window, you can easily work with your breakpoints. You can select from the toolbars on the window itself, or you can use the [right-click menu](#) to access more functions.

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- The Breakpoints window can be docked with the [Watches](#), [Call Stacks](#), and [DBMS Output](#) windows, or docked at any side of the Editor on its own. Grouped together, all of them can be docked at the bottom of the Editor window.

Breakpoints Window Toolbar

The toolbar on the Breakpoints window has several buttons that allow you to easily access breakpoint commands.

Button	Command
	Edit Breakpoint – opens the edit window for the selected breakpoint
	Add Breakpoint – adds a breakpoint at the cursor
	Delete Breakpoint – deletes the selected breakpoint
	Enable Breakpoint – enables the selected breakpoint
	Disable Breakpoint – disables the selected breakpoint
	View Source - places the cursor on the line of source referenced by the selected breakpoint and marks it with a black arrow

Related Topics

[Configuring your desktop](#)

Setting a Breakpoint

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

You can set (add) a breakpoint from several places.

To set a breakpoint in the Editor

From the Editor, you can set a breakpoint in several ways.

- Single-click in the Editor **gutter** to set or reset a breakpoint.

Or

Press **<Shift><F5>** to set or reset a breakpoint on the current line in the editor.

The breakpoint is indicated by a stop sign in the gutter.

Note: It is recommended that you set your gutter width to 35. To do this, from the **Edit** menu, select **Editor Options** and then enter **35** in the gutter width field.

To set a breakpoint from the Breakpoints window

1. Right-click and select **Add Breakpoint**.
2. Fill in the appropriate information and click **OK**.

Or



1. Click the **Add Breakpoint** button.
2. Fill in the appropriate information and click **OK**.

To set a breakpoint from the Breakpoints Tab

- Press <**INSERT**> to add a breakpoint.

To set a breakpoint from the Debug Menu

1. Click in the **line** where you want the Breakpoint.
 2. From the **Debug** menu, select **Add Breakpoint at cursor**.
-

Related Topics

[Breakpoints window](#)

[Configuring your desktop](#)

Setting Breakpoint Properties

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

The Breakpoint Properties dialog box lets you to set standard breakpoints, conditional breakpoints, pass count breakpoints, or a combination of conditional and pass count breakpoints. Properties are changed on each individual breakpoint.

To change breakpoint properties

1. From the **Desktop** menu, select **Breakpoints**. The Breakpoints window appears.
2. Double-click the **breakpoint** where you want properties set.

Standard Breakpoints

When enabled, a standard breakpoint will break at the breakpoint when running or stepping through the code. A standard breakpoint has the Condition and Pass count lines of the properties dialog box left blank.

Conditional Breakpoints

You can set breakpoints that **ONLY** break if a certain condition is met when running the code.

To set a Conditional Breakpoint

1. In the Breakpoints window select a **breakpoint**.
2. **Right-click** and then select **Edit Breakpoint**. Enter the condition for the breakpoint, for example, "salary_in > 5000". When running, the Debugger will stop on the breakpoint **ONLY** if the condition is met.

Format of a Conditional Breakpoint

The format for the "Condition" line is Variable Operator Value. For example "salary_in" (variable) ">" (operator) "5000" (value).

Supported Operators

Operator	Meaning
<=	Less than or equal to
<>	Does not equal
>=	Greater than or equal to
<	Less than
>	Greater than
=	Equal

Pass Count Breakpoints

You can set breakpoints that break ONLY after a certain number of passes in a loop has occurred.

In this case, the Debugger will NOT stop on the breakpoint line until just before the breakpoint line for the nth pass count. The pass could be a FOR loop, DO WHILE loop, IF/END IF, and so on. It is not dependent on any "COUNTER_VAR" value.

To set a breakpoint using a pass count

1. In the Breakpoints window select a **breakpoint**.
2. **Right-click** and then select **Edit Breakpoint**. Enter the Pass Count for the breakpoint, e.g., 5. When running, the Debugger will stop on the breakpoint Just before the 5th pass through that breakpoint.

Combining Conditional and Pass Count Breakpoints

If both Condition and Pass Count are specified, the break will ONLY occur the **nth time the condition is met**.

Enabling/Disabling Breakpoints

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

To disable breakpoints

Once a breakpoint is set, you can temporarily disable it.

- Use one of the following methods:
- Single-click to select the breakpoint, and click the **Disable Breakpoint**  icon on the toolbar
- Double-click the **breakpoint** and uncheck the **Enabled** check box
- Select the **breakpoint**, **right-click**, select **Debug** and then **Disable Breakpoint**.

Disabled breakpoints are grayed out in the Breakpoints window.

To enable breakpoints

If you have disabled a breakpoint, it is grayed out in the Breakpoints window. You can re-enable it the same way you disabled it.

- Use one of the following methods:
 - Single-click to select the breakpoint, and click the **Enable Breakpoint**  icon on the toolbar
 - Double-click the **breakpoint** and check the **Enabled** check box
 - Select the **breakpoint**, **right-click**, select **Debug** and then **Enable Breakpoint**.
-

Deleting a Breakpoint

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

You can delete a breakpoint in several ways.

To delete a breakpoint

- To delete a breakpoint, do one of the following:
 - Select the **breakpoint** in the Breakpoints window and press **Delete**.
 - Put your cursor in the **line containing a breakpoint** in the **Editor** and press **F5**.
 - In the **Editor**, click the **breakpoint**  icon in the gutter.
-

Breakpoints Right-Click menu

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

From the Breakpoints window, **right-click** to access the Right-Click Breakpoints menu. This menu has the following options:

- Edit Breakpoint
 - [Add Breakpoint](#)
 - [Enable Breakpoint](#)
 - [Disable Breakpoint](#)
 - [Delete Breakpoint](#)
 - View Source – places the cursor on the line of source referenced by the breakpoint and marks it with a black arrow
 - Enable All Breakpoints – enables all breakpoints
 - Disable All Breakpoints – disables all breakpoints
 - Delete All Breakpoints – deletes all breakpoints
 - Stay on Top – when checked, the window remains on top of all other windows
 - Dockable – when checked, the Breakpoints window can be docked with the Watches, Call Stacks, and DBMS Output windows and all can be accessed from tabs
-

Watches Window

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Toad supports watches on implicit and explicit variables, including some complex data types such as explicitly and implicitly defined records, %ROWTYPE records, and cursors. See [Complex Datatype Examples](#) for examples of supported types. See [Limitations to Watches](#) for more information about unsupported types.

From the Watches window, you can easily work with your watches. You can select from the toolbars on the window itself, or you can use the [right-click menu](#) to access more functions.

Note: You can also hover your mouse over a variable to check the value without formally setting a watch.

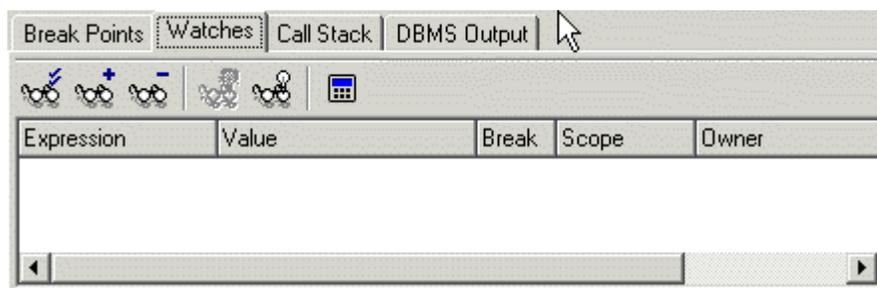
The Watches window can be docked with the [Breakpoints](#), [Call Stacks](#), and [DBMS Output](#) windows, or dragged aside on its own. Grouped together, all of them can be docked at the bottom of the Editor window.

Note: If you have undocked these windows from the bottom one at a time, Toad will not remember that they are undocked. To undock all of the debugging windows at once, double-click the vertical bar to the left of the docked windows.

You can access the Watches window from the Debug menu.

To access the Watches window

- From the **Output area**, right-click and select **Desktop Panels|Watches**. The Watches window is added to the desktop panel.



Watches Window Toolbar

The toolbar on the Watches window has several buttons that allow you to easily access watch commands.

[Edit Watch](#) – opens the edit window for the selected watch

[Add Watch](#) – adds a watch at the cursor

[Delete Watch](#) – deletes the selected watch

[Enable Watch](#) – enables the selected watch

[Disable Watch](#) – disables the selected watch

Smart Watches

Toad can automatically watch every variable in the active procedure or function. If you step into a new tab, the smart watches window refreshes with the values on the new tab.

Smart watches are disabled by default and display collapsed.

If the smart watch window contains cursors or records, the cursor/record is listed as a node and each individual item as an entry underneath it. These are, by default, displayed collapsed. You can expand them by clicking the + sign beside the node.

To enable smart watches

- In the Watches window, select the **Enable Smart Watches** check box.

Configuring the Smart Watch window

By default, watches and smart watches are arranged side by side in the Watches desktop panel. You can also flip the watch window to show watches over smart watches instead of watches next to smart watches (the default).

To flip the watch panels

- Click the **Flip Watch Windows**  button.

Moving Smart Watches to the Watch panel

Unlike standard watches, smart watches are not saved when you leave the window as they are created dynamically from the code you are actively using. However, if you want a watch to persist when you move into a different procedure or function, you can drag the watch from the smart watches panel to the watches panel. In the case of a watch that contains multiple parts, you choose to drag the node, which will copy everything under it, or only one of the items within the node.

To move a smart watch to the watch window

- Do one of the following:
 - Drag the smart watch from the smart watches panel to the watches panel.
 - Select a watch, right click, select **Add**.
 - Select a **Smart Watch**, click the **Add Watch** button on the toolbar.
-

Complex Datatype Examples

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Toad can perform watches on several complex datatypes. Some illustrations are described below.

Note: A watch on a record variable must be set **AFTER** you step into the procedure through the Debugger. Toad needs the context of the variable before it can determine that it is a record.

Explicit record declarations:

In the example below, the declaration is explicit because the types of parameter *pow* and variable *rec* are explicitly declared as *pow_rec*.

```
CREATE OR REPLACE package powexample is
TYPE POW_REC IS RECORD
(
NAME VARCHAR2(30),
```

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```
RANK VARCHAR2(30),
SERIALNO VARCHAR2(30)
);
PROCEDURE POWRECPROC(POW IN POW_REC);
end;
/
CREATE OR REPLACE package body powexample is
PROCEDURE POWRECPROC(POW IN POW_REC) IS
TMPVAR VARCHAR2(30);
REC POW_REC;
BEGIN
REC.NAME := 'DAVID';
REC.RANK := 'GENERAL';
REC.SERIALNO := '555-00-0000';
TMPVAR := POW.NAME;
TMPVAR := POW.RANK;
TMPVAR := POW.SERIALNO;
END POWRECPROC;

end;
/
```

Implicit record declarations:

In the example below, the declaration is implicit because the loop index variable rec is not declared.

Note: You cannot watch an implicit record with a variable in the select list of the corresponding query. Having a variable within this select list will return an empty watch. A variable in the WHERE clause is ignored when record structure is retrieved, and the watch proceeds normally.

This example includes both a record (REC) and a cursor (C1).

```
CREATE OR REPLACE PROCEDURE ForLoopProc IS
cursor C1 is select * from employee;
BEGIN
for rec in C1
loop
dbms_output.put_line(rec.empname);
end loop;
END ForLoopProc;
```

Example 2

```
CREATE OR REPLACE PROCEDURE CursorForLoopProc IS
BEGIN
for rec in (select * from new_user)
loop
dbms_output.put_line(rec.first);
end loop;
```

```
END CursorForLoopProc;
```

%ROWTYPE records:

In this example, tmpVar will expand as a record.

```
CREATE OR REPLACE FUNCTION returnrowtype RETURN employee%ROWTYPE as
tmpVar employee%ROWTYPE;
BEGIN
tmpvar.empid := 1;
tmpvar.empname := 'DAVID';
tmpvar.salary := 100000;
RETURN tmpvar;
END returnrowtype;
```

Collections Records

Toad also supports displaying collection results to the DBMS Output window.

When this option is enabled, Collection results will be displayed in the DBMS Output window, and the row formatting will be applied.

Note: Row restrictions will not be applied in this case.

To enable collection results

- From **Editor|Set Parameters|Options**, select DBMS Output.
-

Adding a Watch

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

You can add a Watch in several ways.

To add a watch from the Editor

1. Click a **variable** in the editor.
2. Click the **Add Watch**  button in the toolbar. The variable is added to the list of watches. If the Watches window was not open, you will need to open it to view watches.

OR

Right-click in the **editor** and select **Debug** and then **Add Watch at Cursor**.

To add a watch from the Watches window

- Right-click and select the **Add Watch** menu item. The Watch Properties dialog box appears.

Or

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Press <CTRL>F5 to add the variable at the cursor to the list of watches. The watch is added but the Watch Properties dialog box does not display.

To add a watch from the Debug Menu

1. Click in the **variable** you want to watch.
2. From the **Debug** menu, select **Add Watch at cursor**.

Note: If text is selected when "Add Watch at Cursor" is chosen, Toad sets the watch on the selected text. If no text is selected it uses the text under the cursor. This change occurs so that if you have a recordname.fieldname, you can highlight only recordname to set a watch on it. If you have an expression like v_List(2), where v_List is a varray, then you can highlight the entire expression to put a watch on it.

Related Topics

[Limitations to Watches](#)

Limitations to Watches

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Because of limitations in the Oracle Probe API, there are some configurations that you cannot Watch.

- Oracle 7 does not support watches on package variables.
 - Toad does not support arithmetic in watches. For example, you cannot watch the sum of two variables.
 - You cannot watch a trigger **:new.column** or **:old.column value**.
-

Setting Watch Properties

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

You can set watch properties as you add a watch, or from an existing watch.

Some methods of adding a watch bring up the Watch Properties dialog box. (See [Adding a Watch](#).)

To change the properties of an existing watch, from the Watches window, double-click the watch where you want to change properties. The Watch Properties dialog box appears.

To set watch properties

1. In the **Expression** field, type the **name of the variable** you want to watch.
2. Variables within a package body or package spec will be resolved automatically. You can also specify a variable as a **package variable** and refer to a different schema and package in the appropriate boxes.
3. In addition to the usual data types that you can watch (for example, date, number, varchar2). You can also watch array values and record types. If you have an array, e.g., MyArray(1..10), and set up a watch on MyArray(1), then you can also set a **Repeat Count** setting of 3 to examine MyArray(1), MyArray(2), and MyArray(3) all at the same time.
4. Enter the number of significant **Digits** to be displayed.
5. If you prefer to see the watch value formatted differently than the default, then select from the format options, e.g., floating point, scientific, and so on. You cannot format watches on records. If you are selecting a record to watch, this area will be disabled in the Watch Properties window.

Note: Non-printable characters (ASCII 0-31) embedded in strings can often cause confusing errors and are hard to debug because most fonts are unable to render them in a meaningful way. "String\Dec" will display non-printable characters, e.g., CR and LF, in decimal format, e.g., "This is a test.\013\010" "String\Hex" will display those non-printable characters in hexadecimal format, e.g., "This is a test.\\$D\\$A".

6. To set the Debugger to break when a value changes, check the **Break on value change** check box, and they type of break you want:
 7. Never
 8. Always
 9. When a specific condition is met (x=4, for example)
- Note:** This feature is not available when the watch selected is a record, and will be disabled in the Watch Properties window.
6. Click **OK** to change or set the properties.
-

Enabling/Disabling Watches

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

Once a watch is set, you can temporarily disable it. You may want to disable some watches to improve the performance of the Debugger. As each line of code is run, each watch has to be evaluated. The fewer the watches to evaluate, the faster it will run.

To disable a Watch

- In the Watches window, double-click the **watch** and clear the **Enabled** check box.
Or

In the Watches window, select the **watch**, **right-click**, and select **Disable Watch**.

Disabled watches are grayed out in the Watches window, and marked with the word DISABLED.

To disable all Watches

- In the Watches window, right-click, and select **Disable All Watches**. All watches are grayed out and disabled.

To enable a Watch

- In the Watches window, Double-click the watch and check the **Enabled** check box.
Or

In the Watches window, select the watch, right-click, and select **Enable Watch**.

To enable all Watches

- In the Watches window, right-click, and select **Enable All Watches**. All watches are enabled.
-

Editing a Watch

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

To change an existing watch

- Do one of the following:
 - Double-click the **watch** in the Watches window
 - Single-click the **watch** to select it, right-click to display the menu, and select **Edit Watch**
 - Press <CTRL>E.
2. The Watch Properties dialog box appears. Make changes to the properties as described in [Setting Watch Properties](#).
-

Deleting a Watch

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

You can delete a watch or you can delete all watches.

To delete a single watch

- In the Watches window, select the **watch you want to delete** and press the <Delete> key. The watch is deleted.

To delete all watches

- In the Watches window, **right-click** and select **Delete all Watches**. All watches are deleted.
-

Watches Right-Click menu

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

From the Watches window, you can right-click to display a Right-Click Menu that contains Watch specific commands.

- [Edit Watch](#)
- [Add Watch](#)
- [Enable Watch](#)
- [Disable Watch](#)
- [Delete Watch](#)
- [Enable All Breakpoints](#)
- [Disable All Breakpoints](#)
- [Delete All Breakpoints](#)

- **Stay on Top** – when checked, the window remains on top of all other windows.
 - **Dockable** – when checked, the Watches window can be docked with the Breakpoint, Call Stacks, and DBMS Output windows and all can be accessed using tabs.
-

Evaluate/Modify

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality. Currently this is not available in JDWP debugging.

The Evaluate/Modify window lets you view the value of a variable on the fly, without having to set a watch. It also lets you change the value of a variable and continue executing. This is useful for advancing a loop variable to the end of a "FOR COUNTER_VAR IN 1..500 LOOP" loop. In this case, evaluate Counter_Var, and set its new value to 499. So, you do not have to step through the loop the extra 498 times. If you want to change a date variable, enter the new date in format DD-MON-YY or DD-MON-YYYY with single quotes surrounding the date: for example, '31-DEC-99'.

- Check the Package Variable check box if the variable to evaluate is a package level variable, and not a local variable.

The Evaluate/Modify window is not dockable with the rest of the debug windows.

External Debugging

External Debugging Overview

When performing normal debugging, Toad does two things – in the first Oracle session it starts an execution of the procedure it is about to debug, and in the second session it traps the first session into a debugger.

External Debugging allows the user to debug PL/SQL code that is written and run from any client-server application including Visual Basic, Delphi, PowerBuilder, Developer/2000, etc. The external application does not need to exist on the same machine.

External Debugging works with the PL/SQL debugger. Currently this feature is not compatible with the [JDWP debugger](#).

This feature is extremely useful when the client-server application calls a stored program with complex parameters, such as cursors, that are not easily simulated from Toad. Rather than trying to simulate the complex environment within Toad, you can simply connect to the external application and then debug the code in its native environment.

Related Topics

[PL/SQL Debugger Overview](#)

[Requirements for attaching to an External Application](#)

[Attaching an External Session for Debugging](#)

Requirements for attaching to an external application

Before Initializing

Before initializing the debugger on the external session, disable server output by issuing the 'set serveroutput off' command. If server output capture is enabled, Oracle will freeze on calls to the

Toad 9.5

DBMS_OUTPUT package so that these calls can be debugged. This will give the appearance that the application has frozen for no particular reason.

Initializing

To initialize Debug mode, the external application must execute three commands:

```
ALTER SESSION SET PLSQL_DEBUG=TRUE  
id := dbms_debug.initialize('TOAD')  
dbms_debug.debug_on;
```

where TOAD can be replaced by any ID string. If this parameter is omitted, the return value of initialize will be used as the Session ID. This ID string also must be entered into Toad from **Debug menu|Attach External Session**.

The ALTER SESSION command (SQL) should be executed separately, while dbms_debug.initialize and dbms_debug.debug_off (PL/SQL) can be placed in the same PL/SQL block.

You can omit the ALTER SESSION command if you have all your procedures compiled with debug.

After running external application

After the external application is finished executing the code that needs debugging, it should execute the command:

```
dbms_debug.debug_off
```

Otherwise, all subsequent PL/SQL code that this application submits for execution will be run in debug mode. This will cause the application to hang until Toad attaches to it again.

Related Topics

[External Debugging Overview](#)

[PL/SQL Debugger Overview](#)

[Attaching an External Session for Debugging](#)

Attaching an External Session for Debugging

In the following procedure, Step 5 can be done before Step 4, but it may then be difficult to pass the Session ID (unless it is hard-coded). The important thing is that the application and debugger are synchronized at the point when:

- the application runs PL/SQL code in debug mode
And
- the ATTACH command has been issued from Toad.

NOTE: Before initializing the debugger on the external session, disable server output by issuing the 'set serveroutput off' command. If server output capture is enabled, Oracle will freeze on calls to the DBMS_OUTPUT package so that these calls can be debugged. This will give the appearance that the application has frozen for no particular reason.

To attach an external session for debugging

1. Connect the external application to the database.

2. In Toad, connect to the same database instance as the external application. The code you want to debug must be displayed in the Editor.
 3. In Toad, from the **Debug** menu select **Attach External Session**.
 4. Enter the same Session ID as passed to or returned by the initialize statement. Toad waits for the application to execute PL/SQL code.
 5. From the application, execute the PL/SQL block that calls the stored program to be debugged. Toad enables all debugging commands.
 6. Verify that, when execution of the PL/SQL code is complete, Toad displays the message Execution complete and the external application continues its normal work.
-

Related Topics

[External Debugging Overview](#)

[PL/SQL Debugger Overview](#)

[Requirements for attaching to an External Application](#)

Call Stacks

Call Stack Window

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

The Call Stack window displays the chain of functions and procedures as they are called, in the order they are called, with the most recent function or procedure listed on the top.

At the end of each procedure name is the current line number in that procedure. So, if you step into procedure B from line 5 of procedure A, then the call stack will look like this:

Procedure B(1)

Procedure A(5)

To access the call stack

- From the **Desktops area**, click the **Call Stack** tab.

To add the call stack tab to the Desktop

- Right-click in the **Desktops area** and select **Call Stack**.
-

Related Topics

[Configuring the desktop](#)

Navigating Multiple Procedures

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

You can navigate among multiple procedures using the Call Stack window

To select a procedure for viewing

- Choose from one of the following methods:

- Double-click the **procedure name**
- Select the **procedure**, right-click to display the **Right-Click Menu** and then select **View Source**.

Using the Navigator buttons

You can also use the navigator buttons on the [Tabs toolbar](#) to navigate through the Call Stack.

Triggers

Setting Parameters in Triggers

Note: This extended Toad feature is only available in Toad for Oracle editions that include debugging functionality.

When a trigger is executed, a preprogrammed operation occurs on a table. You'll notice that debugging triggers is different from debugging procedures or functions. First of all, the values entered in the Set Parameters window are for the column values, not the argument values.

Before you can run a trigger, you have to set the parameters for that trigger. Each type of trigger has a different set of parameters that are required.

Note: When you have entered a value into the Value column of the grid, if you want to make it NULL again, type **NULL**. If you simply delete the value, the value will revert to an empty string.

INSERT

When you are debugging an INSERT trigger, the values you enter are used as the values to be inserted. The record you insert is then rolled back so that no changes are made to the database during debugging.

To debug an insert trigger

- In the Value field, enter a **value** to be inserted.

The INSERT INTO... code is not valid until you enter column values.

UPDATE

Enter values for the SET... clause AND the WHERE... clause. The UPDATE TABLE... code is not valid until you enter the column values.

To debug an update trigger

1. In the Value field, enter **values for the SET...** clause.
2. In the WHERE value field, enter **values for the WHERE...** clause.

The updated record will be rolled back so that no changes are made to the database during debugging.

DELETE

When debugging a DELETE trigger, you must enter values for the WHERE... clause.

To debug a delete trigger

- Enter the **WHERE...** values in the Value field. The DELETE FROM... code is not valid until the column values are entered.

Multiple Trigger Priorities

In the case of multiple BEFORE or AFTER actions, trigger types take priority and will be performed as follows:

- INSERT
 - UPDATE
 - DELETE
-

Query Builder**Query Builder Overview**

There are two ways to access the Query Builder:

- from the **Database|Report|Query Builder** menu item
- the **Query Builder** button on the parent Toad window toolbar

Query Builder dialog box provides a fast means for creating the framework of a Select, Insert, Update, or Delete statement. You can select Tables, Views, or Synonyms, join columns, select columns, and create the desired type of statement.

You can move around the Query Builder by clicking on items or by using the keyboard. Up and down arrow keys will move you around in lists, the space bar will check and uncheck boxes, and you can tab to move forward one area (table, menu, list, etc) and Shift-Tab to move back one area.

- **Table Model Area** - Use the upper panel to graphically lay out a query. See [Model Area](#) for more information.
 - **Tree View**- Current query in tree view.
 - **Generated SQL Query** - Automatically generated SQL as a result of the model appears in the results grid below the Model Area. The Query Results tab displays the results of the created query.
 - **Query Builder Toolbar** - Contains the most frequently used functions. See [Query Builder](#) Toolbar for descriptions of toolbar items. More functions can be found on the popup menus.
-

Related Topics

[Query Builder Toolbar](#)

[Quickstart](#)

[Model Area](#)

[Query Builder Options](#)

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Related Topics

[Query Builder Toolbar](#)

[Quickstart](#)

[Model Area](#)

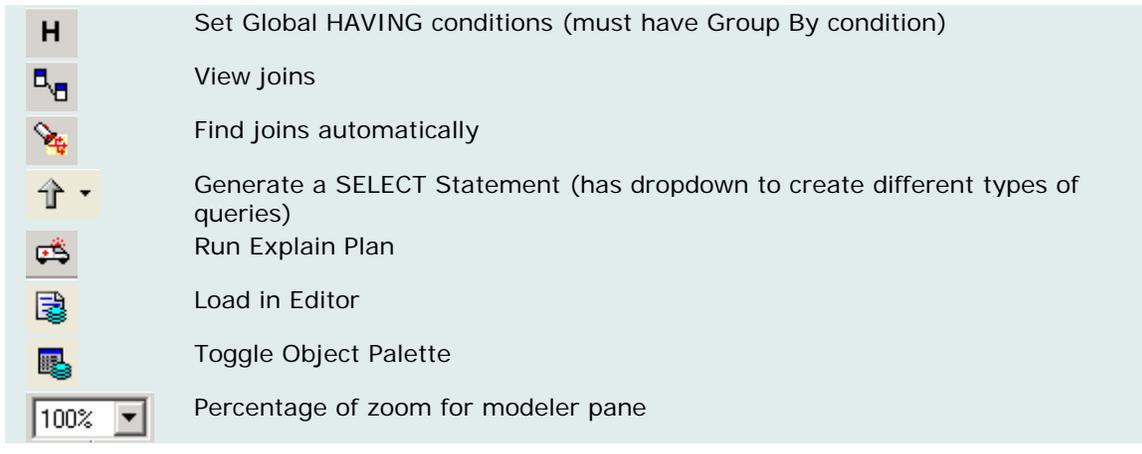
[Query Builder Options](#)

Query Builder Toolbar



The following commands are available using the toolbar in the Query Builder:

Button	Command
	Change active session
	Execute SQL Statement
	Create New Model
	Open Model from...
	Save to Disk
	Save Model as...
	Print Model (select zoom for print from the dropdown menu beside the button)
	Edit Current Model Info
	Add Calculated Fields
	Set Global WHERE condition



Quick Start

Follow this procedure to quickly get started using the Query Builder.

To use the Query Builder

1. Drag-and-drop **Tables**, **Views**, or **Synonyms** from the [Schema Browser](#), [Project Manager](#), [Object Palette](#), or the [Object Search window](#) to the modeling area.
2. Click in the check box by a column to select or clear it.
Note: Clicking this box adds the column to the main query. Columns must be added to subqueries by dragging.
3. Drag-and-drop **columns** from one table to another to create joins between the tables.
4. Add any WHERE clauses, or GROUP by clauses by right-clicking on the column in the tree view node and select **Add to n clause**. Right-click and adjust properties for clauses where necessary.
5. Click the **Save Model as** button on the toolbar to save the model to disk.
6. Click the **Generated Query** tab to view the generated query, and then click the **Load in Editor** button to copy the query to the Editor.

Related Topics

[Query Builder Overview](#)

[Query Builder Toolbar](#)

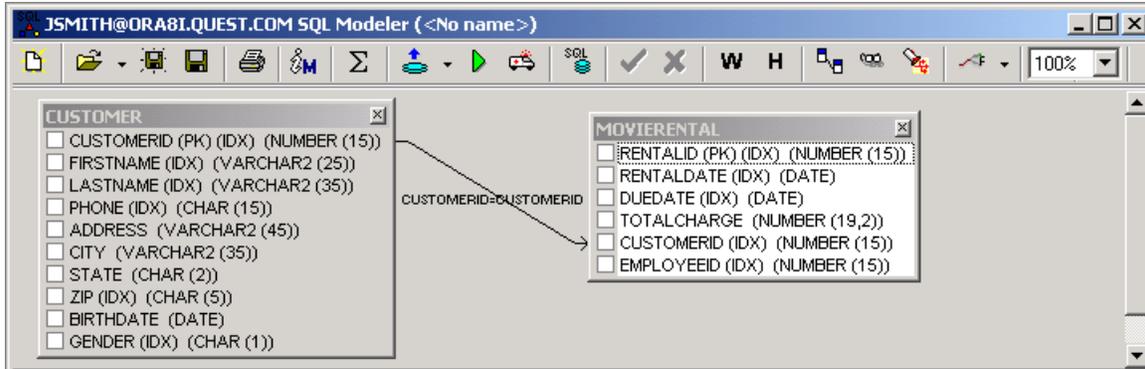
[Model Area](#)

[Populating the WHERE clause](#)

[Populating the HAVING clause](#)

Model Area

Use the model area to visually join or manipulate the Tables, Views, or Synonyms. You can click in a table header and drag the table to anywhere in the model area.



To establish your own joins

- Drag a column from one table to another table column. When the line is drawn, you can double-click the line to adjust its properties such as Inner Join vs. Outer Join, or Join Test. For example, equal (=), less than (<), greater than (>), and so on.

To specify columns for the query

- Click in the check box for each desired column. A checkmark will be displayed in the box. The selected column's information will appear in the navigation tree, and the column will be included in the query.

Note: If no table columns are selected, then all columns will be included in the query.

F4 Describe

You can use the <F4> key to describe a selected table, as explained in the [Describe](#) topic. If a table is not selected when you press **F4**, the last selected table will be described.

Explain Plan

Click the **Explain Plan** button on the Query Builder toolbar to generate and display an [Explain Plan](#) output.

The right-click menu includes the following functions:

- **Copy to Clipboard** - Copies the explain plan statement (in text mode) to the Clipboard
- **Optimizer Mode** - Allows you to select the query optimizer mode from Choose, Default, Rule, First Rows, or All Rows

Query Builder Options

Many Query Builder options can be set or changed in the Toad Options window. From this window you can:

- Set general options, including color of join lines.
- Add or remove Functions usable in the Query Builder.
- Control behavior of the Query Builder.

To access Query Builder options

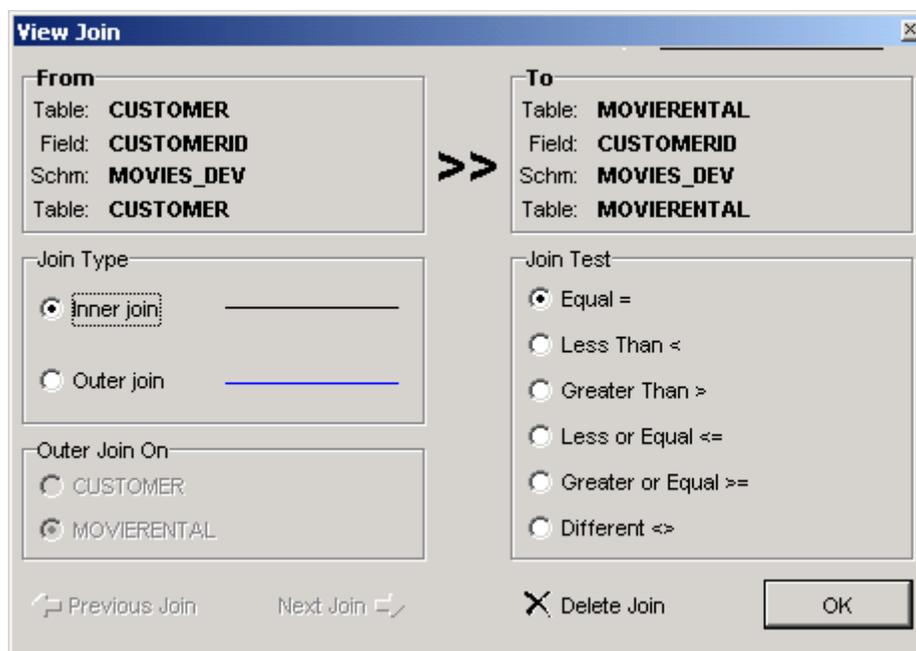
1. From the **View** menu, select **Toad Options**.
2. In the left hand side, click **Query Builder**.
3. Change options as desired, and then click **OK**.

Related Topics

[Options - Query Builder](#)

Viewing Joins

View Joins by clicking the **View Joins**  button on the toolbar, or by double-clicking on a **join line** in the **Modeler** itself. The view joins dialog box appears.



From this dialog box you can quickly see individual joins, browse through the joins, and make changes to them.

- You can view a join by double-clicking or pressing **<Enter>** on the tree view under the JOIN section.
- You can delete a join by pressing the **<Delete>** key or right-click and selecting **Delete**.
- The top two areas describe the join fields, joined **from** one table **to** another.
- You can change the Join Type from Inner to Outer. The line color denotes the type of join.
- If you have selected an Outer join, you can make change which table the outer join is performed on.
- You can change the test for the join; you can make it Less than, Greater than, and so on instead of Equal to.
- You can delete the current join.

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- Click **Next Join** to move forward in the join list.
 - Click **Previous Join** to move backward.
 - Click **OK** to close the window and return to the Query Builder.
-

Populating the Where Clause

There are two ways to populate the WHERE clause in SQL generated by the Query Builder: as an individual WHERE, or as a global WHERE.

To populate the where clause

1. Right-click on the column under the SELECT node and select **Include in Where Clause**.

Or

Drag a column from the select node to the WHERE node.

2. Add conditions and select or clear any outer joins you want to apply.

To build a more advanced query, click the Expert tab and enter your code by typing it in the top box or double clicking on functions and data fields to enter them.

3. Click **OK**.
4. Repeat until all conditions are added.
5. Note: When you add multiple columns to a WHERE clause, they are automatically placed
6. If a condition should be an OR condition, rather than an AND, right-click on it and select OR.

To create a global WHERE clause

1. Right-click in the Table Model area.
2. Select **SQL|Global Where Clauses**.
3. Click the **Add**  button.
4. Enter or build your condition.
5. Click **OK** to close the definition window.
6. Click **OK**.

Example

To construct the following query:

```
SELECT DEPT.DEPTNO, DEPT.DNAME, DEPT.LOC
FROM DEPT
WHERE (((UPPER (RTRIM (DNAME)) = 'SALES') AND (DEPT.DEPTNO < 40)) AND ((DEPT.LOC =
'CHICAGO')OR ((DEPT.LOC IS NULL = '')))
```

do the following:

1. Open the **Query Builder**.
2. In the **Object Palette**, select the Scott schema and double-click the DEPT table to add it to the model.
3. Right-click **DEPT** and choose **Select All**.

4. Drag the **DEPTNO** column to the **WHERE** node.
5. Select **<** in the operator box, click **Constant**, and enter **40** in the condition box.
6. Click **OK**.
7. Drag the **LOC** column to the **WHERE** node.
8. In the WHERE definition dialog, click the **Expert** tab. Click **OK** to confirm.
9. Double-click **IS NULL** in the SQL Operators area and then click **OK**.
10. Drag the **DEPTNO** above **LOC** in the tree view.
11. Right-click the **LOC** column and select **OR**.
12. Right-click on **OR|LOC** and select **Properties**. Select **=** in the operator box, click **Constant**, and enter **CHICAGO** in the condition box.
13. Click **OK**.
14. In the table model area (the area around the table images), right-click and choose **SQL|Global Where**. Click the Add  button.
15. In the top edit box, enter **(UPPER (RTRIM (DNAME))) = 'SALES'**.
16. Click **OK** and then click **OK** again.

View the generated query. It should appear as described above.

Populating the Having Clause

You can automatically populate the Having clause in the SQL generated by the Query Builder in one of two ways.

Note: To create a HAVING clause, you must have added columns to the GROUP BY node.

Having entries should be in the form of <expression1> <operator> <expression2>.

To populate the HAVING clause

1. Right-click the desired column in the tree, and then select **Include in Having Clause**.
Or
Drag a column from a table in the Table Model area to the HAVING clause.
2. Enter or build the condition.
3. Click **OK**.
4. Repeat until complete.

Global HAVING clauses

In order to include a global HAVING clause, there must be a GROUP BY clause as well.

To create a global HAVING clause

1. Right-click in the Table Model area.
2. Select **SQL|Global Having**.
3. Click the **Add** button.
4. Enter or build your condition.

Toad 9.5

5. Click **OK** to close the definition window.
6. Click **OK**.

Example

To construct the following query:

```
SELECT emp.empno, emp.ename, emp.job, emp.mgr, emp.sal,  
emp.comm, emp.deptno  
FROM emp  
GROUP BY emp.deptno, emp.comm, emp.sal, emp.mgr, emp.job,  
emp.ename, emp.empno  
HAVING ((emp.sal + NVL (emp.comm, 0) > 4000))
```

do the following:

1. Open the **Query Builder**.
2. In the Object Palette, select the Scott schema.
3. Double-click the **EMP** table to add it to the model.
4. Right-click **EMP** and choose **Select All**, then clear **Hiredate**.
5. Drag DEPTNO, COMM, SAL, MGR, JOB, ENAME and EMPNO to the **Group by** node.
6. Right-click in the Table model area and select SQL|**Global Having**. Click the **Add**  button to add a new Global Having clause.
7. Enter the Having clause to say:
EMP.SAL + NVL(EMP.COMM, 0) > 4000
8. Click **OK** twice.

View the generated query. It should appear as described above. This query selects all the employees whose salary plus commission is greater than 4000.

The NVL command substitutes a null value in the specified column with the specified value, in this case, 0.

Creating a SubQuery

You can easily create a sub-query if desired, nested subqueries can also be created, simply by creating the new sub-query within the appropriate clause of the previous one. Subqueries can be created from the SELECT clause, the FROM clause, or the WHERE clause.

Columns must be dragged directly from the table area to be placed in subqueries, or from the current statement. Checking a column in the model area will add that column to the main query.

To create a sub-query in the WHERE clause

1. Drag a column into the **WHERE** or **FROM** node.
2. In the **WHERE** definition dialog, select **subquery** and select the type of subquery from the list below it.
3. Create the sub-query the same way you would create a normal query.

To create an EXISTS sub-query

1. Right-click the **WHERE** clause in the tree view.

2. Select Include **EXISTS subquery**.
3. Create the sub-query as you would a normal query.

To create a sub-query in the FROM or SELECT node

1. Right-click the **SELECT** or **FROM** clause in the tree view.
2. Select **Include subquery**.
3. Create the sub-query as you would a normal query.

Note: A sub-query based on the SELECT clause cannot have multiple columns: therefore there is no ORDER BY node.

Related Topics

[Query Builder Overview](#)

[Creating Nested Sub-Queries](#)

Reverse Engineering a Query

If needed, you can reverse engineer a query that you have already built.

Note: The query builder can handle only one query at a time.

The query must be a query that originally could have been created in the Query Builder. If the Query Builder could not create the original query, the reverse engineered query may be flawed. This is because the Query Builder cannot visually display a query it cannot build. If the query contains a calculated field, you will have to manually attach the calculated field to the table by clicking on the **Add Calculated field** button.

At this time, Toad cannot reverse engineer a query with nested sub-queries, although the Query Builder can create them.

Note: Although it was heavily tested throughout its development lifecycle, due to the vast array of possible queries there may be some queries it can create but cannot reverse. We encourage users to inform Quest if they discover such queries.

Toad can reverse engineer:

- Select
- Insert
- Update
- Delete

queries, one at a time.

To reverse engineer a query

1. Enter a query into the Editor
- Or

Open a file containing a query in the Editor.

2. Right-click in the query and select **Send to Query Builder**.
-

Query Report Format

You can execute When you choose to "Execute as SQL*Plus Report" from the Query Builder, you can format the report from the Query Report Format window.

*To execute as a SQL*Plus Report*

- After creating a model, right-click over either the **Criteria** or **Generated Query** tab and select **Execute as SQL*Plus Report**.

Columns Tab

In this tab you can choose what should be printed in your report. You can choose to print or not print columns, Suppress consecutive Duplicates (BREAK), change the justification of the column, sum values, or apply the sum to the break column.

When you have set your options for generating the report, click the **Print the Report**  button on the toolbar. The script is sent to the script tab, and any Output to the Output tab.

You can print the output tab by clicking the **Printer** button on the toolbar.

Output tab

After you have Printed the report, any output is displayed in the output tab.

You can print the contents of this tab by clicking the **Print Output Tab**  button on the toolbar.

Script tab

After you have printed the report, the Script tab contains the script used to generate output. You can then save it to a file by clicking the Save to file button on the toolbar.

Generated Query

This tab lists the automatically generated SQL statement. Any changes made to the model or column Criteria will automatically regenerate this SQL statement.

To copy the query to the clipboard

- Select a query and press **<CTRL>C**
Or

Right-click and select **Copy**.

You can also copy the query directly to the Editor window by clicking the SQL button in the Query Builder toolbar.

You can also execute the SQL as a SQL*Plus report. Right-click in the SQL area and select Execute as SQL*Plus Report. The [Query Report Format](#) window appears.

You cannot directly edit the SQL on the "Generated Query" tab dialog box.

Generating ANSI Syntax

You can convert a SQL statement from the generated query tab, or you can set the Query Builder to create ANSI syntax automatically from [Toad Options|Query Builder](#).

To convert a SQL statement in the Query Builder

- In the **Generated Query tab**, select the query to convert and click the **ANSI join syntax** button.

Tuning the query

If your Toad Edition includes SQL Tuning, you can Tune your query.

To tune the query

- From the generated Query tab, click the SQL Tuning button.
-

Related Topics

[Toad Editions](#)

[Using SQL Tuning with Toad](#)

[SQL Tuning](#)

Query Results

This grid displays the results of executing the generated query. Insert, Update, and Delete queries can only be executed in the Editor window.

Making changes to the Tables or Columns, then clicking on the Query Results tab will prompt you whether or not to requery the data.

From the Right-click menu, you can select:

- **Print Grid** – This opens the [Print Grid](#) dialog box.
 - **Save As** – Opens the Save Grid Contents dialog box and allows you to save the results in several different formats.
 - **Export to Flat File** – Allows you to export the query results to a flat file that you can open in a standard spreadsheet application.
 - **Find data** – Opens the Find data dialog box, allowing you to search for a string within the results grid. If you have many results and need to find a specific one, this can help you narrow down your search.
 - **Record Count** – Counts the number of records in the results grid and displays the total.
-

Removing columns from the Tree

As you model your code, you may need to remove columns from the model.

To remove columns from the tree

- Drag the column you want to the trash can in the tree structure.
-

Related Topics

[Query Builder Overview](#)

Code Snippets

Use this dockable window to look up or copy Oracle SQL functions into any of the editors within Toad. The items' associated text files are located in the Toad for Oracle\Temps folder. You can modify the files.

To use Code Snippets

1. From the **View** menu, select **Code Snippets**. This window automatically displays docked at the right side of your screen.
2. Select a **category of code** from the box at the top of the window.
3. Select the code from the list. You can:
4. View a description of the code in the area below the code list
5. Double-click the code to insert it into the editor
6. Drag and drop code into the editor

Code Categories

Template	Filename
Single Row Character Functions	STRFUNCS.TXT
Single Row Number Functions	NUMFUNCS.TXT
Group Functions	GRPFUNCS.TXT
Date Functions	DATFUNCS.TXT
Date Format Options	DATEFMTS.TXT
Data Conversion Functions	CNVFUNCS.TXT
Other Misc. Functions	MSCFUNCS.TXT
Number Format Options	NMBRFMTS.TXT
Oracle Pseudo Columns	PSEUDO.TXT
SQL Optimizer Hints	OPTHINTS.TXT
Defined Exceptions	PREFXCP.TXT
User Provided Function List	USRFUNCS.TXT

Object Palette

The Object Palette can be docked to the main Toad window, so that it is available within any of your Toad windows.

When the active connection changes the Object Palette automatically refreshes to reflect the new active connection. Or, you can use the refresh button to refresh the list (this method queries the database).

From the Object Palette, you can:

- [View objects](#) in various schemas

- Change the style in which objects are listed
- Perform a [Describe](#) on an object
- [Insert](#) selected objects into the editor
- [View or hide](#) columns in the palette
- [Hide](#) the palette
- Drag-and-Drop items from the palette to other windows in Toad.

To view objects from a different schema

When the object palette initially opens, it displays objects from the connected schema. You can easily change this, however.

1. At the top of the **Object Palette**, click the **Schema dropdown**.
2. Select the new **schema** from the list. Objects from that schema now appear in the object list.

To change the style in which objects are listed

1. Click the drop down arrow beside the **Options**  button.
2. Select the style in which you want to view objects:
3. Drop Down (the default) - object types selected from a drop down menu.
4. Tabbed - each object type on a separate tab.
5. Tree view - each object type as a separate node, with objects beneath.

To insert an object into an editor

1. Place your cursor in the editor in the location where you want the object.
2. In the Object Palette, double-click the **object** you want to insert. Toad automatically inserts the object into your code.

To perform a DESCRIBE on an object

1. In the Object Palette, select the object you want to describe.
2. Press <F4> to display the DESCRIBE window.

To view columns

-  In the Object Palette, click the **Show Columns**  button. Columns are displayed for the selected object at the bottom of the palette.

Output Window

The output window appears whenever there are results of an action. By default, this window is docked at the bottom of your screen. The Output window can be sized however you want. By default it is docked at the bottom of your screen, but you can move it and dock it as you want.

To undock the Output window

- Right-click the output window and clear the **Docked** check box.

In addition, the output window displays error messages, and other general information Toad creates for you. Output is sent to [various tabs](#) as needed. Using the [popup](#) menu you can work with the messages displayed in the Output window.

Various Tabs

Output is sent to various tabs in this window as needed.

Tab	Contents
General tab	This tab provides general information.
<connection> tab	This tab provides information about what you have done during a connection. For example, if you end or begin a Debugger session for a specific connection a log of this will be displayed here.
Formatting Results tab	This tab displays results of the Format Files command from the Project Manager.
Syntax Check Results tab	This tab displays results of the Check Syntax command from the Project Manager
Spool SQL tab	This is where SQL is displayed from the Spool SQL command. This is the SQL Toad uses to perform various functions.

Popup menu

From the right-click menu you can do several things.

Command	Result
Find in Files	Open the Find in Files dialog box to find specific information.
Clear	Clears all messages in the active output tab.
View Messages	Displays the selected messages in a dialog box. This is useful when a message is too long to view in the Output window, or contains linefeeds.
Copy	Copies the contents of the Output window to the clipboard.
Print	Prints the contents of the Output window.
Save to File	Saves the contents of the Output window to a text file.
Spool SQL to Screen	Toggles spooling.

Select Columns

You can hide columns from the SQL Results grid after the query.

When using this dialog, you can choose to view the columns list alphabetically. This makes it easier to find the columns you want to display or hide.

To select columns to display or hide

- Do one of the following:
- Right-click over the **SQL Edit window results grid** and then choose **Select Columns**.
- **Schema Browser|Tables** page select **Data** tab grid.

- **Schema Browser|Views** page select **Data** tab.
2. Click in the check boxes beside column names to select and de-select the columns that display in the grid.
-

Working with Data

Column Names Supported

Column names containing the letters A-Z, the numbers 0-9, and the underscore character "_" are the only column characters supported.

Toad does not support spaces, lower case letters, and special characters in table column names.

For example, a column named "This is a test" is not supported, however "this_is_a_test" is supported.

Graph Properties

You get to this window from the [Profiler Analysis](#) window.

From this window you can adjust the properties of the pie chart/bar chart graph.

OPS\$ Accounts

Toad can accept logins where the operating system validates the user and password. Select the database alias and leave the Username and Password boxes empty. Oracle will prefix your workstation login and attempt a login.

In order to use OPS\$ accounts, the customer's database init.ora initialization parameters file must have these two entries:

```
remote_os_authent = TRUE
os_authent_prefix = OPS$
(or whatever prefix you select)
```

The user account must be created like this:

```
create user (username) identified externally...
```

Oracle verifies that the operating system username matches the database username specified in the database connection. Oracle takes the operating system username: for example, SCC14433, and places the "os_authent_prefix" value in front, to yield "OPS\$SCC14433", which is then used as the schema name in Oracle. For example, "select * from all_objects where owner = 'OPS\$SCC14433'".

EXAMPLE:

Joe Smith logs onto the ORA805 database, enters "ORA805" in the Database box, and leaves Username and Password empty. His NT login is "JSMITH" which gets prefixed with "OPS\$" giving a username of "OPS\$JSMITH". Oracle attempts a login and Toad starts up.

The next time you bring up the Server Login window, any previous logins that were O/S authentication logins will have username = "EXTERNAL". So, you do not need to type the word EXTERNAL in the username box when reconnecting.

Using "Create user ... identified externally..." lets a database administrator create a database user that can only be accessed from a specific operating system account. During a database connection, Oracle verifies that the operating system username matches the specified database username (prefixed by the value of the initialization parameter OS_AUTHENT_PREFIX). Basically, you are relying on the login authentication of the operating system to ensure that a specific operating system user has access to a specific database user. So, the effective security of such database accounts is dependent entirely on the strength of the operating system security mechanisms. This presents a security loophole on Windows 95 and 98, where specific users are not identified. Windows NT identifies each user with a specific username.

Viewing or Hiding Docked Windows

Many of the windows within Toad can be docked to the main window. These include, but are not limited to:

- [Project Manager](#)
- [Output window](#)
- [Code Snippets](#)
- [Object Palette](#)

When docked, these windows can be displayed at all times, or they can be hidden in the form of tabs unless you run your pointer over them.

To hide a docked window

- In the upper right corner of a docked window is a thumbtack button. When visible, the thumbtack image will be vertical. Click the **thumbtack**  button to hide the docked window.

To view a hidden docked window

When the docked window is hidden, a tab with the name of the window appears in its place, taking up less screen space.

- To view the window, hover the pointer over the tab.

To show a hidden docked window

- In the upper right corner of a docked window is a thumbtack button. When the docked window is hidden, the thumbtack image will be horizontal. Click the **thumbtack**  button to show the docked window.
-

Viewing Source Surrounding a PL/SQL Error

You can use this query to see PL/SQL lines before and after the error line. Add it to your list of favorites!

```
select decode(to_char(us.line), '1', ue.text||'
Pkg: '||us.name||chr(10)||chr(10)||
' '||to_char(us.line,'99990')||' '||us.text,
to_char(ue.line-7),ue.text||' Pkg: '||us.name||' ' ',
to_char(ue.line-6),'',
to_char(ue.line+6),'',
to_char(ue.line) , '-->' ||to_char(us.line,'99990')
||' '||us.text
,' '||to_char(us.line,'99990')
||' '||us.text) outline
from user_source us, user_errors ue
where us.line between (ue.line-7) and (ue.line+6)
and us.name = ue.name
and us.type = ue.type
and ue.text not like 'PL/SQL: Statement ignored'
and ue.text not like 'PL/SQL: Declaration ignored'
order by ue.name, ue.line, ue.text, us.line;
```

Here is some sample output from the above query:

PLS-00103: Encountered the symbol "=" when expecting one of the following:

```
:= . ( @ % ;
```

The symbol ":" was inserted before "=" to continue.

```
Pkg:FOO
```

```
20 LIMITATIONS:
```

```
21 ALGORITHM:
```

```
22 NOTES:
```

```
23 *****/
```

```
24 BEGIN
```

```
--> 25 tmpVar = 0;
```

```
26
```

```
27 EXCEPTION
```

```
28 WHEN NO_DATA_FOUND THEN
```

```
29 Null;
```

```
30
```

Data Grids

Toad Data Grids

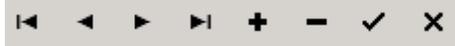
Throughout Toad, data from queries may be presented in a data grid. Some data grids have functionality specific to the location where they appear. Most data grids provide the following functionality:

- [Access the calculator](#)
- [Change the Row Height](#)
- [Change Display options](#)
- [Copy one row to create a new one](#)
- [Copy the rows to the windows clipboard, or save them to a file](#)
- [Delete selected rows](#)
- [Export the data](#) to a flat file
- [Find data](#)
- [Fix Current Column](#)
- [Grid Options](#)
- [Insert rows](#)
- [Preview/Remove Preview for Current Column](#)
- [Print the grid contents](#) to paper
- [Rearrange the order of the columns](#)
- [Set Sequence](#)
- [Set the column widths](#) to a custom width setting

- [Sort Data](#) in the Grid
- [Temporarily hide some columns](#)
- [View and/or edit the contents of a large column](#) in a Memo Edit popup window
- [View BFILE data](#)
- [View CURSORS](#)
- [View Nested Table Data](#)
- [View Object Data](#)
- [View VARRAY data](#)

Data Grid Toolbar

If a resulting dataset is editable, several of the buttons on the results grid toolbar will become enabled (insert, delete, post updates, and so on).



Button	Command
	Go to first row
	Go to previous row
	Go to next row
	Go to last row
	Add new row
	Delete Selected Rows
	Post Data
	Revert unposted data changes

[Customizing the Grid View](#)

Single Record View

Use this dialog box to view and/or edit records from several results panel within Toad, including the SQL Results panel and the Explain plan.

To access single record view

- Click the **open book icon** in the results panel, at the intersection of the grid headers and the record selectors/row numbers.

Note: In order to edit the data in the records, using the Single Record View popup window, the recordset must be editable first. [See Editable Resultsets for more information.](#)

To print the single record

- Click the **Print**  button.
-

Record View Options

The record view options dialog provides a way to order the single record view. Since the record view is simply a list of columns and their values, rearranging them may make it easier to find the data you want.

Select from the following options:

Field Order

Column Name - orders fields by column name

Column Position - orders fields by column position

Direction

Select the order of your fields as Ascending or Descending. This has slightly different effects based on the field order you have selected. For example, if your field order is by column name, ascending or descending will put the fields into alphabetical or reverse alphabetical order. If your field order is by column position, ascending will put the columns in the order they appear, and descending will reverse that order.

Left Align Field Names

Select Left Align Field Names to align all the field names to the left with varying spaces before the fields themselves. The default is to align them to the right with a standard amount of space between them and the fields.

Change Display Options

You can change the font, allow or disallow multi-select of records, size the column widths to the width of the data and display row numbers in the record selector.

See [Data Grids - Visual](#) for information on how to do this.

Grid Options

Selecting this command from the right-click menu activates the [Data Grids](#) options page to select options.

Change Row Height

You can easily change the height of your rows by using your mouse. Height adjustments automatically apply to all rows in the table.

- In the gutter (to the left of the first column), move your mouse over a row divider line. When the pointer changes to a double arrow, click and drag the row up or down to change its height.

Set Column Widths

You can easily change column widths in the data grids.

To change a column width

- Move the mouse pointer to the grid headings, over the border between 2 columns, and drag it left or right.

If the columns of a query are the same from query to query, Toad will retain these custom column widths. For example, you could add a WHERE clause, or an ORDER BY, and so on, re-execute the query, and the column widths would remain the same.

Set Sequence

The Set Sequence window lets you apply a previously created sequence to the selected column on the data grid. After the sequence is applied, if you add a new record in the table and leave the sequenced column blank, Toad will auto generate the next number in the sequence applied to the column.

Columns with assigned sequences are displayed in aqua.

Example 1

The following example uses SEQ Sequence Field.

- Run the following scripts in the Editor. They will create a table called SEQ_TABLE with columns titled FIRST_NME, LAST_NME, and ID_NMR. It creates a Sequence called SEQA that starts with 1, increments by 1, and has a maximum value of 4.

```
DROP TABLE SEQ_TABLE CASCADE CONSTRAINTS ;
```

```
CREATE TABLE SEQ_TABLE (  
  FIRST_NME CHAR (20),  
  LAST_NME CHAR (20),  
  ID_NMR NUMBER (4) NOT NULL,  
  CONSTRAINT UNIQUEID  
  UNIQUE (ID_NMR))
```

```
CREATE SEQUENCE SEQA START WITH 1 INCREMENT BY 1 MINVALUE 1  
MAXVALUE 4 NOCACHE NOCYCLE NOORDER
```

Example 2

Next, you need to display the data grid for **SEQ_Table**. You can do this through the Editor or the Schema Browser. For this example, use the Schema Browser.

1. From the **Schema Browser | Tables** list select the **SEQ_Table**. In the details panel, click the **Data** tab. The cells are currently empty of data.
2. Right-click in the data grid and select **Set Sequence Field**.

3. The Set Sequence Column window appears.
4. From the Sequence dropdown select **SEQA**. From the Column dropdown select **ID_NMR**.

Note: you can clear the Sequence Field by selecting <none> from the Sequence Dropdown.

5. Click **OK**.
6. Insert data in the record for **FIRST_NME** and **LAST_NME**.
7. Click **Insert Record**. 1 is automatically entered.
8. Insert **3 more records of names**. The **ID_NMR** column populates with 2, 3, and 4.
9. Try to **Insert** data for a 5th record. An error message appears. "**ORA-8004: sequence SEQA.NEXTVAL exceeds MAXVALUE and cannot be instantiated.**" This is because the last script set the maximum records to 4.

You can now delete the record.

Fix Current Column

You can anchor a column on the left side of the data grid. This can make it easier to track information when doing a lot of scrolling.

Note: Row numbers automatically display as fixed columns. With the exception of Row numbers, fixed columns remain editable.

To anchor a column

1. Click in a column to select it.
 2. Right-click, and then select **Fix Column** to fix the selected column. The selected column is anchored to the left. To move a column out of the fixed area, click and drag it to the right of the bold fixed column divider bar.
-

Select Columns

You can hide columns from the SQL Results grid after the query.

When using this dialog, you can choose to view the columns list alphabetically. This makes it easier to find the columns you want to display or hide.

To select columns to display or hide

- Do one of the following:
 - Right-click over the **SQL Edit window results grid** and then choose **Select Columns**.
 - **Schema Browser|Tables** page select **Data** tab grid.
 - **Schema Browser|Views** page select **Data** tab.
2. Click in the check boxes beside column names to select and de-select the columns that display in the grid.
-

Temporarily Hide Columns

This dialog box includes a check box for Row Numbers. Check the Row Numbers check box to display Row Numbers in the Grid.

To hide multiple columns

- From the right-click menu, choose **Select Columns**. Uncheck the columns you want to hide. They will NOT be included in the copy to clipboard or save to file.

To hide columns by dragging

- Drag the column header off of the grid. When the cursor changes to a circle with a slash through it:



the column will be hidden when you release the mouse button.

To restore hidden columns

- From the right-click menu, choose **Select Columns**. Check the columns you want to restore.
-

Rearrange Column Order

You can rearrange the order of your columns with a click and drag motion. If, after changing the order, you copy the data to the clipboard or save it to a file, the data will be in this new column order.

- Select the column you want to move by clicking on its header, and drag it left or right to rearrange them.
-

Filtering Results

Filtering Results

You can filter results in two ways from Toad:

- Use [Filter Condition dialog box](#) to apply filter criteria to the results panel
 - Use [Excel Style filters](#) to filter directly from the column headers on the results grid.
-

Filter Condition

You can use the **Filter Condition** dialog box to apply filter criteria to the SQL Results panel.

You get to this window from the SQL Results grid, **Grid|Filter Data** menu item.

Note: If Excel Style filtering is enabled for a grid then **Grid|Filter Data** is disabled; otherwise it is enabled.

Excel Style Filtering

From **Toad Options|Data Grids - Visual** you can choose to default to Excel style filtering.

Note: If Excel Style filtering is enabled for a grid then **Grid|Filter Data** is disabled; otherwise it is enabled.

You can use Excel style filtering to filter directly from the column headers on the results grid. Dropdown arrows attached to each heading bring up a filter dialog box. Up to two criteria can be used on any column.

Example

Run the following SQL:

```
select * from Scott.Emp
```

and get the following results grid:

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	12/17/1980	800		20
7499	ALLEN	SALESMAN	7698	2/20/1981	1600	300	30
7521	WARD	SALESMAN	7698	2/22/1981	1250	500	30

If you want to only see the results where the Job was SALESMAN or SALES MANAGER, you could use the SQL statement:

```
select * from scott.emp where job like 's%'
```

Alternately, you could filter the results grid using the Excel style filtering as described below:

To use Excel style filtering

1. Click the dropdown in the **Job column heading**. Select **Custom** from the menu.
2. In the Filter dialog box, fill in the boxes to specify the filter criteria.
3. Click **OK**, and the grid is limited to just the jobs that start with S, as if you had used a like clause in the select statement.

Related Topics

[Toad Options](#)

Sort Data in Grid

If the query does not contain an "Order By " command, click a grid column header in either the Editor or the Schema Browser and the Sort Options dialog box appears.

Note: If this dialog box does not display, right-click, select **Grid Options**, and make sure the "**Confirm sorts when clicking on column header**" option is checked.

Select the option you want to apply to the grid, and click Apply.

- Remove Sort – returns the order of the column to its original order.
- Sort ASC – sorts the grid in ascending order by this column.
- Sort DESC – sorts the grid in descending order by this column.

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- NULLS - First - puts all nulls first in the grid.
 - NULLS - Last - puts all nulls last in the grid.
-

Grid Menu

Grid: Copy Row

To copy a row

1. From the **Grid** menu, select **Duplicate Row**.
2. Click inside the cell you want to copy and then select the **Grid|Copy Row** menu item (also available from the Right-Click Menu). This will copy the entire row to the bottom of the SQL Results grid, ready for you to edit.

Note: The [recordset MUST be editable](#) in order for the Copy Row function to work.

Flat File Export from Query

This window is accessed through the **Grid|Flat File Export** window menu item, or through the Grid **Right-Click Menu**. The window gives you more input options before exporting the data to the flat file.

See [Flat File Export from Table](#) for more about Flat File Exports.

Grid Data Find

Use this dialog box to find the first row of matching data.

To access find data

You get to this dialog box using the **Grid|Find Data** menu item

OR

By pressing **<CTRL>F** while in the grid. (<CTRL>F in the Editor will find script text.)

To find data

1. Select the column to search, enter a value to search for, click the **Add** button.
2. If you want to perform a multi-column search, select more columns and values.
3. Click **OK** and the SQL Results grid will be advanced to the first occurrence of the search criteria.
4. To find the next occurrence of the search criteria do one of the following:
5. From the **Grid menu**, select **Find Next Data**
6. press **<F3>**

The SQL Results grid advances to the next occurrence.

Reporting

Report

Toad provides access to a powerful reporting tool from Fast Reports, Inc. With this tool you can create reports from any grid within Toad, including the Editor data grid, the Master/Detail Browser and the Schema Browser.

Included in Toad are several pre-designed reports that will let you quickly and easily organize your data into a report format (see Report Manager).

Related Topics

[Reports Manager](#)

Printing or Exporting Reports Manually from the Command Line

You can easily print or export your reports from the command line, saving you the trouble of opening the FastReports page every time you want to rerun a report.

This feature also lets you schedule when you run your reports.

Supported "save to file" extensions

The supported extensions are:

- .pdf
- .txt
- .xls
- .bmp
- .rtf
- .jpg
- .gif
- .csv
- .htm(l)

Supported Parameters

You can add as many parameters as you need. Valid parameter types are: String, Number, Date, or Substitution (substitution replaces text before the query is executed). String, Number, and Date types are regular bind variables.

To print or export from the command line

1. From the **Editor**, enter your query and then design your report (see [Report Builder wizard](#)).
2. Save the report definition to a .fr3 file.
3. In the lines before or after your query, enter the following comments:
`--ParamName: parameter name if you want to include parameters.`

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--ParamType: *parameter type of the above ParamName.*
--ParamValue: *value of the parameter.*
--repeat Param options above if more than one.
--ReportFile: *full path to your .fr3 file.*
--Print (if you want to print).
--Save To File: *full path to the export file you want to create.*
--CloseToad (if you want Toad to close when you are done).

4. Save your query with the lines you added to a file.
5. Call from the command line as follows:

```
c:\toad\toad.exe connect=scott/tiger@orcl  
rep=c:\your_query_file.sql
```

Remember to change the connect string and filename.

Examples of SQL files for printing

One Parameter

```
SELECT *  
FROM SCOTT.EMP  
where empno>=:x  
order by 1  
--Paramname:x  
--ParamType:number  
--ParamValue:7700  
--ReportFile:c:\emp.fr3  
--Save To File:c:\emp.pdf  
--CloseToad
```

Multiple Parameters

```
SELECT *  
FROM * &y  
WHERE empno>=:x  
order by 1  
--ParamName:x  
--ParamType:number  
--ParamValue7700  
--ParamName:y  
-- ParamType:subst  
-- ParamValue:scott.emp  
-- ReportFile:c:\emp.fr3  
-- Save To File: c:\emp.pdf  
-- CloseToad
```

Report Builder Wizard

When you create a single dataset report Toad provides a report builder wizard to make it easier to create your report. You can then import this report into the [Reports Manager](#) and expand it into a Master/Detail report, generate it repeatedly on different schemas, and otherwise work with it.

To create a report using the wizard

From the Grid menu, select **Report**.

1. Step 1 - Fields
 1. Select the datasets you want to display and click **Add>**.
 2. Rearrange the selected fields by selecting a field and clicking the up or down arrows.
 3. Click either the **Groups** tab, or **Next**.
2. Step 2 - Groups (optional)
 1. Select the available fields you want to use to group your data and click **Add>**.
 2. Rearrange the selected fields by selecting a field and clicking the up or down arrows.
 3. Click either the **Layout** tab, or **Next**.
3. Step 3 - Layout
 1. Select the page orientation you want to use (portrait or landscape)
 2. Select the layout you want to use (tabular or columnar)
 3. Select or clear the fit fields to page width check box.
 4. Click either the **Style** tab, or **Next**.
4. Step 4 - Style
 1. Select a pre-designed style.
 2. Click **Finish**.

To create a report without using the wizard

1. From the Grid menu, select **Report**.
2. When the Report builder appears, click **Cancel**.
3. Create your report using Fast Report.

For additional help using the Report tool, see the Fast Report online [User Manual](#).

Save As

Save As (Export Dataset)

Use this dialog box to export the current SQL results panel to the clipboard or a file. In addition, you can set your choices here and then run the actual export of the results from the [command line](#) later.

To save grid contents

- From the **Grid menu**, select **Save As**.

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Or

Right-click over a data grid and select **Save As**.

Note: Save As includes CLOBs and BLOBs automatically. LONG columns are not saved using this method. For more information, see the [Support For LONG and LONG RAW](#) topic.

When you have opened the Save As window, you can customize how you save your data. You can customize the [Format](#), and the file path.

To customize the file path

- Enter the correct file path in the **Save to file** box at the bottom of the **Save Grid Contents** window.

Sorted Grids

If you have chosen to sort a grid dataset (by clicking the column header, rearranging column order, and so on), the exported data remains in the same order as shown in the grid.

Related Topics

[Save File](#)

[Saving Formats](#)

File Formats and Options

Saving Formats

When [saving grid contents](#), you have the choice of several different formats. Each format provides different options to customize your file. These formats include:

- [Access Database File](#)
- [Delimited Text](#)
- [Fixed Field Width](#)
- [HTML](#)
- [Insert Statements](#)
- [Merge Statements](#)
- [SQL Loader](#)
- [XLS File](#)
- [XLS Instance](#)
- [XML \(plain\)](#)
- [XML \(with XSL\)](#)

Some of these formats let you copy to the clipboard; for others you are required to save the document to a file. The options vary depending on which format you choose.

Note: There may be problems with your export in the following formats if your table contains columns containing XML data:

- SQL Loader
- XML (with XSL)

- [XML \(Plain\)](#)
-

Access Database File

Select this option to save your data as an MDB (Access Database) file. You can also set the following options:

- If MDB file exists...
 - Create table in MDB file
 - Prompt for overwrite/abort
 - If Table exists...
 - Append rows (if columns match)
 - Overwrite
 - Abort
 - Table Name
 - Zip Resulting File(s)
 - [Clone Cursor](#)
 - Substitutions (for columns)
 - Change file where doc is saved
 - Launch File after Creation
-

Related Topics

[Saving Formats](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

Text Options

When you select save as text, you can set the delimiter to your choice. The default is a pipe (|).

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To change to a common delimiter

- Right click in the delimiter box and then select the delimiter you want to use, or type the delimiter in using the keyboard.

When you change this delimiter, Toad will remember your choice.

Options

You can also select or clear the following options:

- Include delimiter after last column
 - Selected rows only
 - No Word Wrap
 - Double quote char (text) columns
 - Include cell borders?
 - Include column headers (if selected you can also choose to have them saved in lower case, and you can choose to enclose them in quotes)
 - Include NULL text
 - Zip resulting files
 - Include SQL Statement
 - [Clone Cursor](#)
 - Click the Substitutions button
-

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

Fixed Field Width

You can export your grid with a fixed field width.

The widths are derived from the column definitions.

Note: The widths come from the definition of the table in the database, not the way it looks in the grid.

You can also select or clear the following options:

- Double quote char (text) columns?

- Include column headers
If this is selected, you can also choose to keep headers in lowercase.
 - Include Null text
 - Zip resulting files
 - Include SQL statement
 - [Clone Cursor](#)
 - Click the Substitutions button
-

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

HTML Options

You can choose to export your results as an HTML table.

If you choose this format, you can choose from the following options:

- Include column headers (if this is selected, you can also choose to save them as lower case)
 - Include NULL text
 - Zip resulting files
 - [Clone Cursor](#)
 - No Word Wrap
 - Include cell borders
 - Click the Substitutions button
-

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

Insert Statements Options

If you choose to export your results as INSERT statements, column headers will automatically be included. You can also set the following options:

- Commit interval
- Lowercase column headers
- Include NULL text
- Include Schema name
- Zip resulting files
- Include SQL statement
- [Clone Cursor](#)
- Click the Substitutions button

You can also specify:

- Insert Schema
- Insert Table

To automatically include the insert schema or insert table name

- Click **Auto** to parse the query and enter the schema and table name from the FROM clause into the Insert Schema and Insert Table box.

Note: This option is available only on grids that are tied to an open cursor in the database.

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

Merge Statements

Select this option to save the grid as a series of MERGE statements. This merge is created based on the table's primary key. If no primary key is found, you can select columns to merge on. Invisible grid columns are excluded from the merge statement.

Note: You can generate these statements from any version of Oracle, but can run them only in Oracle 9i and newer.

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

SQL *Loader Options

Choosing SQL Loader creates a SQL Loader file.

Select from the following options:

- Insert
- Truncate
- Append
- Replace
- Include schema name
- Zip resulting file(s)
- Include SQL Statement
- [Clone Cursor](#)
- Click the Substitutions button

You can also specify the following:

- Discard max
- Field Separator (the default is ;)

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- String Field enclosed by (the default is ")
 - Insert Schema
 - Insert Table
-

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

XLS File Options

If you choose to export to an XLS file, you can choose from a long list of options. You can:

- Match cell fonts to grid
 - Use only 'general' cell formatting
 - Auto column width
 - Hide time and portion of date if zero
 - Include column headers (if selected, you can also choose to make headers lowercase)
 - Include NULL text
 - Include SQL Statement
 - [Clone Cursor](#)
 - Date Format
 - Set Locality (lets you use an existing MExcel file to set the locality code Toad uses when exporting)
 - #of Decimals for numbers (none for Integers)
 - Include cell borders
 - Click the Substitutions button
-

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

XLS Instance Options

Selecting Instance options creates an Excel file within the current Excel instance running on your machine. The following options are available:

- Include column headers -if selected, lowercase column headers become available.
 - Start at active cell - if selected, this places the exported data (the top left corner) in the active cell in MS Excel. Using this option you can place the data anywhere you want, vertically or horizontally on any sheet. When unchecked, the data will start in the A1 cell of a new sheet.
 - String Fields as Strings - if selected, Toad sends a single quote before a string field making Excel treat it as a string. Leading zeros are preserved.
 - Include NULL text
 - [Clone Cursor](#)
 - Click the Substitutions button
-

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

XML (Plain) Options

This format option exports the results to a plain XML file.

You can choose to zip the resulting file, and/or [clone the cursor](#). You can also click the Substitutions button and specify substitutions for data.

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(with XSL\)](#)

XML (With XSL) Options

This formatting option exports the results to an XML file with XSL. You can choose to zip the resulting file and/or [clone the cursor](#). You can also click the Substitutions button and specify substitutions for data.

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

Clone Cursor Option

When [saving grid contents](#), you can choose to clone the cursor. This has both advantages and disadvantages.

- When Clone Cursor is not selected
Toad uses the actual cursor, tied to the data grid. The advantage to this is that the query does not need to be re-executed. The disadvantage to this is that the entire dataset must be held in the PC's RAM, because this is a scrollable dataset (it is this mechanism that allows scrolling in the grids). When you have large datasets, this can take up considerable memory.
- When Clone Cursor is selected
Toad creates a new, non-scrollable cursor. The advantage here is that as rows are read in and sent to the destination file, they are no longer held in memory and a minimal amount of RAM is used. The disadvantage is that for this to happen, the query must be re-executed.

If your query returns too many rows to hold in your PC's RAM, you should select Clone Cursor, even if your query takes a long time to execute.

If your query returns a number of rows such that the entire dataset will easily fit into your PC's memory, then consider the execution time for the query. If execution time is slow, then leave Clone Cursor unselected. If execution time is fast, then you can do either.

Related Topics

[Saving Formats](#)

[Access Database File](#)

[Text](#)

[Fixed Field Width](#)

[HTML](#)

[Insert Statements](#)

[Merge Statements](#)

[SQL Loader](#)

[XLS File](#)

[XLS Instance](#)

[XML \(plain\)](#)

[XML \(with XSL\)](#)

Saving and Printing

Copying or Saving Rows

To copy or save rows

- Select the **Grid|Save As** menu item, then from the [Save Grid Contents](#) window, pick your settings, and the data will be copied to the clipboard or saved in a text file as you specify.
-

Preview Current Column

You can display or hide a full row below each data row that shows the value of the selected column.

To preview current column

- Right-click in the Data grid and select **Preview Column** or **Remove Preview Column**
-

Save As (Export Dataset)

Use this dialog box to export the current SQL results panel to the clipboard or a file. In addition, you can set your choices here and then run the actual export of the results from the [command line](#) later.

To save grid contents

- From the **Grid menu**, select **Save As**.

Or

Right-click over a data grid and select **Save As**.

Note: Save As includes CLOBs and BLOBs automatically. LONG columns are not saved using this method. For more information, see the [Support For LONG and LONG RAW](#) topic.

When you have opened the Save As window, you can customize how you save your data. You can customize the [Format](#), and the file path.

To customize the file path

- Enter the correct file path in the **Save to file** box at the bottom of the **Save Grid Contents** window.

Sorted Grids

If you have chosen to sort a grid dataset (by clicking the column header, rearranging column order, and so on), the exported data remains in the same order as shown in the grid.

Related Topics

[Save File](#)

[Saving Formats](#)

[Viewing and Editing Data](#)

Editable Resultsets

The data grid that displays the results of the SQL queries is fully editable providing that the query itself returns an updatable resultset. Query statements **MUST** return the **ROWID** to be updatable.

For example:

```
select * from employee
```

would not be updatable, whereas:

```
select employee.*, rowid from employee
```

would be updatable.

To reduce this obvious nuisance, you can substitute EDIT Items that Toad will translate into the updatable version of the statement.

For example:

```
edit employee
```

If the resultset should be editable but remains read only, make sure the **Toad Options|Data Grids - Data** tab, **Use Read-Only Queries** check box is **NOT** enabled.

Note: Dates can only be entered in mm/dd/yy, mm/dd/yyyy, or the Windows Control Panel, Regional Settings, Date, Short Date Style format. For example, in French, date entry of dd/mm/yy or dd/mm/yyyy is acceptable. Dates entered in dd-mon-yy format will be rejected.

Entering the SYSDATE

You can enter the SYSDATE into a date field from the data grid. Just enter **SYSDATE** and press **<Enter>**.

The value of sysdate is posted into the date field.

Export Data to Flat File

To export data to a flat file

- Select the **Export to Flat File** menu item from either the Grid menu, or the Right-Click Menu. This will bring up the [Flat File Export from Query](#) window for more input options, before exporting the data to the flat file.
-

Duplicate Row

To copy an entire row for editing

1. Edit the recordset and then click in a cell of the row you want to copy.
2. Select the **Grid|Duplicate Row** menu item (also available from the Right-Click Menu).

This will copy the entire row to the bottom of the SQL Results grid, ready for you to edit.

This feature also copies the data in a LONG column. It will not copy data in LOB-type, LONG RAW, XMLType, or object type columns.

Note: The [recordset MUST be editable](#) in order for the Copy or Duplicate Row function to work. After you edit the cell contents, move to the row above in order for the row to be sent to Oracle. If you want to cancel from adding this row, press the **<ESC>** key.

Find Data

Toad will search all records for the value, and position the recordset to the first matching value. If the records are cached then the search is fast. If Toad has to query ahead in the recordset, then you will have to wait for the additional rows to be fetched from the database.

To find data

1. From the **Right-Click** menu, or from the **Grid** menu, select **Find Data**.
 2. Select the column you want to search.
 3. Enter the keyword or value to find, select case sensitive and partial match options.
 4. Click the **OK** button.
-

Inserting and Deleting Rows

If your resultset is editable, you can insert or delete rows within it.

To insert a row

- From an [editable resultset](#), click the **Insert Row**  button on the data grid toolbar.

To delete a row

- From an [editable resultset](#), click the **Delete Row**  button on the data grid toolbar.
-

Related Topics

[Editable Resultsets](#)

[SQL Results Grid](#)

[Results Grids](#)

Posting and Reverting Data

After you have made changes to data in an [editable results set](#), you can then either post the changes to the database, or choose to revert it instead.

To post data

1. Make changes to an editable results set in the results grid
2. Click the **Post Data**  button in the [Results Grid Toolbar](#).

To revert data

1. Make changes to an editable results set in the results grid.
 2. Click the **Revert Data**  button in the [Results Grid Toolbar](#).
-

Related Topics

[Results grids](#)

[SQL Results grid](#)

[Editable Results sets](#)

Support For LONG and LONG RAW

Toad supports both LONG and LONG RAW columns. Both of these datatypes can be viewed in the editors.

LONG columns are columns that contain character data up to 2 gigabytes. You define them as "long" in your SQL script. LONG RAW columns contain binary data that cannot be displayed such as GIFs, Word docs, and so on. Toad does not display the data for LONG RAW columns in a SQL Edit Grid.

LONG columns display the first several characters. LONG RAW columns display as (BLOB).

Editing LONG and LONG RAW columns

You can edit these columns in the Editor Results grid.

For LONG columns, the Text Editor window is displayed.

For LONG RAW columns the [BLOB Editor](#) is displayed.

The popup editor for LONG columns will display the column text. You can edit in the editor or load a file into the editor.

The popup editor for LONG RAW columns provides Load a File or Save to File functionality.

Within the editor:

- **Load From File** lets you select a file from your hard drive and place it into the LONG RAW column in the Oracle database.
- **Save To File** lets you take the data from the LONG RAW column from the database and save it to a file on your LONG and LONG RAW columns cannot be edited in the Schema Browser window.

Note: The recordset must be editable for the popup editors to edit the data. If it is not editable, you can still use the popup editors to have a read-only view of the data. LONG columns cannot be saved to files from the data grid.

To edit LONG columns

1. Create a table: `create table long_test (id number, long_col long)`
2. Edit the table: `edit long_test`
3. Insert a row: 1 (double-click the long col cell)
4. Enter text.
5. Click the right arrow. `select * from long_test` should view all records, including (at least the first few chars) the long cols.

To edit LONG RAW columns

1. Create a table: `create table long_raw_test (id number, long_raw_col long raw)`
 2. Edit the table: `edit long_raw_test`
 3. Insert a row: 1 (double-click the long raw col cell)
 4. Pick a file to import. `select * from long_raw_test` should view only id, long_raw_col should display (blob)
-

Access the Calculator

You can access a calculator within Toad datagrids. To use the calculator, the table must be [editable](#). Use the calculator to perform calculations inside the cell. When you are happy with your final result, click outside of the calculator area and the new number remains displayed in the cell.

View BFILE data

You can View BFILE data.

A cell with BFILE information contains the word **BFILE**. In addition, another column is added to the grid to show the BFILE directory.

To view BFILE data

- Right-click over the cell and select **popup editor**.

Or

Double-click on the cell. (Works only if you have the option [Popup Memo Editor on double-click](#) enabled.)

This will display the data within Toad if it is an image or text file, or Toad will launch the associated program for that extension.

You can also point the BFILE to a different file on the server.

View/Edit Large Columns

The [resultset must be editable](#) in order for you to make changes to the data in the Memo Edit popup window. Otherwise, the data remains read-only.

To open a memo-editor

- Right-Click and select **Popup Editor**.
-

View Nested Table Data

A cell in the results grid that contains nested data will display as "DATASET".

To view nested table data

- Right-click over the cell and select **Popup Editor**.
-

View VARRAY Data

You can View and edit VARRAY data. A cell with VARRAY information contains the word **VARRAY**.

To view VARRAY data

- Right-click over the cell and select **Popup Editor**.

The Memo editor that appears will display the first 100 entries in the VARRAY.

View Object Data

You can view and edit object data. A cell containing object type data displays the data in parentheses, delimited by commas.

To view and edit object data

- Right-click over the cell and select **Popup Editor**

Note: You can edit nested object types, but you will not be able to edit attributes of certain types, such as a nested table, or a CLOB.

View CURSORS

Queries run with CURSORS display results in the data grids. The cell with the cursor will display the word CURSOR.

To view CURSORS

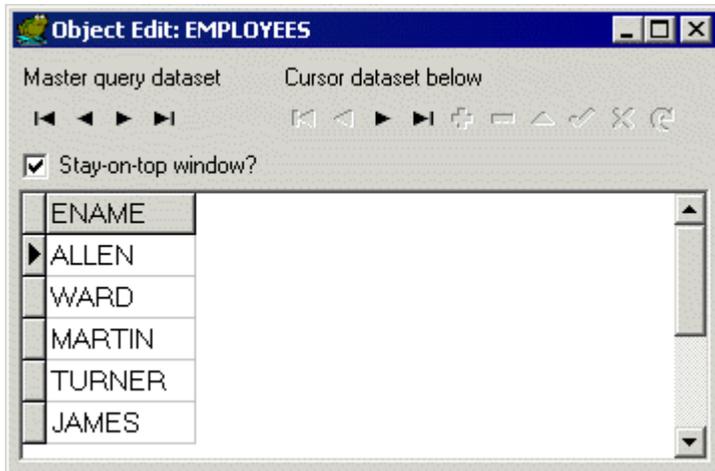
- Right-click over the cell and select **popup Editor**.

Note: Data can only be displayed once per cell each time the query is run. Once the data is displayed, it is lost until the query is run again.

Example

```
SELECT m.ename, CURSOR (SELECT e.ename
FROM scott.emp e
WHERE e.mgr = m.empno) employees
FROM scott.emp m
WHERE job = 'MANAGER'
```

When CURSOR is double-clicked in one of the results, the following dialog box appears:



BLOB Editor

In the SQL Results panel, a BLOB or ORABLOB entered in a column field indicates that a BLOB resides in that field. If BLOB or ORABLOB is entirely in capital letters, it indicates that the field is not null. These words in initial caps (Blob; Orablob) indicate that the field may be null, or the BLOB not initialized.

You can edit a BLOB.

To edit a BLOB

- From the datagrid of a table containing a LONG RAW or BLOB datatype column, right-click the field and select Memo Editor. The BLOB editor will display.

BLOB Editor Toolbar

The BLOB editor has a straight-forward toolbar to help you in inserting, editing, and navigating blobs.



Button	Command
	Load a file
	Save BLOB to file
	Save BLOB to file and open BLOB Note: You must include the appropriate file extension.
	View Data as Hex or Text
	Go to First Record
	Go to Prior Record
	Go to Next Record
	Go to Last Record
<input checked="" type="checkbox"/> Stay-on-top window?	Stay on top window - keeps the BLOB editor on top of other windows.

Date Editor

You can use the date editor to change the date, select the date format, null the date, or null the time. You can navigate through records as in the Text Editor, and post or cancel the edit.

To change the date

- Click the dropdown beside the date and select the correct date from the popup calendar.

To change the date format

- Select or clear the **Long date format** check box.

To null the date or time

- Click the **Null**  button beside the appropriate information.

To enter the SYSDATE

- Click **SYSDATE**.
-

External Editor

You can use an external editor of your choice, and swap out the text from the Toad Editor to the external editor, edit the text, and bring the results back into Toad.

To set up your External Editor

1. From the **View** menu, select **Toad Options|Executables|Editor**.
2. In the **Editor** box, enter the full path of the external editor you want to use, a space, and %s

For example: `c:\winnt\notepad.exe %s`

To open text in External Editor

Once your external editor is set up, you can open text from your Editor in it.

- From the Editor, press **<Ctrl><F12>** (or, from the Edit menu, select Load in External Editor). The external editor opens and loads the current Toad Editor contents.

Note: if you have not saved the contents of the Toad editor to a file, you will be prompted for a filename before launching the external editor.

To return to Toad from the External Editor

1. Save the file from the external editor and then close the editor.

2. Click back on Toad. You will be prompted to reload the contents of the file only if the **View|Toad Options|Editor|Open/Save|Prompt for reload on activation if timestamp has changed** option is checked.
-

Popup Editors

Use the text editor to edit the contents of lengthy columns. Use the [date editor](#) to change the formatting of date columns.

Note: The [recordset must be editable](#) in order to edit the data in the Popup Editor window.

To access the Text Editor

- From the **SQL Results** grid or **Schema Browser** data grids, right-click and select **Popup Editor**.

Or

Double-click on a CHAR, VARCHAR, CLOB, or LONG column.

To access the Date Editor

- From the **SQL Results** grid or **Schema Browser** data grids, right-click and select **Popup Editor**.

Or

Double-click on a Date column.

Note: Other popup editors include: [BLOB editor](#), [BFILE editor](#), [Object data editor](#), and [Nested table editor](#).

Related Topics

[BLOB editor](#)

[BFILE editor](#)

[Object data editor](#)

[Nested table editor](#)

[VARRAY data editor](#)

DBMS Output

DBMS Output Window

Oracle provides a package, called **DBMS_OUTPUT**, which is specifically designed with functions for debugging PL/SQL code. It uses a buffer that your PL/SQL code writes into, and then a separate process queries the buffer out and displays the contents.

Output only appears after the procedure has completed execution, not while you are single stepping through the code. In nested procedure calls, all procedures must have run to completion before any DBMS Output content is displayed.

To access the DBMS Output window

- From the **View** menu, select **DBMS Output**.
-

Related Topics[Generating DBMS Output](#)[Polling for Output](#)[Editing the DBMS Output Display](#)[Using the DBMS Output window for Debugging](#)

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-

Related Topics[Generating DBMS Output](#)[Polling for Output](#)[Editing the DBMS Output Display](#)[Using the DBMS Output window for Debugging](#)

Generating DBMS Output

The Editor has a **Right-Click menu** option that will generate a DBMS_OUTPUT statement for a highlighted variable. The same menu has an option to create a blank DBMS_OUTPUT statement.

The following contains examples of DBMS Output:

```

DECLARE
t_owner varchar2(30) := 'MYNAME';
CURSOR all_tables_cur IS
SELECT table_name
FROM all_tables
WHERE owner = UPPER (t_owner);
dcursor INTEGER;
out_str VARCHAR2(1000);
BEGIN
DBMS_OUTPUT.PUT_LINE ( 'Inside Procedure ' );
FOR obj_rec IN all_tables_cur

```

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```
LOOP
dcursor := DBMS_SQL.OPEN_CURSOR;
out_str := 'ALTER TABLE ' || obj_rec.table_name ||
' ENABLE ALL TRIGGERS';
DBMS_OUTPUT.PUT_LINE ( 'Table_name=' || obj_rec.table_name );

DBMS_SQL.PARSE (dcursor, out_str, DBMS_SQL.V7);
DBMS_SQL.CLOSE_CURSOR (dcursor);
END LOOP;
END;
```

Related Topics

[DBMS Output Window](#)

[Polling for Output](#)

[Editing the DBMS Output Display](#)

[Using the DBMS Output window for Debugging](#)

Polling for Output

An application must poll Oracle for the output results, and if the polling option is turned on, (see [Toad Options|Editor|Execute/Compile|Poll for DBMS if detected](#)) Toad's Output window polls every 5 seconds. You can increase or decrease the frequency of polling with the slider located at the top right of the window.

Related Topics

[DBMS Output Window](#)

[Generating DBMS Output](#)

[Editing the DBMS Output Display](#)

[Using the DBMS Output window for Debugging](#)

Editing the DBMS Output Display

One feature of the DBMS Output window is the ability to edit the output display.

For example, when debugging a procedure named MyProc that expects a single number parameter, you can execute the procedure from an Editor window with the following statement:

```
begin MYPROC(1); end;
```

Prior to executing the above, however, you can document the call in the DBMS Output with a comment similar to:

```
Calling MyProc with 1
```

Then turn output **ON** and execute **MyProc**. The DBMS_OUTPUT statements will display after your notes about the call.

Related Topics

[DBMS Output Window](#)

[Generating DBMS Output](#)

[Polling for Output](#)

[Using the DBMS Output window for Debugging](#)

Using the DBMS Output window for Debugging

When used with a Editor window and an Editor window, the DBMS Output window is effective for developing and debugging stored procedure code.

Edit the code, test the code, tweak the code, and repeat.

The standard copy, cut, and paste keys work in the DBMS Output box.

Related Topics

[DBMS Output Window](#)

[Generating DBMS Output](#)

[Polling for Output](#)

[Editing the DBMS Output Display](#)

Schema Browser

Schema Browser Window

Note: Some of these features may not be available unless you have the current commercial version of Toad with the Quest DBA Module.

Access the Schema Browser from the Schema Browser toolbar button (the second button) on the main toolbar or from the **Database|Schema Browser** menu item. You can also set the Schema Browser to open automatically when a new connection is made by going to the **View|Toad Options|Windows** dialog box and checking the check box in the **Auto Open** column of the **Schema Browser** row.

The Schema Browser is comprised of a left and a right panel. The left panel contains the Object Types you can work with in the Schema Browser. (See Schema Browser Object Tabs below). You can configure this to your work habits. (See [Personalizing the Schema Browser](#).)

Note: When you are viewing a schema other than that of the current connection, the caption of the Schema Browser displays the schema being viewed after the connection string.

The left panel can be [configured](#) to list types in tabs, a dropdown list, or a tree view. For example, all tables appear in the left panel when the Tables type is selected, all views appear in the left panel when the Views type is selected, and so on. In addition, the right hand panel can be hidden.

To hide or display the Details panel

When you select an object, details or the DDL structures for that object are displayed in the right panel. This eliminates having to drill down through hierarchical mountains to find the desired data. It also lets you compare details between objects of the same type with one click. Keyboard users can easily use the scroll keys to perform the same tasks.

For performance, Toad delays fetching some schema lists until the dropdown or tab that requires that list is activated.

You can cancel some long running list-populating queries from the **Statement Processing** popup.

From the Schema Browser you can drop most objects, enable/disable applicable objects, and disable triggers for a table or for an entire schema. Procedures, Functions, Packages, Triggers, and Views can be recompiled, or they can be extracted from the database and loaded into a SQL or Editor.

Schema Browser Object Tabs

The Schema Browser Object tabs are broken down into two groups. On the left is the Object Type. On the right are the Details Panels that fully describe the objects.

See [Toolbar Schema Browser](#) topic for more information.

Filtering the Object List

The Quickfilter Edit box is located below the Schema dropdown for the tabbed and dropdown Schema Browser views. Using the quickfilter, you can filter the object list without requerying the database. This provides a quicker way to filter the list than using the [browser filters](#). For more information on the Quickfilter Edit box, see [Using the QuickFilter Box](#).

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The right-click menu from most of the Schema Browser tabs (with the exceptions of the Tables and Views tabs) contains a list of objects available on the Schema Browser. Objects with a checkmark by them are currently displayed in the Objects tabs. You can select or deselect which objects you want to display by selecting them from this menu. For more information on configuring your Object Tabs, see [Personalizing the Schema Browser](#).

Refreshing Data

You can refresh the current object list in the Object Panel by pressing <F5>.

You can refresh the data in the current Details Panel tab by pressing <Shift><F5>.

Schema Browser Options

See [Toad Options Schema Browser](#) topic for information on the Schema Browser options.

Right-Click Menus

The Schema Browser panels contain right-click menus. Many of the pages, such as Tables and Views, have enhanced right-click menus that contain menu items for all the buttons on the objects panel and details panel of the page.

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Schema Browser Toolbars

Objects Panel Toolbars

The Schema Browser window contains toolbars for the Object Types in the Objects Panel (left panel) and on some of the Details Panels (right panel). Each Object Type has its own toolbar, and these are described in the topics for the specific type.

Details Panel Toolbars

Main Details Panel toolbar



The main Details Panel toolbar is located at the top of the Details Panel on the right side of the Schema Browser window. It contains icons for the following commands:

Button	Command
	Show history - This dropdown lists the most recent Schema Browser pages you have visited. Select one from the list to return to it. The number of items the browser history retains can be set from Toad Options Schema Browser Visual Browser History .
	Refresh all Lists - This icon refreshes all the lists in both the Objects Panel and the Details Panel.
	Refresh Objects Panel - Click this to refresh just the data in the objects panel
	Refresh Details Panel - Clicking this icon refreshes just the data in the Details Panel.
	Clear all datagrid filters - Clicking this icon clears any filters active on the Details Panel.
	Icon Legend - Displays the icon legend , open to the select schema browser page.
	Browser Style - Click this dropdown to select a visual style for the Schema Browser. These styles are described in Personalizing the Schema Browser .
	Change active session - Click this icon to change your active Toad session. You can click the image to call the Change Session dialog box, or you can click the arrow and choose from open sessions listed in the dropdown.

Specific Details Panel toolbars

In addition to the toolbar on the main Details Panel, toolbars are located on some of the details panels for specific objects. See the specific object types for more information.

Icon Legend

Many of the windows within the Schema Browser include icons to identify the various objects included. Toad includes an Icon Legend that you can use to easily decipher these images.

To access the icon legend

- On the Schema Browser toolbar, click the **Schema Browser Icon Legend**  button.

The Icon Legend opens with the node for the Schema Browser page you have active expanded and the remainder of the nodes collapsed. You can choose to:

- expand all nodes
 - collapse all nodes
 - keep the window on top
-

Enable Drop All Buttons

By default, the DROP ALL buttons on the Schema Browser are disabled because of the potential for destructive user error. You can enable them through the **View|Toad Options|Schema Browser - Visual|Enable DROP-ALL buttons** check box.

This setting is not permanent. Toad will NOT save the setting between sessions.

Caution: Toad will confirm any DROP operation on the Browser, but after confirmation, NO DROPS CAN BE REVERSED.

Clearing Datagrid Filters

You can clear all the datagrid filters at one time using the Clear All Datagrid Filters button on the Schema Browser right hand side.

There are several configurations of filters that you can clear from the dialog.

Choosing Connections

You can choose the connections where you want to clear all filters. Options include:

- Current connection only
- All connections currently open
- All connections in user files directory

Choosing what to clear

You can then choose which filters to clear:

- Current filters only (only filters currently in use)
 - Current filters and all filter history (everything)
-

Privileges

Use this window to view or modify the privileges of the selected table or view to other user schema accounts.

To access the Privileges window

1. Access this window from the **Schema Browser**. Select either the **Tables** tab, **Views** tab, **Sequences** tab or **Procedures** tab.
2. Select an object from the list on the tab and click the **Privileges** toolbar  button. The Privileges window appears.

The Privileges window allows you to view, grant, and revoke privileges on a database object. You can view all users and their privileges. If you are not the object owner, you can only grant privileges if you have been given the "grant option".

Grants are highlighted in blue and admin grants in yellow.

- Multi-select users using the **Ctrl** key. This is useful when applying changes to multiple users. You can multi-select the users, right-click in the column, and grant or revoke from the right-click menu.
- Click **Revoke All** to revoke all privileges for the selected object from everyone but you.
- Click **Show SQL** to preview the SQL before applying changes.
- Click **Apply** to apply the changes you have made.

If you do not have sufficient privileges to alter an object, a warning message appears, and the privilege will not be changed. You can still view everyone's privileges for that object, and you can still reorder columns.

- Check **Show only users who have grants assigned** to limit the users you see. If this box is unchecked, you can see all users.
 - Reorder columns by clicking and dragging on the column headers
-

Statement Processing

This dialog box appears when you execute long queries in the Schema Browser window.

This window lets you cancel long running Schema Browser list populating queries.

Personalizing the Schema Browser

Personalizing the Schema Browser

Note: Some of these features may not be available unless you have the current Commercial version of Toad. Some of these features may not be available without the Quest DBA Module.

You can personalize how the Schema Browser displays to better suit the way you work. Each display option has different advantages.

You can display the Schema Browser as one of the following:

- Dropdown Object Types - The object types list appears as an alphabetical dropdown.
 - Treeview
 - Tabbed Object Types - The object types list appears in one of two ways:
 - Multiple rows of tabs
 - One line of tabs with scroll bars
- Note:** Choosing Tabbed Object Types also lets you drag object names to the Editor.
- Toggle RHS Visibility (F12) - hide or display the Details Panel.
-

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-

Changing the Browser Display

You can change the way the Schema Browser displays object types in one of two ways.

To change the display from the Toad Options page

1. Click the **Options**  button on the main toolbar.
2. In the left pane, select **Schema Browser|Visual**.
3. In the right pane, select the appropriate display options.

Note: See [Toad Options: Schema Browser](#) for all the Schema Browser Options.

To change the display from within the Schema Browser

1. Click the **Browser Style**  button on the Schema Browser toolbar.
2. From the drop down menu, select the display type you want to use.

Note: You can also choose to do one of the following:

- Configure Object types
- Disable Left Hand Side (LHS) images (this disables the images in the drop down object title)
- Disable Left Hand Side item hints (this disables the hints that display when you hover your pointer over an item in the Object Panel).

Related Topics

[Personalizing the Schema Browser](#)

[Changing the Browser Display](#)

[Configuring Browser Tabs](#)

Configuring Browser Tabs

If you are using Tabbed Object Types, the Schema Browser object types right-click menu has a **Configure** menu item, which opens the Configure Browser Tabs window that lets you retitle and rearrange the tabs.

Changing this configuration will affect all four types of Browser tabs: single line tabs, multiline tabs, dropdown, and treeview.

To open the Configure Browser Tabs window

- From the **Schema Browser|Object Panel**, right-click and select **Configure**.
- Or

From the **Browser Style**  button on the [Schema Browser toolbar](#), select **Configure Object Types**.

Browser Tabs Order

The Configure Browser Tabs window contains three columns:

- Object type - lists the actual category names
- Caption - lists captions Toad is currently displaying for the tabs. Change the title of these captions by clicking in a cell and typing.
- Visible - displays whether the tab is visible in the Schema Browser.

To rearrange the order of the tabs

When complete, the first item on the list becomes the default tab

- Click in the gray box on the far left of the row of the item that you want to move, and drag the row to its new position in the list.

Or

Select a **Object Type** or **Caption** cell and click the **Up Arrow** or **Down Arrow** in the window to move the whole row up or down in the list.

General Schema Browser Actions

General Schema Browser Actions

There are several things you can do from the Schema Browser, no matter the object type you are browsing. You can:

- [Create Object Scripts](#)
 - [Drop Objects](#)
 - [Copy Object Names from the Browser](#)
 - [Filter the Browser](#)
 - [Choose Columns in Object List](#)
 - [Jump to Object](#)
 - [Create Custom Queries](#)
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-

Create Object Scripts

Toad can create DDL Scripts -- Oracle Statements to recreate the object -- for most of the objects displayed on the Schema Browser. The **Create Script** button, which is used to generate a script, is

usually the first button on the toolbar for each dropdown on the left panel. The scripts are always copied to the clipboard by default.

Note: Table and Index create scripts can be viewed while on the Browser window on one of the detail tabs for Tables.

Adding Objects to Project Manager

From the Schema Browser you can easily add objects to your Project Manager projects.

Adding Objects by Dragging and Dropping

You can add objects to your Project Manager simply by dragging them to the node where you want them to reside. This way you can have your Project Manager set up however you like it, and the Nodes named by you.

You must drag the object to a node designed for it. (In other words, tables need to go to a tables node under the correct connection, and so on.) Toad will not let you drag an object to an unacceptable node.

To add objects by dragging and dropping

1. Select an object, or multi-select several objects in the Object list in the Schema Browser.
2. Drag to the node in the Project Manager where you want it to reside.

Adding Objects from the Right-Click Menu

Using the right-click menu to add objects has both advantages and disadvantages. Chief among its advantages is that you can create a new project on the fly.

All nodes beneath the new project are created and named for you.

For example, if you add a table called "SPEC" to a new project that you call "Test," you will have the following nodes created for you:



To add objects using the menu

1. Select an object, or multi-select several objects in the Object list in the Schema Browser.
 2. Right-click and select **Add to Project Manager**.
 3. From the Select Project dialog box, either select a project name from the drop down menu, or enter a new project name.
 4. Click **OK**.
-

Related Topics

[Project Manager Overview](#)

[Project Nodes](#)

[Schema Nodes](#)

[Database Objects](#)

Dropping Objects

Many objects can be dropped directly from the Schema Browser. When an object has a **Drop** button, it is enabled whenever an object is selected in the list on the respective tab.

The **Drop All** buttons are never enabled by default. If you want to enable the Drop All buttons, you must manually enable them from **View|Toad Options**. This makes a potentially destructive operation a little more complex. The Drop All setting is NOT saved, and must be reselected each time Toad is started. For more information, see [Enable Drop All Button](#).

You can also drop a table by selecting it and then pressing **<Delete>** on your keyboard.

Caution: Toad will confirm any DROP operation on the Browser but after confirmation, NO DROPS CAN BE REVERSED.

Copying from the Browser

Any of the Object Names shown in the Object Lists on the left of the Browser can be copied to the clipboard by pressing **<CTRL>C** for the highlighted object name.

Any column of data shown in the detail grids on the right of the Browser can be copied to the clipboard by pressing **<CTRL>C** for the highlighted grid cell.

The detail grids for Table Information work differently. The grids that display Table Detail Information support multi-row selection and always copy the first column to the clipboard. For example, if you are viewing a grid display of a list of columns for a table, you can **<CTRL> Click** to select more than one column, and then press **<CTRL>C**. This will copy your selected columns to the clipboard, with commas in between (a comma-delimited list). Then you can paste the list into a SQL Editor or another application.

Filtering the Browser

Most of the primary lists of objects on the Browser can be filtered to show a subset of all of the like objects in the schema. For example, you may have hundreds of tables in a schema but only want to see those where the table name begins with "GEO". Filters currently exist for Tables, Constraints, Synonyms, Views, Triggers, Indexes, and Procedures.

Browser Filters are specific to a schema/owner name. This means that you can define a filter for the schema DEMO and a different filter for PRODUCTION and the appropriate filters will be loaded when you view that schema in the Schema Browser.

Table Filters allow filtering on table names as well as column names. For example, you can find all tables that have columns with FND_NO any where in the column name. The table name may also be searched.

Constraints can be searched by constraint name or constraint column name.

Synonyms can be filtered by Synonym scope: Owned by schema only, owned by schema plus Public synonyms, exclude SYS and SYSTEM synonyms, and so on.

Note: For performance reasons, Toad caches the list of table names for the current schema once the list has been queried from any window. The browser filter, although primarily intended to filter the Schema Browser window, also affects the table lists throughout Toad. So, for example, if your filter is set to display only tables that begin with GEO, every table list will display a filtered list until the filter is changed.

Also note that the filters do not only reduce the amount of data displayed, they also modify the query used to fetch the data. So, not only is the display refreshed faster, the query fetches fewer rows for faster response from the database.

By default, the Browser appears as follows:

- Tables displays all Tables
- Constraints displays only Primary Constraints
- Synonyms show all but exclude those for objects owned by SYS & SYSTEM

- Views display all Views
- Triggers display all Triggers
- Procedures display all Procedures

The filters for all Browser objects can be viewed in a single window under the **Session|Schema Browser Filters** menu. See the [Browser Filters for Schema](#) topic for more information.

Four-Way Filters

On two tabs (Tables and Views) clicking the four-way filter button displays a dialog box where you can sort and/or filter. The filter can display four states: empty, filtered, ascending/descending filtered, ascending/descending empty.

Related Topics

[Browser Filters](#)

[Editing Default Filters](#)

[Creating Default Browser Filters](#)

[Loading and Applying Browser Filters](#)

[Saving Browser Filters](#)

Choosing Columns in Object List

By default, the object list in the Schema Browser displays the name of the objects you can select. More information about these objects is available, however. Columns available for display change depending on the type of object viewed.

To choose columns to display

1. Select the type of object you want to display (tables, views, constraints, and so on).
 2. In the Objects Panel, right-click the column header. Select the column you want to display.
 3. Repeat for any columns you want from those available.
-

Schema Browser: Jump to Object

Objects are displayed in the Schema Browser right hand side in one of two ways. They can be within a data grid, or within a label. From these displayed objects, you can perform a describe on an object, or jump to another object. You can do these in two ways.

Data Grid

If the object is present in a grid on the right hand side of the Schema Browser, you can Describe the object or jump to the object.

To describe the object

- Press **<F4>** to perform a describe on the object.

To jump to the object

- Press <Shift><F4>
- Or

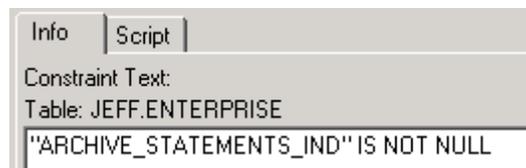
Double-click to jump to the selected object.

Labels

If the object is present in a label you can:

- Jump from the label directly to that object in the Schema Browser.
- Click on the object label to perform a describe.

For example, in the following excerpt from the right hand side of a constraint, you can:



- Click **JEFF. ENTERPRISE** to perform a describe
 - Hold down <CTRL> and click **JEFF. ENTERPRISE** to jump to the JEFF. ENTERPRISE table in the Tables page of the Schema Browser.
-

Create Custom Queries

You can create quick custom queries from the [Schema Browser](#). The query will be built with your selected objects and placed into the Editor for editing or running.

To create a custom query

1. In the left hand panel of the **Schema Browser**, select the **objects** you want to use for the query.
2. Right-click and select **Custom Queries**. You can then choose from a list of default queries. The query is created and loaded into the Editor for you.

To edit custom queries

- Right-click in the **Schema Browser** and select **Custom Queries|Edit Custom Queries**.

From this window, you can accomplish several things.

- Change the name of a query
- Select or deselect appropriate Oracle Versions
- Select and add variables while you create your query

For more detailed information on how to edit queries, see [Edit Browser Filter Query](#).

Creating a new Query Template

Custom queries are designed to select from the data dictionary about the tables you select, rather than making custom SELECT statements. If you are creating a new query template, this needs to be kept in mind.

For example, the following query is not valid as a custom query because there is no specific object stated:

```
select * from <ObjectOwner>.<ObjectList>
```

However, this more specific query is valid:

```
select *
from dba_tables
where owner = <ObjectOwner>
and table_name in <ObjectList>
```

To create a new query template

1. Open the **Edit Custom Queries** window as described above.
 2. Above the query list, click on the **Add Query**  button. A new blank query will be created.
 3. Enter your new query name, and query.
 4. Click the **Post Edits**  button to create the query and add it to the selection list. You can now use your new query the same way you would use one of the standard provided queries.
-

Compare Single Objects

You can compare single objects from the Schema Browser.

Object types that support this feature include:

- Tables
- Views
- Procedures
- Triggers, etc

To compare objects

1. Select an object and right-click.
 2. Choose **Compare with another object** from the menu. The reference source information will be filled in for you.
 3. Enter the comparison source information, either a Text file to compare the object with, or an object in a live schema.
 4. If you are using Toad with the optional Quest DBA module, at the top of the dialog box, choose to view your results in one of two ways.
 5. File Compare - This option uses the Differences Viewer to compare the two selected objects. For more information about the differences viewer, see [Compare Files](#).
 6. Sync Script - This option is only available if the objects chosen have the same name, and are in different schemas. It compares the objects and creates a sync script for you.
-

Create Synonyms

From the Schema Browser, you can create synonyms for a selected object.

To create a synonym

1. In the **Schema Browser|Objects panel**, select the object for which you want to create a synonym.
 2. In the Details Panel, click the **Synonyms** tab, and then click the **New Synonym**  button.
Note: If the object cannot have a synonym, the Synonyms tab will not be available.
 3. Select synonym information:
 4. Choose Public or Private
 5. Enter synonym name
 4. Click **OK** to create the synonym for the selected object.
-

Related Topics

[Schema Browser: Synonyms](#)

[Create Synonym](#)

[Export Synonym](#)

Refresh Options

When working in the Schema Browser data grid, there may be times when the refresh options you have set interfere with the action you want to take. In this case, you can alter the options you have selected without opening the Options page.

To change data grid options from the Schema Browser

1. From the **Schema Browser|Tables, View or Snapshots** page, select an object and click the **Data** tab in the Details panel.
 2. Right-click over the data grid and select **Refresh Options**.
 3. Select the refresh options you want in effect, and clear the check boxes for the others.
 4. Click **OK** to set the refresh options you have chosen.
-

Browser Filters

Filters

Filters reduce the amount of data displayed and let you display only what you want to see. They work by modifying the query used to fetch the data.

Schema Browser Filters

Each schema/owner name has a set of browser filters. For example, you can define one filter for the schema DEMO and a different filter for PRODUCTION and the appropriate filters will be loaded when you

view each schema in the Schema Browser. You can narrow the focus to the filter results and ignore all other objects in the schema. This is helpful if the schema contains many objects, because the fewer objects that Toad needs to load, the faster it executes.

Filter windows vary depending upon which Schema Browser list you have selected. The basic filter window contains:

- a dropdown - select how you want to filter the items (including **None** which means no filter or clear filter)
- a box - enter characters to include or exclude
- buttons/filter check boxes - filter the items further

Note: If you are not sure what the filter you have created will do, view or edit the filter before you run it. See [Edit Browser Filter Query](#).

Basic dropdown filter lists includes the following:

- **None** - No filter, or clear filter.
- **In** - enter the contents of the IN clause.
The select statement is formatted as follows: `SELECT * FROM user_tables WHERE table_name IN (n)` where n is what you enter in the filter box.
Therefore, to enter a table name, you must enclose it in single quotes. ('TEST'). This lets you enter multiple table names in this box, for example: 'TABLE1', 'TABLE2', 'TABLE3'. Or you can enter a subquery, such as: `SELECT SOMECOLUMN FROM SOMETABLE`.
- **Not In** - enter the contents of the NOT IN clause. The same syntax applies as with the IN clause.
- **Starts with** - enter the character or characters that the filtered results will begin with
- **Includes** - enter the character or characters the filtered results will contain
- **Ends with** - enter the character or characters that the filtered results will end with
- **Does not Start with** - enter the character or characters the filtered results will not begin with
- **Does not End with** - enter the character or characters the filtered results will not end with
- **Does not Include** - enter the character or characters the filtered results will not contain

After you set your filters and click **OK** and the browser will display the resulting objects.

To set a browser filter

- Click the **Filter**  button and a filter window appears.

Filters in the View|Toad Options|Files dialog

This dialog box lets you customize the file extensions that display in the system dialog box windows. To add another filter, begin typing in a blank row.

Default filters include:

File	Filter
SQL	*.sql
Text Files	*.txt

Query Files	*.qry
All Files	*,*

Related Topics

- [Creating Default Browser Filters](#)
- [Edit Browser Filter Query](#)
- [Loading and Applying Browser Filters](#)
- [Saving Browser Filters](#)
- [View Browser Filters for Schema](#)

Schema Browser Filters

Browser filters are useful for schemas that contain a large number of objects. The fewer objects that Toad has to load, the faster it executes. It is useful to narrow down the focus, (such as only those object names beginning with "Toad_", and so on) temporarily ignoring all other objects in the schema.

You can use this window to:

- [Save browser filters](#)
- [Load and apply](#) browser filters
- [Edit the query](#) for the filter before running it
- [Create default filters](#)
- [Filter by Project Manager file](#)

To use browser filters

1. Select **Session|Schema Browser Filters**. This will display all filters for all object types in the active schema.

Or

2. Click the **Browser Filter**  button in an Objects Panel of the Schema Browser. This will display the browser filter for the selected Object Type and Schema.
 3. Create your filter by making the appropriate selections.
 3. You can [save the filter to a file](#), or, you can use filters without saving them to a file. Apply them by simply clicking **OK** when you have made your selections.
-

Loading and Applying Browser Filters

When you have saved one or more browser filters, you can load and apply them as needed.

To load and apply a browser filter

1. In the upper right of the window, click the **Saved Filters** dropdown.
 2. Select **Load Filter** and then select the filter from the Open File dialog box that appears.
- Or

Select the filter name from the bottom of the dropdown.

When the browser filter is loaded it is automatically applied to the current schema.

3. Click **OK** to apply the filter and exit the filters dialog box.
-

Saving Browser Filters

You can create and save a browser filter for later use in any schema.

To save a browser filter

1. In the upper right of the window, click the **Saved Filters** dropdown.
2. Select **Save Filter As**.
3. Enter a name for the filter in the **Filter Name** box. This name will be displayed in the filter dropdown. If you do not enter a name in this box, the filter will still display in the dropdown, but as a blank line.
4. Enter a file name for the filter in the **File Name** box.

NOTE: By default, filters are saved as XML files (one per connection) in the Toad User Files folder. You can save them to another folder by entering the full path in the File Name dialog box.

5. Click **OK**.
-

Edit Browser Filter Query

The Schema Browser grids are populated by a set of standard queries determined by the filter you choose. However, you can edit the query created by the browser filter. This gives you complete control over the population of the left hand side of the Schema Browser.

Unless you select Custom Filters, this option is automatically turned off after it is used, and changes to the filter are not saved.

Custom Filters

When editing a browser filter, you can create a custom filter when you edit the browser filter query. All editing of custom queries must occur within the view/edit query window.

Once you have created a custom filter, it remains in effect until as long as Custom Filter is checked. The custom filter remains available until you click **Clear Custom Filter**.

To create a custom filter

1. From the Schema browser, click the **Filter**  button.
2. Select **Custom Filter (Use View/Edit Query to adjust)**.
3. Select **View/Edit Query Before Executing**.
4. Click **OK**.
5. Edit the query as described in *To edit the browser filter query*.

Note: Clear the Custom Filter check box to stop using it. It remains available for use until you click Clear Custom Filter.

To reactivate a custom filter

1. From the Schema browser, click the **Filter**  button.
2. Select **Custom Filter (Use View/Edit Query to adjust)**.
3. Click **OK**.

To edit the browser filter query

1. Open a [browser filter](#). After you have established the basic criteria for the filter, check the **View/Edit Query Before Executing** box and click **OK**. This will show you the query that is about to populate the browser.
2. You can change the WHERE or ORDER BY clauses however you like.

Caution: Do not change the SELECT list.

3. Click the **Variables** button to edit any bind variables in the query. A query that contains bind variables will look something like this:

```
select....  
    from...  
    where s.owner = :var1  
    and   s.table_name = :var2
```

4. Click **Check** to check that your new query parses correctly.
 5. Click **OK** to filter the Schema Browser.
-

Creating Default Browser Filters

From the general Browser Filters dialog box, you can set up the default filter, which is in force for every new schema.

Browser filters are useful for schemas that contain a large number of objects. The fewer objects that Toad has to load, the faster it executes. It is useful to narrow down the focus, (such as only those object names beginning with "Toad_", and so on) temporarily ignoring all other objects in the schema. You can do this in multiple ways. You can [save browser filters](#) that you can apply "on the fly," and you can create default browser filters that will be applied whenever you view objects from the selected schema.

Caution: Always make changes using the Toad interface. Do NOT attempt to edit these files directly.

To create default filters

1. From the **View** menu, select **Browser Filters**.
2. At the top of the **Browser Filters for:** dialog box, click **Show Default filters**. You can now create filters as you would normally.
3. You do not need to save the filters to a file. When you are done creating filters, click **OK**.

Default filters are stored in a file named Toad_DEF.FLT in the Toad for Oracle\Temps folder.

Filtering by Project Manager file

You can use the Schema browser filter to filter by Project Manager file.

To filter by Project Manager file

- Click the **Filter by Project Manager** file  button and then select the Project Manager File and click **Open**.

Note: If there are multiple projects within a Project Manager file, you must also select a project before filtering.

Or

Use the dropdown history list beside the filter button to select a file you have used before.

Using the QuickFilter Box

The Quickfilter Edit box is located below the Schema dropdown for the tabbed and dropdown Schema Browser views. Using the quickfilter, you can filter the object list without requering the database. This provides a quicker way to filter the list than using the [browser filters](#).

The Quickfilter is a client-side filter, so it filters all Schema Browser Object lists without requering the database. This filter works in conjunction with the existing Browser Filters.

By default, this contains the "select all" wildcard character (*). You can quickly and easily filter the Object list by changing the contents of this box.

Note: Quickfilter does not work in the Treeview Schema Browser or the Favorites Schema Browser tab.

There is also a filter button on the main object toolbar that you can use for more detailed filtering. (See [Browser Filters](#) for more information.)

To use the Quickfilter box

- Enter the filter information. You can use the wildcard characters at any point in your filter.

Note: The Quickfilter maintains a history of up to 25 items, listed most recent first. Right-click on the Quickfilter to access this list.

Related Topics

[Wildcard Characters](#)

[Browser Filters](#)

[Schema Browser](#)

Wildcard Characters

Wildcard characters are accepted in the Quickfilter. In addition, you can select ranges to filter by. Wildcard characters and range settings available include:

Wildcard	Meaning
* and %	multiple character wildcards
? and _	single character wildcards
[]	a set of returned values
!	values not included in a set
-	a range of values

Examples of Wildcards and Sets

Wildcards can be used in place of what you want to find.

Sets begin with an opening bracket ([) and end with a closing bracket (]). Each element between the brackets refer to a literal character or a range of characters. Ranges, specified by the initial value, a dash, and the final value, are inclusive. Do not use spaces or commas to separate elements.

All comparisons are case insensitive.

For example:

Entering	Will Return
*ploy or %ploy	"deploy," "employ," and so on
em* or em%	"employee," "employ," "empresses," and so on
_at or ?at	cat and bat, but not flat or latitude
_at* or ?at%	cat, bat, and latitude
[a-c]*	everything that starts with a, b, or c
[def]*	everything start starts with d, e, or f
[!abc]*	everything what does not start with a, b, or c

Related Topics

[Using the QuickFilter Box](#)

Clusters

Schema Browser: Clusters

Clusters are an alternate way of storing table data, where data in tables that share columns is only stored once within the database. This can shrink the database and speed up access time considerably. For more information about clusters and how to use them efficiently, please see your Oracle documentation.

From the Schema Browser, you can create, alter, and drop clusters. You can also filter your list and copy cluster scripts to the clipboard.

Objects Panel

The Objects Panel lists the clusters available in the selected schema.

Cluster Toolbar



Button	Command
	Copy cluster script to clipboard
	Create new cluster
	Alter selected cluster
	Filter cluster list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop cluster - This drops the selected cluster.

Details Panel

The Details Panel contains information about the selected cluster, and you can view and edit the cluster script.

You can choose to include or remove several items in the cluster script. These include: schema owner, tables, storage, drop statement, and index.

To edit the cluster script

1. Click the **check boxes** to select or deselect any of the options provided.
2. Click the **Refresh**  button to change the script in the ways you have chosen.
3. You can then click the
4. **Copy script to clipboard**  button
5. **Copy script to SQL Editor**  button

Related Topics

[Create Cluster](#)

[Alter Cluster](#)

Create Cluster

From this dialog box you can create a new cluster. This can be either an indexed cluster or a hash cluster.

To create a cluster

1. Access the Create Cluster window by either
2. From the **Database|Create** menu, select **Cluster**.
3. From the **Schema Browser|Cluster** page, click the **Create Cluster**  button.
2. Select the **schema** where you want the cluster to reside from the **Schema** dropdown.
3. Enter a **name** for the cluster.

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4. Select either **Indexed Cluster** or **Hash Cluster**. If you select hash cluster, another tab, Hash Info appears.
5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
6. Enter information about the cluster as described in Tabs below.

Tabs

Columns

Enter the column information you want to use. You can use <Tab> or the mouse to move between boxes. You will need to enter the following information about each column:

- **Column name** - Type the name in the column name column.
- **Data type** - You can select from a drop down menu, type the first few letters of the data type you want to use, or type the entire data type.
- **Size** - If necessary, enter the size of the column.
- **Precision** - If necessary, enter the precision you want the column to use.
- **Scale** - If necessary, enter the scale you want the column to use.

Storage Options

Enter the information required for the storage options.

Hash Info

In the Hash Info area, you can choose single table, and you can enter number of hash keys, and the hash expression.

Note: When entering the hash expression, do not enter the " Hash is" keywords.

Related Topics

[Clusters](#)

[Alter Cluster](#)

Alter Cluster

From this dialog box you can alter an existing cluster. This can be either an indexed cluster or a hash cluster. You can only alter information about storage properties from Toad. To change the cluster more extensively, you will need to drop it and create a new cluster.

To alter a cluster

1. From the **Schema Browser|Cluster** page, click the **Alter Cluster**  button.
 2. Click the **Storage** tab and change storage information about the cluster.
-

Related Topics

[Clusters](#)

[Create Cluster](#)

Constraints

Schema Browser: Constraints

From the Schema Browser window, you can enable and disable constraints, and filter your objects.

Objects Panel

The left panel of the Schema Browser displays a list of constraints. To see the details of a constraint, click it. The details display in the right panel. You cannot make changes to the constraint from this window. To make changes to the constraint, see the [Create Constraint](#) topic.

Different types and status of constraints are differentiated by different icons. See [Icon Legend](#) for more information.

Constraint Toolbar



Button	Command
	Create new constraint
	Alter constraint
	Enable current Trigger or Constraint - To use this command, you must first select a constraint. Then click the icon to enable it.
	Disable current Trigger or Constraint - To use this command, you must first select a constraint. Then click the icon to disable it.
	Filter - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red. . Note: If you clear filters on the constraints from the Schema Browser, constraint options are automatically updated to show only the Primary Constraint.
	Drop - Drop the selected constraint from the database.

Related Topics

[Create Constraint](#)

[Alter Constraint](#)

Create Constraint

Use this dialog box to create additional table constraints.

To access the create constraint window

- From the **Create** menu, select **Constraint**.

Or

From the **Schema Browser|Tables|Add Constraint** toolbar button.

You can create:

- [Primary Key constraints](#)

- [Foreign Key constraints](#)
- [Check constraints](#)
- [Unique constraints](#)

To create Primary Key Constraints

1. Open the **Create Constraint** dialog and type the constraint name in the **Constraint Name** box.
2. If desired, select the **Create Constraint Disabled** check box.
3. Select the "from" schema and "from" table from the Schema and Table lists. That will query and populate the columns into the **Table Columns** list.
4. Click the **Primary Key** option button.

Note: If a Primary Key constraint already exists for the selected table, then the Primary Key button will be disabled.

5. From the **This Table** columns list, select the column or columns you want to designate as the primary key. (To select more than one item press the <CTRL> key while clicking on the items.)
6. If desired, select the storage parameters.
7. Click the **right arrow** button to move your selected items to the **Constrained Columns** panel.

*If you want to move records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a schema, existing table, or enter a new table name, and click the **Create a New Exceptions Table** button.*

8. Click the **Options** tab and set any options you want attached to the constraint. For example, disabled on creation, cascade on delete, and so on.
9. You can review the SQL prior to execution by clicking the **SQL** tab.
10. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
11. Click the **Execute** button to create the Primary Key constraint.

Or

Click **Schedule** to schedule the create task for a later time.

To create Foreign Key Constraints

1. Enter the **Constraint Name**.
2. If desired, select the check box to **Create Constraint Disabled**.
3. Pick the "**from**" **schema** and the "**from**" **table** from the dropdown lists. That will populate the **Available Table Columns** list.
4. Click the **Foreign Key** option button, and optionally check the **Cascade Deletes** check box.
5. On the **This Table** tab, select the columns that you want to be the **Constrained Columns**.
6. Click the **right arrow** button to move your selections to the Constrained Columns window.
7. Click the **Referenced Table** tab.
8. Click the **Referenced Table schema, table, and columns**. To select more than one item press the <CTRL> key while clicking on the items.

*If you want to dump records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a schema, existing table, or enter a new table name and click the **Create a New Exceptions Table** button.*

9. You can review the SQL prior to execution using the **SQL** tab.
10. To add the object to the Project Manager, select the **Add to PM** check box.
11. Click the **Execute** button to run the SQL and add the Foreign Key constraint.

Or

Click **Schedule** to schedule the create task for a later time.

To create Check Constraints

1. Type the constraint name in the **Constraint Name** box.
2. If desired, select the check box to **Create Constraint Disabled**.
3. Select "**from**" **schema** and "**from**" **table** from the dropdown lists. That will populate the **Table Columns** list.
4. Click the **Check** option button.
5. Enter the check constraint text, in the **Check Constraint Condition** box, for example, "SALARY < 100000 and COMMISSION > 5000".

*If you want to move records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a schema, existing table, or enter a new table name and click the **Create a New Exceptions Table** button.*

6. You can review the SQL prior to execution using the **SQL** tab.
7. To add the object to the Project Manager, select the **Add to PM** check box.
8. Click the **Execute** button to run the SQL and add the **Check Constraint**

Or

Click **Schedule** to schedule the create task for a later time.

To create Unique Constraints

1. Enter the **Constraint Name**.
2. If desired, select the **Create Constraint Disabled** check box.
3. Pick the "**from**" **schema** and the "**from**" **table** from the dropdown list. That will populate the **Table Columns** list.
4. Click the **Unique** radio button.
5. From the **Table Columns** list, select the **columns** that you want to be the Constrained Columns.
6. Click the **right arrow** button to move your selections to the Constrained Columns window.
7. If you want to dump records that do not meet the new constraint criteria into another table, click the **Exceptions** tab, pick a **schema** and **existing table**, or **enter a new table name**.
8. You can **review the SQL** prior to execution by clicking the **SQL tab**.
9. To add the object to the Project Manager, select the **Add to PM** check box.
10. Click the **Execute** button to create the Primary Key constraint.

Or

Click **Schedule** to schedule the create task for a later time.

Related Topics

[Constraints](#)

[Alter Constraint](#)

Alter Constraint

Use this dialog box to alter existing constraints.

To alter a constraint

1. In the **Objects Panel**, select the **constraint** you want to alter.
2. Click the **Alter Constraint**  button on the Objects Panel toolbar.
3. The Alter Constraint dialog box lets you make changes to the following:
4. Constraint State
5. Validation Clause
6. Rely Clause

When enabling or validating an index, an exceptions table may also be specified.

Select the **options** you want to put into effect and then click **OK**.

Related Topics

[Constraints](#)

[Create Constraint](#)

[Renaming Constraints](#)

Renaming Constraints

You can easily rename a constraint from the Schema Browser.

To rename a constraint

1. From the **Schema Browser | Constraints page**, select a constraint to rename.
2. Right-click and select **Rename Constraint**.
3. In the **New Constraint Name** box, enter the new name for the constraint.

Toad can provide a suggestion for the new constraint name. Click the Suggest button for a suggestion. This is only a suggestion and you can easily type over it.

4. Click **OK**.
-

Related Topics

[Schema Browser: Constraints](#)

[Create Constraint](#)

[Alter Constraint](#)

Contexts

Schema Browser: Contexts

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

A context is an object which helps apply fine-grained access control, linking function-based security policies with applications.

Note: Contexts are only available for Oracle versions 8i and newer.

Context variables are mapped into a set of functions and procedures contained in a stored package associated with a unique context name. Oracle then uses relationship through the SYS_CONTEXT function to validate against the variables or constants defined in the package.

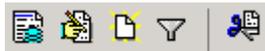
Context objects are owned by the SYS user and reside in the SYS schema. When a context is established, the SYS_CONTEXT function fetches the specified attributes. This encapsulates the attributes in their own secure database object, which can then be controlled. Although all contexts are owned by SYS, Toad's schema browser lists contexts under the schema which owns the package associated with each context.

Through Toad, you can create, alter and drop contexts.

Objects Panel

In the left panel of the Schema Browser, a list of Contexts appears. To see the details of a context, click it. Details display in the right panel.

Database Links Toolbar



Button	Command
	Create script from context - This command creates a script from the selected context and copies it to the clipboard. A context must be selected to use this command. You can then paste the script into the Editor.
	Alter a context - This displays the Alter Context window, which lets you make changes to the Context as described in Alter Context . Toad drops the original link and creates a new one with the changes you make.
	Create a new context - This displays the Create Context window.
	Filter contexts - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red. .
	Drop context - Clicking this drops the selected context. A context must be selected to use this command.

Details Panel

The Details Panel has an General Info tab and a Script regeneration tab.

Create Context

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can use Toad to create a new context easily. Toad requires only four components to create a context.

To create a context

1. From the **Schema Browser|Context** page, click the **Create Context**  button.
2. Enter the context name in the **Context Name** box.

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3. On the Basic Info tab, enter the Package Schema. The default is the active schema.
 4. Enter the Package Name and Type in the appropriate boxes.
 5. Click **OK**.
-

Alter Context

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can alter an existing context. You cannot change the name of the context, but you can change its properties.

To alter a context

1. In the **Schema Browser|Context** page, click the **Alter context**  button.
 2. In the Basic Info tab, you can change:
 3. Package Schema
 4. Package Name
 5. Type
-

DB Links

Schema Browser: DB Links

From the Schema Browser window, you can create a script from a database link, create new links, and drop links.

Note: Database link passwords will never be extracted from the data dictionary.

Objects Panel

In the left panel of the Schema Browser, a list of database links appears. To see the details of a link, click it. The details display in the right panel. You cannot make changes to the database link, but you can drop it and create a new one.

Different types and status of database links are differentiated by different icons. See [Icon Legend](#) for more information.

Database Links Toolbar



Button	Command
	Create script from database link - This command creates a script from the selected database link and copies it to the clipboard. A database link must be selected to use this command. You can then paste the script into the Editor.
	Create a new database link - This displays the Create Database Link window. Check boxes let you make the link a public link, and drop an existing link. Type in the link name in the Name box. A dropdown lets you choose the database to connect to. Textboxes let you type in the connection user name and password.



Alter a database link - This displays the Alter Database Link window, which lets you make changes to the link as described in [Create Database Link](#). Toad drops the original link and creates a new one with the changes you make.



Test database link - Clicking this tests the selected database link. Results are displayed in a dialog box with the option to copy them to the clipboard for pasting elsewhere.



Filter database links - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red. .



Drop database link - Clicking this drops the selected database link. A database link must be selected to use this command.

Details Panel

The Details Panel has an Info tab which shows the parameters and values (owner, host, user, date, and so on).

Related Topics

[Create Database Link](#)

Create Database Link

To create a database link

- From the **Create** select **Database Link**

Or

From the **Schema Browser|DB Links** page select **Create new database link** button.

DB Links are used in queries at the end of each table or view name.

This displays the Create Database Link window where you can fill in the information to create a database link. The dropdown menu lets you select from the list of databases to connect to. To add the object to the Project Manager, select the **Add to PM** check box. After the information boxes are filled in, click the **Execute** button to create the database link.

Related Topics

[DB Links](#)

[Create Database Link](#)

Dimensions

Schema Browser: Dimensions

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Dimensions are processes that redirect queries from the base table to materialized views (snapshots) based upon that table. This lets queries run faster by referencing the best summary tables.

For example, you have a table called DAILY_SALES that contains sales information by day. Some users prefer to see reports of sales by week or month. So you create materialized views (snapshots) based upon the DAILY_SALES table and call these WEEKLY_SALES AND MONTHLY_SALES. Now you can create a dimension that tells Oracle that these tables are based upon each other (daily sums up to weekly, which sums up to monthly).

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Now, if a user queries DAILY_SALES to ask for data summarized by week or month, Oracle will rewrite the query to use the summary table that best matches the WHERE clause. This is done before the explain plan step, and the user never knows that the query has been redirected.

Splitters will remember their position from the last time you opened the page.

Objects Panel

The Objects Panel on the Dimensions page lets you view, create, compile and drop dimensions.

Objects Panel Toolbar



Button	Command
	Create script and copy to clipboard
	Create new dimension - This will open the Create New Dimension window so you can specify dimension properties.
	Compile dimension - This will compile your dimension
	Filter dimension list. This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red. .
	Drop dimension

Details Panel

The Details Panel of the Dimensions page displays information about a selected dimension. This information includes the levels and hierarchies created as described in the Create Dimension topic. You can also view the script that defines the dimension.

The "**dependant col**" column is where attributes are shown.

Related Topics

[Create Dimension](#)

Create Dimension

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can create a new dimension in several ways.

To create a dimension

1. From the **Database|Create menu**, select **Create Dimension**.

Or

From the **Schema Browser**, select the **Dimension** page and then click the **Create Dimension** button on the toolbar.

In either case, the Create Dimension dialog box appears.

2. Select the schema where you want to create your dimension. The currently connected schema is already entered.

3. Enter a name for your new dimension in the **Dimension Name** box.
4. Create at least one level by clicking the + and naming the level. After you have created a level, you can add a table and columns to it. The **dependant col** column is where attributes are shown.

In this area you can:

- + add levels
 - - delete levels
 - Edit level names
5. You can now add hierarchies to your dimension. Do this the same way you created your levels.

In this area you can:

- + add hierarchies
 - - delete hierarchies
 - Edit hierarchy names
6. Drag Parent/Child levels down from the **levels** edit box into the **Parent/Child Levels** tree. This establishes the **<level> Child of...** section of the DDL for the selected hierarchy.
 7. Set up **Join** keys for each hierarchy.
 8. Click **Show SQL** to display the SQL created by this dialog box. From the Show SQL dialog box you can **Copy to Clipboard** or **Save to File**.
 9. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 10. Click **OK** to create your new dimension.

Related Topics

[Dimensions](#)

Directories

Schema Browser: Directories

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

The Schema Browser: Directories page is only available if you are using Oracle 8 or above.

You can create or alter a directory. Also see the [Create Directory](#) topic.

Objects Panel

The Objects Panel displays the Directory window with the name and path.

Directory toolbar



Button	Command
	Create directory script and copy it to the clipboard
	Create a new directory - You can also create a new directory through the Create Directory menu item which opens the Directory window.



Alter directory - This lets you alter the selected directory.



View/Edit privileges - This opens the [View/Edit privileges](#) window. If you have sufficient privileges yourself, you can edit the associated privileges.



Filter directory list - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red. .



Drop directory - This lets you drop the selected directory.

Details Panel

The Details Panel includes tabs for Info, External Tables, Script, Auditing and Grants.

Related Topics

[Create Directory](#)

Create Directory

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window is used to create a new directory object. A directory object is an alias to a directory on the server's file system where external binary large objects (BFILEs) are stored.

To create a directory

1. From the **Create** select **Directory**

Or

From the **Schema Browser|Directories** page, click the **Create Directory** button.

2. Enter the options as described below.
3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
4. Click **OK** to create the directory.

Directory Name

Enter the alias name for the directory.

Path

Enter the Path specification. A drilldown button opens a **Browse for folder** (directory browser) window where you can select a directory and click **OK**. The selected path is automatically entered in the Path box.

The **Show SQL** button opens a SQL statement window where your Create Directory SQL statement is displayed. The **Clipboard** button on the window copies the statement to the clipboard. The **Save to File** button opens the Save As dialog box where you can choose a path and enter a file name.

Related Topics

[Schema Browser: Directories](#)

Favorites

Favorites

This page lets you group many different types of objects that you use frequently into a tab on the Schema Browser. These different objects can be grouped into one or several "folders". Your configuration of this tab is kept in the file Toad for Oracle\Temps\\Projects.lst, and configuration is maintained at the instance level; in other words, folders are specific to an instance (not a connection or a schema). Multiple folders may be created on this page. After a folder is created, you can then add objects to it.

Objects supported in this window include: Tables, Views, PL/SQL code (Procedures, Functions, Packages, Triggers), and Files.

Note: The Favorites page is not available in the tree view of the Schema Browser.

Create a Folder

Before you can add objects to your Favorites tab, you need to create a Folder where you will group them.

To create a folder

1. Click the **Add New Folder**  button on the toolbar. The Folder dialog box appears.
2. Enter a name for your folder and then click **OK**.

Add Objects to a folder

You can easily add objects to a Folder in the right hand panel. You can add either database objects or scripts/files.

To add Database Object

1. In the left panel, select or right-click the **folder** where you want the object.
2. Select **Add Database Object** or click the **Add Database Object**  button on the toolbar. The [Object Search](#) window appears.
3. Use the search function to find the object you want to add. In the results grid, highlight the objects you want to add and then **right-click**. Many of the tabs in the Schema Browser have an "Add to Favorites list" on the right-click menu. A very few do not.
4. Select **Add to SB Folder List** from the menu. The Select Folder dialog box appears. Select the folder where you want the objects and click **OK**.
5. Toad displays a confirmation dialog box that it has added objects. You can now close the Object Search window. The objects you selected are included in the appropriate folder.

To add scripts/files

1. In the left panel, right-click the **folder** where you want the script.
2. Select **Add Script/File** from the menu. The Select files for folder dialog box opens. Use this dialog box as you would a standard "Open" dialog box, with one exception. You can multi-select files here and add more than one at a time. Click **Open**.
3. Select **Add to SB Folder List** from the menu. The Select Folder dialog box appears. Select the folder where you want the objects and click **OK**.

Remove Objects from a Folder

You can remove objects from folders as easily as you can enter them.

To remove objects

1. Select the **object** you want to remove.
2. Click the **Configure the Favorites Folders**  button.
3. Choose **Remove Item** from the menu. A confirmation dialog box appears.
4. Click **Yes**. The item is removed from the folder.

Empty or Remove Favorites Folders

You can empty a folder or remove it from the Favorites page altogether.

To empty or remove favorites folders

1. In the left panel, select the **folder** you want to empty or remove.
 2. Right-click the **folder name**
- Or

3. Click the **Configure Favorites Folders**  button to display the actions menu.
3. Select either **Remove Folder** or **Empty Folder** from the menu. In the first case, the entire folder is removed. In the second, the folder is emptied of objects but left on the Favorites page.

Functions

Schema Browser: Functions

Objects Panel

The Functions page Objects Panel lists PL/SQL functions. You can open them in the Editor, execute them, compile or save them to files.

Different types and status of functions are differentiated by different icons. See [Icon Legend](#) for more information.

Functions Toolbar



Button	Command
	Copy script to clipboard
	Create new Function - creates a new function in the Editor.
	Save to a SQL file - Click this option to save the selected procedure to a file (extensions for these files are configured from View Toad Options File-General). The Save as dialog box appears. You can name the file and save it.

	Filter Function list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Load in Editor - To use this command, you must first select a function. Then click the icon on the toolbar. The object you selected is copied into a new Editor window and you can debug or work with it there.
	Compile Selected Procedure - You can recompile a procedure, package or function from the Schema Browser. Select the object or objects you want to recompile, and click Compile Procedure on the toolbar. The object compiles. If it was invalid (marked with a red X) and compiles correctly, it will be remarked as valid and the X no longer appears beside the object name. In addition, the dropdown from this button lets you choose to compile the package spec, body, or both.
	Compile Invalid Functions - The Compile Invalid Functions button compiles all functions for the current schema. Everything invalid in the objects list will be compiled, including items that have been hidden by the use of a filter. Note: Depending on the number of items in your list, this option can take quite some time.
	Compile Dependencies - You can compile the dependent procedures, packages, or functions from a selected procedure, package or function. Select a procedure, package or function, and then click the Compile Dependent Procedures icon on the toolbar. All procedures, packages, or functions dependent upon the selected procedure, package or function are recompiled. For more information about compiling dependent procedures, packages, or functions see Dependencies .
	Execute Procedure - To Execute a procedure, package or function from the Schema Browser, select the item and click Execute. If parameters are required, Toad will prompt you for them and then the procedure, package or function will execute. Note: In the Debugger this button is called Run, because in that case it calls the procedure, package or function, but also allows you to stop execution (by setting breakpoints).
	Add or change privileges - This displays the privileges window. The user list is multi-select by pressing the CTRL button and clicking on multiple user names. To add or revoke privileges, select the users you want to have the privileges, right-click and select the appropriate choice from the right-click menu: Grant , Grant - with Admin , or Revoke . Click Apply . You can revoke all privileges by clicking Revoke All .
	Make Synonym - Select a procedure, package or function and click this icon to create a Synonym for the selected item. This defaults to creating a public synonym.
	Drop procedure - Select a procedure, package or function and click Drop. Toad prompts you to confirm, and the selected procedure, package or function is dropped from the database.

Details Panel

The Details Panel contains tabs that allow you to see information about the selected function. These tabs include: Code, Arguments, Deps (Uses), Deps (Used by), Errors, and Grants.

When you select a function from the Objects Panel, the top of the Details panel displays the created date and last modified date for the object.

Schema Browser: Indexes

Objects Panel

The Objects Panel on the Indexes page displays a list of indexes, and a toolbar to create, alter, analyze, and so on your indexes.

In the list of indexes, icons indicated the different types or status of indexes. For information on seeing the legend of icons used in the Schema Browser, see the [Icon Legend](#) topic.

Indexes Toolbar



Button	Command
	Create script from index - This command creates a script from the selected index and copies it to the clipboard. An index must be selected to use this command. You can then paste the script into the DEditor.
	New index - This displays the Create Index window. For more information, see the Create Index topic.
	Alter index - This displays the Alter Index window. For more information, see the Alter Index topic.
	Rebuild index - This displays the Rebuild Index window. For more information, see the Rebuild Index topic.
	Analyze index - Use this dialog box to analyze the selected index from the index object list. This collects statistics so that COST based query optimization can be used. So, the optimizer can run better queries. You can estimate statistics (faster than compute), compute statistics, or delete current statistics.
	Filter index list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop selected index - Clicking this drops the selected Index. An index must be selected to use this command.

Details Panel

The details panel contains information about the selected index, organized on tabs that include: Columns, Partitions, and Script.

Related Topics

[Create Index](#)

[Alter Index](#)

[Rebuild Index](#)

[Rename Index](#)

Create Index

Note: Toad does not support the following functionality at this time:

- composite partitions

- some features of hash partitioning (ability to name individual partitions: currently they are system generated)
- subpartitions

To access Create Index

- From the **Database|Create** menu, select **Index**

Or

From the **Schema Browser|Indexes**, click the **Create New Index** button.

Indexes can speed up execution by providing a faster path to table data.

Use this dialog box to select a schema owner, table name, then on the **Index** tab, select whether you want to create a Primary Key index, Unique index, Non-Unique Index, function-based indexes, or a Bitmap index, select the index columns, and optional storage parameters.

- Schema - The top Schema dropdown lets you select the schema in which the index will reside.
- Name - The Name box lets you designate the name of the new index.
- Show SQL - This displays the SQL statement for the Index Create DDL.
- Add to PM - This checkbox adds the Index to the Project Manager.
- OK - This gives the command to create the index.
- Cancel - This displays a confirmation dialog box, and if you answer **OK** to the confirmation, Toad will discard the changes and close the Index window.

Physical Attributes tab

The **Percent Used** field is irrelevant for Create Index, so it is disabled.

Partitions tab

The **Available Columns** are the same columns that you selected as the columns for the index (except for columns with certain datatypes: BLOB, CLOB, NCLOB, BFILE, ROWID, UROWID, MLSLABEL). You select columns from the Available Columns list to determine which columns the partition will be based upon. Every partition created for the index is based on the same column list.

Add a Partition

Once you select columns for the partitions to be based upon, you can then add a partition.

To add a range partition

- Click the **Add** button. The Add Partition dialog box appears, and you can provide a partition name. You must enter the upper range for each column within the partition, or select **Maxvalue** from the dropdown list on that dialog box.

Note: String value upper bounds must be enclosed in single quotes within the grid (for example, for a Last Name column with a datatype of varchar2, an upper bound could be 'Smith'). The single quotes must be entered into the grid.

To add a hash partition

- Select the tablespaces to use for the hash partition. Quantity is irrelevant for hash partitions based on Indexes, so quantity is disabled.

You can alter indexes through the **Schema Browser|Indexes** page|**Modify** button.

Related Topics

[Indexes](#)

[Alter Index](#)

[Rebuild Index](#)

[Rename Index](#)

Create Index Basic Info

Select the appropriate options to specify basic information for the index you are creating or altering.

Table Index

Select the Table Index button if you want an index based on a table. This button is selected by default.

Cluster Index

Select the Cluster Index button if you want an index based on a cluster.

Schema

Select the schema where the table or cluster to be indexed resides. This loads either the tables or clusters for that schema into the Table/Cluster dropdown box that is under the schema dropdown.

Table/Cluster

This dropdown is where you select the table or cluster on which to create the index. If you select the Table Index radio button the dropdown is a Table dropdown. If you select the Cluster radio button the dropdown is a cluster dropdown. When you select a table, the columns display in the Columns tab.

Bitmap

This specifies that the index is to be created as a bitmap rather than as a B-tree. This is most appropriate for applications that have low levels of concurrent transactions, such as warehousing. This function is only enabled if you have Oracle 8 or later.

Logging

This check box controls whether the creation of the index will be logged (selected) or not logged (clear) in the redo log file. It also specifies that subsequent Direct Loader (SQL*Loader) and direct-load INSERT operations against the index are logged or not logged, depending on your choice. The default is checked.

Versions prior to Oracle 8 refer to this concept as Recoverable. So, for versions before Oracle 8, instead of Logging the option will display as Recoverable.

Monitoring

Oracle versions 9i and later provide a means of monitoring indexes to determine whether or not they are being used. You can then drop unused indexes to eliminate unnecessary statement overhead. When

checked, Oracle will monitor this index. For more information about index monitoring, see [Index Monitoring](#).

Parallel check box

This option enables or disables the Parallel edit field. If this option is checked, it causes Oracle to select a degree of parallelism equal to the number of CPU's available on all participating instances times the value of the PARALLEL_THREADS_PER_CPU initialization parameter. If a value is specified, it represents the degree of parallelism, which is the number of parallel threads used in the parallel operation. Each parallel thread may use one or two parallel execution servers. Oracle usually calculates the optimum degree of parallelism, so it is not necessary to specify a value. When checked, you will need to specify the degree and instances parameters.

This option is unchecked (no parallel) by default.

Reverse

If this box is checked, the bytes of the index block are stored in reverse order. The Reverse check box is mutually exclusive with the Not Sorted check box. You cannot choose both. This function is only enabled if you have Oracle 8 or later.

Domain

Select this check box to make this index a domain index. For more information about domain indexes, please see your Oracle documentation. Checking this box will display the [Domain Info](#) tab.

Uniqueness

Non-unique

If you select this, unique constraints will not be enforced.

Unique

Select this to specify that the values of the columns upon which the index is based must be unique. (This is usually not recommended. Oracle recommends using UNIQUE integrity constraints when the table is created.)

Primary Key

This creates a primary key constraint on the specified table, with the same name as the provided index name, and based on the selected columns.

Creations Options

Compute Statistics check box

A check in this box lets you collect statistics during the creation of the index. These statistics are stored in the data dictionary for ongoing use by the optimizer in choosing a plan of execution for SQL statements. This function is enabled if you have Oracle 8.1 or later.

Not Sorted check box

A check in this check box indicates to Oracle that the rows are stored in the database in ascending order, so Oracle does not have to sort the rows when creating the index. The Not Sorted check box is mutually exclusive with the Reverse check box. You cannot choose both. This function is only enabled if you have Oracle 8 or later.

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Online check box

If this option is checked, Toad will allow DML operations on the table during creation of the index. This function is only enabled if you have Oracle 8 or later.

Key Compression

Note: The Key Compression radio buttons are only enabled if you have Oracle 8 or later.

- **Compress** - The Compress radio button enables or disables the Compress columns input field. If you select Compress, you'll need to enter the number of columns to compress. If you select Compress, you enable key compression, which eliminates repeated occurrences of key column values and can reduce storage substantially.
- **Value** - The value box lets you specify the prefix length (the number of prefix columns to compress). You'll need to fill in this box if you select the Compress option.

For Unique indexes, the valid range of prefix length values is from 1 to the number of key columns minus 1. The default prefix length is the number of key columns minus 1.

For Nonunique indexes, the valid range of prefix length values is from 1 to the number of key columns. The default prefix length is the number of key columns.

- **Oracle compresses only nonpartitioned indexes that are nonunique or unique indexes of at least two columns.**
 - **No Compress** - If you select No Compress, you disable key compression.
-

Create Index - Columns tab

Bitmap Join Index

Select this check box to display text boxes where you can enter a From clause and a where clause for a bitmap join index.

Table Columns

This panel displays the columns for the tables you have selected.

You move items from the Table Columns list to the Index Columns list with a double-click or a drag-and-drop. You can adjust the sort order of the

Index

This panel displays the table columns that you selected for the index.

Create Index - Domain Info tab

Use the options on this tab to set parameters for a created domain index.

- Enter the type owner in the Index Type Owner box.
- Enter the type name in the Index Type Name box.

- Enter any parameters you may want to apply.
-

Create Index - Physical Attributes tab

Percent Free

Enter the percentage you want to leave free for future updates. Leaving this box blank will leave it at the default of 10.

Initial Trans entry box

This specifies the initial number of transaction entries allocated within each data block that is allocated to the table.

Max Trans entry box

This specifies the maximum number of concurrent transactions that can update a data block allocated to the table.

Tablespace dropdown

This is where you specify the name of the tablespace to hold the index. If you do not specify a tablespace name, Oracle will create the index in the default tablespace of the owner of the schema containing the index.

Storage

Enter the storage parameters for the index. Please see your Oracle documentation for full descriptions of these parameters.

Alter Index

To alter an index

1. Access **Alter Index** from the **Schema Browser|Indexes** tab (then select an index)
2. Click the **Alter Index**  button.

This window lets you modify (or alter) the selected index.

Schema dropdown

This is the schema in which the index resides. It cannot be altered, so the dropdown is disabled.

Name box

This displays the name of the index. It cannot be altered. To rename your index, see [Rename Index](#)

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Index tab

Deallocate Unused Space check box

If checked, this tells Oracle to explicitly deallocate unused space at the end of the index. This makes the freed space available for other segments in the tablespace. Only unused space above the high water mark can be freed. If checked, the **Keep** box is enabled.

Keep box

This specifies the number of bytes above the high water mark that the index will have after deallocation.

Bytes dropdown

You can choose **Kilobytes** or **Megabytes**. The default is Kilobytes.

Deallocate Unused Space is mutually exclusive with Allocate New Extent. If one is checked, the other gets unchecked automatically. You cannot choose both.

Allocate New Extent check box

If checked, this explicitly allocates a new extent for the index. For a local index on a hash-partitioned table, Oracle allocates a new extent for each partition of the index. If checked, the **Size** box is enabled.

Size

This specifies the size of the extent in bytes. If Size is omitted, Oracle determines the size based on the values of the index's storage parameters.

Bytes dropdown

You can choose **Kilobytes** or **Megabytes**. The default is Kilobytes.

Allocate New Extent is mutually exclusive with Deallocate Unused Space. If one is checked the other gets unchecked automatically. You cannot choose both.

Options

Mark Unusable check box

If checked, this marks the index as unusable. If an index is marked as unusable, it must be rebuilt or dropped and recreated before it can be used.

Coalesce check box

If checked, this tells Oracle to merge the contents of index blocks wherever possible to free blocks for reuse.

Parallel check box

If checked, this alters the parallel value used during the create process.

Logging radio button and No Logging radio button

These radio buttons change the logging value used during create.

Storage tab

This is where you specify the storage parameters.

For the **Buffer Pool** a dropdown lets you choose **Default**, **Keep**, and **Recycle**. This function is enabled only if you have Oracle 8.0 or later.

Partitions tab

On partitioned indexes, a partitions tab also appears. From this tab, you can edit individual partitions, drop partitions, and split partitions.

Related Topics

[Indexes](#)

[Create Index](#)

[Rebuild Index](#)

[Rename Index](#)

Rebuild Index

Indexes periodically need to be rebuilt in order to improve query performance. Over time, records are added to the end of tables and indexes, and other records are deleted from the middle of tables and indexes, so when you read the tables and indexes, the disk device has to traverse the chain up and back until your record is found. Rebuilding an index will reorganize the chain sequentially, greatly improving query performance.

To rebuild an index

1. Access the Rebuild Index dialog box from the [Schema Browser](#).
2. From the **Indexes** tab, select an index from the list, and click **Rebuild Index**.
3. The Rebuild Index dialog box has two tabs: **Options**, and **Sql**. Set the options for these two tabs as described below. When you are finished, click **Execute** to rebuild your index.

Options tab

The options tab allows you to set up how you want the index built.

Parallel/Not Parallel

Select the appropriate option. If you select Parallel, enter the number in the number field.

Logging/No Logging or Recoverable/Not Recoverable

This dropdown lets you specify whether the creation of the index will be logged (Logging) or not logged (No Logging) in the redo log file. It also specifies that subsequent Direct Loader (SQL*Loader) and direct-load INSERT operations against the index are logged or not logged, depending on your choice. The default is "Default" which means the statement will not be included in the DDL script creation.

Versions prior to Oracle 8 refer to this concept as **Recoverable**. So, for versions before Oracle 8, instead of Logging, the option will display as Recoverable and the dropdown choices will be Default, Recoverable, and Unrecoverable.

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Storage

Enter the Storage amounts for initial extent, next extent and percent increase in the appropriate fields.

Tablespace

Select the **tablespace** where the index is to be located.

Sql tab

Use the SQL Tab to view the SQL Toad will use to rebuild your index.

Related Topics

[Indexes](#)

[Create Index](#)

[Alter Index](#)

[Rename Index](#)

[Rebuild Multiple Objects: Index Rebuilding](#)

Rename Index

You can easily rename an index from the Schema Browser.

To rename an index

1. From the **Schema Browser**, select the **Indexes** page.
 2. In the **Objects Panel**, select the **index** you want to rename.
 3. Right-click and select **Rename Index**.
 4. Enter the new name in the **index name** box and then click **OK**.
-

Invalid Objects

Schema Browser: Invalid Objects

Objects Panel

The Objects Panel on the Invalid Objects page displays a list of invalid objects in the selected schema, and a toolbar to alter, compile, compare the invalid objects.

Toad runs a simple query to find all invalid objects in DBA_OBJECTS, ALL_OBJECTS or USER_OBJECTS depending on privileges and settings.

This query will display:

- procedures
- functions
- packages (spec & body)
- triggers

- views
- types (spec & body)
- Java
- snapshots

You may also see **evaluation contexts** (in which case the right hand side will be blank). The Schema Browser does not support these objects.

This tab also includes unusable indexes (or indexes with an unusable partition or subpartition).

Invalid objects toolbar



Button	Command
	Alter the selected object.
	Compare object with another.
	Compile selected object (this option will also rebuild any unusable indexes that are selected).
	Compile all invalid objects (this option does not include unusable indexes).
	Filter index list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop selected index - Clicking this drops the selected Index. An index must be selected to use this command.

Details Panel

The details panel contains information about the selected object. Tabs and requirements for the details panel depend upon the type of object selected.

Java

Java

You can use the Java page in the Schema Browser to compile or drop a Java object, if you are running Oracle 8i or higher. You can also convert [Java to PL/SQL](#).

Different types and status of Java objects are differentiated by different icons. See [Icon Legend](#) for more information.

Objects Panel

The Objects Panel on the Java page displays a list of java objects, and a toolbar to act on those objects.

In the list of objects, icons indicated the different types or status of java code. For information on seeing the legend of icons used in the Schema Browser, see the [Icon Legend](#) topic.

Java Toolbar

Button	Command
--------	---------

	Create script and copy to clipboard.
	Compile the selected object.
	Publish the selected Java object to PL/SQL. See the Publish Java to PL/SQL Wizard Overview topic for more information.
	Save source Code to file.
	Open object in the Editor.
	Add public synonym - Select an object and click this icon to create a Public Synonym for the selected item.
	View/Edit privileges - This opens the View/Edit privileges window. If you have sufficient privileges yourself, you can edit the associated privileges.
	Filter java list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop the object from the database.

To compile or drop a java object

- Select the object from the list of objects in the Objects Panel, and then click either
- To compile the object
- To drop the object from the database

Drop All is not available for Java objects.

Details Panel

The details panel lets you see information regarding the java objects you select. Tabs include: Code, Errors, Synonyms, and Grants.

Publish Java to PLSQL

Publish Java to PL/SQL SQL Wizard Overview

Oracle 8i and above lets you store java classes in the database. PL/SQL programs can access a java class through a PL/SQL wrapped package. The wrapper package defines a set of procedures and functions to be called and maps them to the methods from the java class.

The **Publish Java to PL/SQL Wizard** is an easy way to create a PL/SQL wrapper package for a selected java class in the database. The java class must be compiled, and it must have compiled correctly to use the wizard.

Note: To use the Java Wizard, you must have the /com/quest/Reflector class and the QUEST_REFLECTOR package installed in your database. If these are not present when the wizard is opened, the wizard will prompt you to create them and walk you through the process.

One of the main functions of the wizard is to map java return types to Oracle return types. Some of the Oracle types mapped must be edited manually to update them and make them valid. See [Java types and Oracle Return types](#) for the list of types that can be returned.

To publish Java to PL/SQL

1. Access the **Java to PL/SQL wizard** from the **Schema Browser|Java** page.

2. Select a **java class** from the Objects panel and right-click. Select **Publish to PL/SQL...** from the menu. The Publish Java to PL/SQL wizard opens. See [Generate Packages](#) for more detailed information.

Java Types and Oracle Return Types

Below is a list of Java types and the Oracle types where they are mapped. Some of the Oracle types mapped must be edited manually to update them and make them valid.

Java Type	Translated to Oracle Type
oracle.sql.CustomDatum, oracle.sql.Datum, oracle.sql.RAW	RAW
oracle.sql.STRUCT	OBJECT
oracle.sql.REF	REF
oracle.sql.CLOB	CLOB
Any array, boolean, java.lang.String, oracle.sql.BLOB, oracle.sql.CHAR, anything else: java.awt.Component, java.awt.Graphics, and so on	VARCHAR2
byte, java.lang.Byte, java.lang.Double, java.lang.Float, java.lang.Integer, java.lang.Long, java.lang.Short, java.math.BigDecimal, oracle.sql.NUMBER, short, double, float, int, long	NUMBER
java.sql.Date, java.sql.Time, java.sql.Timestamp, oracle.sql.DATE	DATE
oracle.sql.BFILE	BFILE
oracle.sql.ARRAY	VARRAY
oracle.sql.ROWID	ROWID

Generate Packages

The central feature of publishing Java code to PL/SQL SQL is the ability to generate packages for each, some, or all methods in a class. The publishing wizard lets you do this easily.

Note: You must be logged in as the owner of the schema containing the java class you want to publish, or Screen 2 will not display properly.

To open the wizard

1. From the **Schema Browser**, select a **Java class** from the objects panel. Compile the java class by clicking the compile button on the Object Panel toolbar. The java class must be compiled, and it must have been compiled correctly to use the wizard.
2. Right-click the **java class** and select **Publish to PL/SQL** from the menu. The Publish Java to PL/SQL wizard appears.

Screen One

To enter the name of the PL/SQL package

1. The default name, already entered, is the same as the Java Class name you selected, but in quotes and entirely in capitals.

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2. You can also choose to replace the PL/SQL package if it already exists.
3. Click **Next**.

Screen Two

Note: You must be logged in as the owner of the schema containing the java class you want to publish, or Screen 2 will not display properly.

To select methods you want to include

1. Select the methods you want to include by:
 2. Checking one or more check boxes to the left of the Class column
 3. Clicking Select all
 4. You can show methods of ancestor classes or hide them by checking the check box at the bottom of the screen.
2. Click **Next**.

Screen Three

To display the code Toad has generated to create the PL/SQL package

1. If you want to edit the code before running it, select **Yes, open in Editor**.
 2. If you just want to create the package, select **No, create package as shown**.
 3. Click **Finish**. The wizard closes, and the package is either created or opened in the Editor, depending on your choices.
-

Jobs

Schema Browser: Jobs

The Jobs page displays the list of jobs in the **Objects Panel** and the details for the selected job in the **Details Panel**.

In order to use the Jobs page in the Schema Browser, you must have the sys.dbms.job package installed in your SYS schema. If you do not have this package installed, ask your DBA to run the catproc.sql to install it.

Objects Panel

The Objects Panel displays a list of jobs. Toad designates a job as online or offline with the following icons:

- Online - When a job is online, no icon is displayed. The Place Offline button on the toolbar is enabled and the name of the job displayed in the Jobs list.
- Offline - When a job is offline, the Place Offline icon is displayed beside it in the Jobs list. The Place Online button on the toolbar is enabled.

Jobs Toolbar



Button	Command
	Create new job - This displays the job definition window, including a job number box, entry boxes for next date of execution (with a calendar dropdown to easily choose a date) and Interval, and a box for what to execute. See also: Create Job .
	Alter job - This displays a job definition window for the selected job as described in Create Job , which you can then alter. Note: Unless you have access to DBMS_IJOB, you must be connected as the Job Owner to perform this command.
	Place online - This is enabled when the selected job is Offline. This places the selected job Online, available for transactions. Note: Unless you have access to DBMS_IJOB, you must be connected as the Job Owner to perform this command.
	Place offline - This button is enabled when the selected job is Online. This places the selected job Offline, unavailable for transactions. Note: Unless you have access to DBMS_IJOB, you must be connected as the Job Owner to perform this command.
	Execute job immediately - This executes the selected job. Note: Unless you have access to DBMS_IJOB, you must be connected as the Job Owner to perform this command.
	Filter jobs list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red. .
	Remove job - This drops the selected job. You must be connected as the Job Owner to perform this command.

Details Panel

Upper

The upper Details Panel shows various parameters for the selected job, such as LOG, USER, NEXT DATE, and INTERVALS.

Lower

The lower Details Panel displays the SQL used for the selected job.

Right-Click Menu

The Jobs panel has a customized right-click menu that includes the following commands:

- Disable Job - This command takes the selected job offline. (See Take Offline above.)
- Enable Job - This command puts the selected job online. (See Place Online above.)
- Alter Job - This displays a job definition window for the selected job as described in **Create New Job**, which you can then alter. You must be connected as the Job Owner to perform this command.
- Execute Job - This executes the selected job. You must be connected as the Job Owner to perform this command.

Related Topics

[Create Job](#)

Create Job

The Create Job functionality lets you create and schedule jobs. By doing this you can automate standard and repetitive tasks. These can be as complex as a detailed SQL script, or as simple as executing a single operating system command. When the job is created and scheduled, you can further manipulate it from the [Schema Browser|Jobs](#) page.

To create a job

1. Access the Create Job window from **Create|Job...**

or

From the **Schema Browser|Jobs** page, click the **New Job** button.

2. Enter the appropriate information in the fields provided:

- Enter the **date** you want the job to run in the **Execute this job on:** field.
- Enter the **time** you want the job to run in the **At this time:** field.
- Enter the **Interval** if you want the job to run on a repeat schedule.

You can select an example for these from the dropdown menu, and the syntax will be entered in the appropriate field. You can adjust the syntax as you want in the text field.

These examples are configured in the file jobdates.txt and can be changed using a text editor.

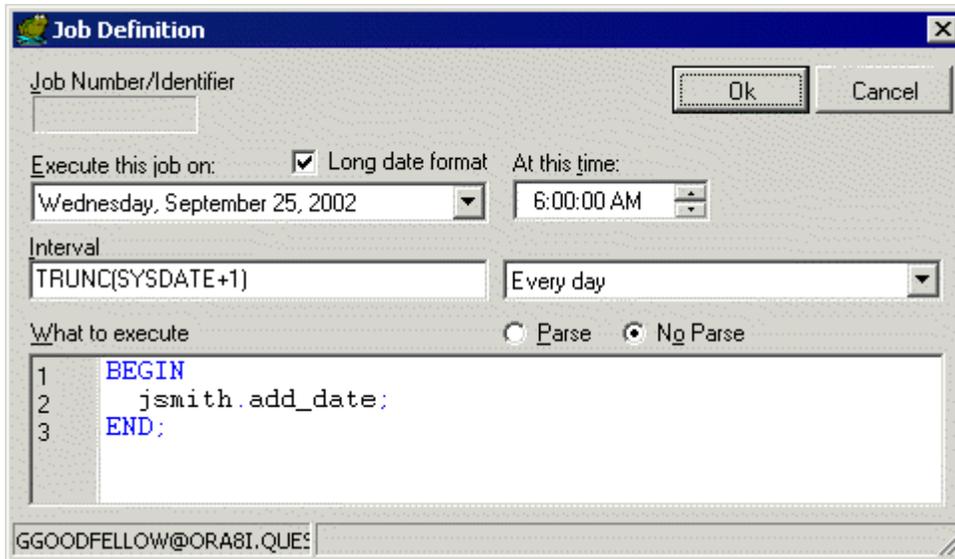
3. Enter **Select Parse** or **No Parse**.
4. Enter the **SQL** to execute.
5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
6. Click **OK** to create the job. The Job Number/Identifier is created for you.

Examples

A job can be just about any code you want to run on a regular, automatic basis. For example, if you have a table with a date column, you could create a procedure using this code and calling it `ADD_DATE`:

```
CREATE OR REPLACE PROCEDURE ADD_DATE;  
BEGIN  
INSERT INTO JSMITH.TEST1 (currentdate) VALUES (SYSDATE);  
END ADD_DATE;  
/
```

Then, to insert the date into the table every morning you would set the dialog boxes as follows:



Click **OK**, and the job is assigned a Job Number and created. It should now appear on the Jobs tab of your Schema Browser.

Related Topics

[Schema Browser Jobs](#)

Libraries

Schema Browser: Libraries

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Libraries are available only if you are using Oracle 8 or above.

You can create, alter, or drop libraries. You can also view details.

Objects Panel

The Objects Panel on the Libraries page lets you create, alter and drop libraries.

Library Toolbar



Button	Command
	Copy script to clipboard - This command creates a script from the selected library or libraries and copies it to the clipboard. One or more libraries must be selected to use this command. You can then paste the script into the Editor.
	Create library - This displays the Library window where you can choose a schema from the dropdown list, enter the library name, and enter the file name. For more information, see the Create Library topic.
	Alter library - This displays the Alter Library window for the selected library.
	View/Edit privileges



Filter the library list - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red.



Drop library - This drops the selected library.

Details Panel

The Details Panel has tabs to view information including: Info, Used by, Grants and Scripts for the selected library.

Related Topics

[Create Library](#)

Create Library

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you create a new library object. A library object is an alias to an operating system shared library (like a .DLL) that can be used in SQL or PL/SQL to allow calls to external functions.

To create a new library object

1. From the **Database|Create|Library** menu item

Or

From the **Schema Browser|Libraries** page, click the **Create new Library** button.

2. Choose a **Schema** from the dropdown. This will be the schema that owns the library.
 3. Use the text boxes to enter the library **Name** (alias name for the library) and the **File Name**.
 4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 5. The **Show SQL** button displays the **SQL Statement** window where the Create Library statement is displayed and can be copied using the **Clipboard** button or saved using the **Save to File** button.
-

Related Topics

[Libraries](#)

Materialized Views (Snapshots)

Schema Browser: Materialized Views

Oracle changed the name of Snapshots to Materialized Views in 8i. Throughout Toad, we use the term "Materialized View" They are the same object and Toad windows can be used with earlier Oracle databases.

You can create and drop materialized views. You can also view details and select multiple materialized views.

Also see the [Create Materialized View](#) topic.

Objects Panel

The Objects Panel displays a list of materialized views that exist in the selected schema.

Different types and status of materialized views are differentiated by different icons. See [Icon Legend](#) for more information.

materialized views Toolbar



Button	Command
	Create script - This creates a SQL script for the selected materialized view and copies it to the clipboard.
	Create new materialized view - Displays the materialized views window where you can create a new materialized view . See Create Materialized View for more information.
	Alter materialized view - Displays the Materialized Views window so that you can alter a previously created materialized view. See Alter materialized views .
	Refresh materialized view - Runs the SQL script that causes Oracle to refresh your materialized view's data.
	Filter materialized views list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop materialized view - Drops the selected materialized view.

Details Panel

The Details Panel includes tabs for **Info**, **Materialized View Query**, **Script**, and **Data**.

Related Topics

[Create Materialized View](#)

[Alter Materialized View](#)

[Materialized Views/Materialized View Logs](#)

[Refresh Options](#)

Materialized Views Popup menu

The popup menu on the Materialized Views page has many of the same commands as the toolbar. In addition, you can:

Compile Materialized Views

You can use this command to explicitly revalidate your materialized view. Oracle's compile clause lets you make a materialized view eligible for a query rewrite if an object upon which the materialized view depends is dropped or altered. If the materialized view fails to revalidate, you cannot refresh it or use it for query rewrite.

Format Snapshot Query

This command formats the materialized view query on the right side query tab.

Toad 9.5

Save As

This exports the materialized view's data to a file. For more information on exporting, see: [Save Grid Contents](#).

Refresh Options

Dataset refresh options can be easily changed from the Data tab. See [Refresh Options](#) for details.

Create Materialized View

The Materialized View window is where you can create, update, or modify a materialized view.

A materialized view is basically a partial (subset) or complete copy of a table. You can set your Toad Materialized Views to be read-only or updatable (which allows users to insert, modify, or delete rows). Materialized Views can be stored in the same database as the master table or in a different database.

To create a Materialized View

1. From the **Database|Create** menu, select **Materialized View**

Or

From the **Schema Browser|Materialized View** page, click the **Create New Materialized View** button.

2. Click the dropdown button to choose your **Schema** for the new materialized view.
3. Enter the name for the new materialized view in the **Name** text box.
4. Click the **Show SQL** button shows the corresponding Create SQL statement. You can copy the statement to the clipboard using the **Clipboard** button or save it using the **Save to File** button.
5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
6. Use the four tabs on the window to enter information about the materialized view in these areas: The window has 4 tabs:
7. [Materialized View Info](#)
8. [Physical Attributes](#)
9. [Materialized View SubQuery](#)
10. [Partitions](#)

Materialized View Info tab

Cluster check box

If checked, Toad will create the materialized view as part of the cluster specified.

Cluster box

This is where you enter the name of the cluster.

Cluster list box

This displays the cluster columns. You can modify this list with the **Add**, **Edit**, and **Delete** buttons.

Tablespace dropdown

Select the tablespace in which you want your materialized view to be created.

Logging check box

If checked, Toad will log the creation of the materialized view, partition, or LOB storage characteristics in the redo log file.

Cache check box

If checked, data blocks will be placed in the buffer cache when a table scan is performed.

Parallel check box

If checked, the materialized view will be parallelized.

Parallel number box

If the Parallel check box is checked, this input box is enabled. You enter the degree of parallelism (the number of threads used) or you can use the up/down arrows to scroll through the numbers.

Using Index check box

If checked, Toad lets you specify parameters for the materialized view indexes. If this option is checked, the drilldown button is enabled. The drilldown button opens the Physical Attributes window.

Allow Updates check box

If checked, you can update the materialized view (read-write). If unchecked, the materialized view is read-only.

Enable Query Rewrite check box

If checked, the materialized view is enabled for query rewrite.

Build check box

If checked, you can specify when to populate the materialized view. If checked, the radio buttons are enabled. You can choose to build Immediate or build Deferred. Immediate will populate the materialized view immediately. Deferred populates the materialized view during the next refresh.

On Prebuilt Table check box

If checked, the table will be registered to the pre-initialized materialized view. The table and materialized view must have the same name. If checked, the radio buttons are enabled. If you select Without Reduced Precision, the precision of the table or materialized view columns must match exactly with the precision of the subquery results. If you select With Reduced Precision, the precision of the table or materialized view columns do not have to exactly match the subquery results.

Refresh check box

If checked, you can customize how Oracle will automatically refresh the materialized view. If checked, the refresh options are enabled.

Toad 9.5

Never Refresh check box

If checked, the materialized view will not automatically refresh.

Refresh Options

- Fast -only updates data in the Materialized View Log associated with master/detail table
- Complete - re-executes the materialized view
- Force - If fast refresh is possible then it performs a fast refresh, otherwise it performs a complete refresh

On Demand check box

This is mutually exclusive to the On Commit check box. If checked, materialized views will be refreshed on demand.

On Commit check box

This is mutually exclusive to the On Demand check box. If checked, materialized views will refresh automatically during the next commit.

Date

- Start With - This is mutually exclusive to the Next check box. If checked, you can use the dropdown to pull up a calendar where you select a date for the first automatic refresh time.
- Next - This is mutually exclusive to the Start With check box. If checked, you can use the dropdown to pull up a calendar where you select a date to calculate intervals between auto refreshes.

With

- Primary Key radio button - If selected, a primary key materialized view will be created.
- Rowid radio button - If selected, a rowid materialized view will be created.
- Rollback Segment check box - This lets you specify the rollback segment to use. If checked, it enables the Master and Local radio buttons.
- Master radio button - If the Rollback Master option is selected, the remote rollback segment will be used at the remote master for the materialized view.
- Local radio button - If the Rollback Local option is selected, the remote rollback segment will be used for the materialized view that is in the local refresh group.
- Default Segment check box - If checked, the materialized view will use the default rollback segment. If unchecked, the Rollback Segment box is enabled.
- Rollback Segment box - This is enabled if the Default Segment check box is unchecked. You type in the rollback segment that will be used.

Physical Attributes tab

The physical attributes tab contains dropdowns and value boxes that let you define physical options such as percent free, storage extents, and buffer pool.

Materialized View Subquery tab

This lets you enter the subquery that is to be used to generate the materialized view.

Partitions tab

In order for this tab to be enabled you must enter a valid subquery into the materialized view subquery tab. You select columns from the Available Columns list to determine which columns the partition will be based upon. Double-click the column name or click the column and click the single right arrow to move the selected columns into the Partitions Columns list.

Add a Partition

Once you select columns for the partitions to be based upon, you can then add a partition.

- **Range Partitions** For range partitions, you do this by clicking the Add button. The Add Partition dialog box appears, and you can provide a partition name. You must enter the upper range for each column within the partition, or select Maxvalue from the dropdown list on that dialog box.

Note: String value upper bounds must be enclosed in single quotes within the grid (for example, for a Last Name column with a datatype of varchar2, an upper bound could be 'Smith'). The single quotes must be entered into the grid.

- **Hash Partitions** To add a hash partition, select the **Hash Partitions** tab at the bottom of the dialog box, and then move the tablespaces to use for the hash partition into the partition area.
- **Subpartitions** You can also add a subpartition to either hash or list.

Related Topics

[Materialized Views](#)

[Alter Materialized View](#)

[Materialized Views/Materialized View Logs](#)

Alter Materialized View

You can alter Materialized Views that have been created.

To alter Materialized Views

- From the **Schema Browser|Materialized Views** page, select a **Materialized View** to alter. Click the **Alter Materialized View**  button on the toolbar. The Alter Materialized View window appears.

This window has three tabs: [Materialized View Info](#), [Physical Attributes](#), [Partitions](#) and [Subpartition Templates](#).

Materialized View Info

From this tab, you can alter the refresh mode information as described below.

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Refresh Options

- Fast - only updates data in the Materialized View log associated with master/detail table
- Complete - re-executes the Materialized View
- Force - If fast refresh is possible then it performs a fast refresh, otherwise it performs a complete refresh

Date

- Start - If checked, you can use the drop down box to pull up a calendar where you select a date for the first automatic refresh time.
- Next - If checked, you can enter a date to calculate intervals between auto refreshes.

With

- Primary Key - If selected, a primary key Materialized View will be created.
- Rowid - If selected, a rowid Materialized View will be created.

Physical Attributes

The physical attributes tab contains drop down lists and value boxes that let you modify physical options such as percent free, storage extents, and buffer pool.

Partitions

Once you select columns for the partitions to be based upon, you can then add a partition.

Range Partitions

For range partitions, you do this by clicking the Add button. The Add Partition dialog box appears, and you can provide a partition name. You must enter the upper range for each column within the partition, or select Maxvalue from the dropdown list on that dialog box.

Note: String value upper bounds must be enclosed in single quotes within the grid, for example for a Last Name column with a datatype of varchar2, an upper bound could be 'Smith'. The single quotes must be entered into the grid.

Hash Partitions

To add a **hash partition**, select the Hash Partitions tab at the bottom of the dialog box, and then move the tablespaces to use for the hash partition into the partition area.

Subpartitions

You can also add a subpartition to either hash or list.

Subpartition Templates

You can use subpartition templates to build subpartitions on any Oracle version that supports subpartitions. Oracle supports these during 9iR2, and if you are connected to a 9iR2 database, the subpartition template clause is also added to the create table statements.

Materialized View Query

This lets you view the subquery that is being used to generate the Materialized View. You cannot modify this screen.

Related Topics

[Materialized Views](#)

[Create Materialized View](#)

[Materialized Views/Materialized View Logs](#)

Schema Browser: Materialized View- Data Grids

Filter and Sort

On the **Materialized Views - Data** tab, you can filter and/or sort the columns in the data grid.

To filter data

- Click the **Filter Data**  button just above the grid. This opens the [Table Sort](#) dialog box, where you can select the columns to sort and/or filter.

If you want to clear all of the Table/View filters at once, click **Clear Filters**.

Note: Dates can only be entered in mm/dd/yy, mm/dd/yyyy, or the Windows Control Panel, Regional Settings, Date, Short Date Style format. For example, in French, date entry of dd/mm/yy or dd/mm/yyyy is acceptable. Dates entered in dd-mon-yy format will be rejected.

Navigate to the Referenced Table

From the Schema Browser page, you can easily navigate to the table referenced by the Materialized View.

To view the referenced table

- In the **Schema Browser|Materialized Views** tab, select the Materialized View you want to view.
- In the right hand side of the browser, above the tabs, click on the word **Table**.

The Schema Browser navigates to the Tables tab and displays the table for the selected Materialized View.

To view the referenced table

- In the **Schema Browser|Materialized Views** tab, select the Materialized View you want to view.
- In the right hand side of the browser, above the tabs, click on the word **Table**.

The Schema Browser navigates to the Tables tab and displays the table for the selected Materialized View.

To return to the materialized view

- In the right hand side of the browser, above the tabs, click on the words **Mat. View**.

The Schema Browser returns to the Materialized Views tab and the originally displayed Materialized View.

Insert Records

You can also insert records from the Schema Browser|Materialized Views|Data tab.

To insert a record

1. Click in the data grid and then click the "+" button. A new record is inserted above your cursor point.
2. Enter the data into the grid, pressing <tab> to move between fields.

Unless you have the Auto Commit option checked, data is not committed until you click the commit button.

Note: After an Insert, Toad does not know the rowid until the data has been committed and the dataset refreshed. (Dataset refresh options can be easily changed from the Schema Browser. See [Refresh Options](#) for details.)

Therefore, if you have **if you have Allow Multiselect** checked in the right-click menu, select only the new row, and then select **Create Insert Statement for Selected Rows**, insert statements will be created for ALL rows in the table. (If the new row is part of a group of rows selected, the selected rows will have insert statements, and the new row will be ignored).

Sending Data Query to Editor

If the table is editable, you can send the data tab query to the editor.

To send the query to the Editor

- Click on the desired **Materialized View** in the Object list and then press <CTRL><E>.

Materialized View (Snapshot) Logs

Schema Browser: Materialized View

Oracle changed the name of Snapshots to Materialized Views in 8i. Throughout Toad, we use the term "Materialized View" They are the same object and Toad windows can be used with earlier Oracle databases.

You can create and drop Materialized View logs. You can also view details and select multiple Materialized View logs.

Objects Panel

The Objects Panel displays a list of Materialized View logs that exist in the selected schema.

Different types and status of Materialized View logs are differentiated by different icons. See [Icon Legend](#) for more information.

Materialized View Logs Toolbar



Button	Command
	Create script - This creates a SQL script for the selected Materialized View log and copies it to the clipboard.





Create new Materialized View log - Displays the Materialized View Logs window where you can create a new Materialized View log. See [Create Materialized View](#) for more information.



Alter Materialized View log - Displays the Materialized Views window so that you can alter a previously created Materialized View. See [Alter Materialized View Logs](#).



Filter Materialized View log list - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red.



Drop Materialized View log - Drops the selected Materialized View log.

Details Panel

The Details Panel contains tabs for **Info** and **Script**.

Related Topics

[Materialized View Logs](#)

[Alter Materialized View Logs](#)

[Create Materialized View Log](#)

[Materialized Views](#)

Materialized View Logs

A Materialized View log is a table associated with the master table of a Materialized View. It contains information about changes made to the associated master table, which is used to refresh the Materialized View. Oracle requires a Materialized View log for every master table that supports a Materialized View with fast refreshes.

Access the Create Materialized View Logs dialog box from the **Database|Create|Materialized View Log**, or click the New Materialized View Log button on the Materialized View Logs toolbar of the Schema Browser. The remaining boxes are filled in to create the Materialized View log (described below).

While setting up your Materialized View log, you can view the SQL at any time by clicking **ShowSQL** at the bottom of the dialog box. From the Show SQL window you can move the SQL to the Editor, or copy it to the clipboard.

When you have selected all the appropriate options, you can run the generated SQL and create the log file immediately by clicking **OK** at the bottom of the dialog box.

Schema

Select the **schema** where you want the log created. This should be located in the same schema as the master table.

Materialized View Log tab

Table

Enter a table name for the log.

Toad 9.5

Tablespace

Select the Tablespace where you want the log stored.

Logging and Cache check boxes

These options are only available on Oracle versions 8 and above.

New Values

Choose to include or exclude new values.

With

Check items to include in the WITH clause. You can include Rowid, Primary Key, Object ID, and Sequence; you can also specify columns.

Physical Attributes

Percent Free entry box

This is the percentage of space in the data block that is reserved for updates.

Percent Used entry box

This is the minimum percentage of used space that Oracle maintains for each data block of the table.

Initial Trans entry box

This specifies the initial number of transaction entries allocated within each data block that is allocated to the table.

Max Trans entry box

This specifies the maximum number of concurrent transactions that can update a data block allocated to the table.

Storage options

If you need to change the storage options from the Oracle defaults, you can make changes here.

Partitions

To make columns into partition columns, select from the available columns, and then use the arrow buttons to move the selected columns to the Partition column pane.

Add, edit or delete any range or hash partitions on the sub-tabs at the bottom of the tab.

Subpartition Templates

You can use subpartition templates to build subpartitions on any Oracle version that supports subpartitions. Oracle supports these during 9iR2, and if you are connected to a 9iR2 database, the subpartition template clause is also added to the create table statements.

Related Topics

[Schema Browser: Materialized View Logs](#)

[Alter Materialized View Logs](#)

[Create Materialized View Log](#)

[Materialized Views](#)

Create Materialized View Log

A Materialized View Log is a table associated with the master table of a Materialized View. It contains information about changes made to the associated master table, which is used to refresh the Materialized View. Oracle requires a Materialized View Log for every master table that supports a Materialized View with fast refreshes.

To create a Materialized View/MView logs

1. From the **Database|Create** menu, select **Materialized View Log**.
 2. Fill out the boxes described below to create the Materialized View Log.
 3. **Schema** - Select the schema where you want the log created.
 4. **Tablename** - Enter a table name for the log
 5. **Tablespace** - Select the Tablespace where you want it stored from this dropdown.
 6. **Logging** and **Cache** check boxes - These options are only available on Oracle versions 8 and above.
 7. **Percent Free** entry box - This is the percentage of space in the data block that is reserved for updates.
 8. **Percent Used** entry box - This is the minimum percentage of used space that Oracle maintains for each data block of the table.
 9. **Initial Trans** entry box - This specifies the initial number of transaction entries allocated within each data block that is allocated to the table.
 10. **Max Trans** entry box - This specifies the maximum number of concurrent transactions that can update a data block allocated to the table.
 11. **Storage** - Dropdowns let you select the storage parameters of the new Materialized View Log.
 3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 4. Click the **Show SQL** button to display the SQL before running the command. From the dialog box that appears, you can **save** the SQL to clipboard, to a file, or you can simply close the window.
 5. Click **OK** to create the Materialized View Log.
-

Related Topics

[Materialized View Logs](#)

[Alter Materialized View Logs](#)

[Materialized Views](#)

Alter Materialized View Logs

From this dialog box, you can alter some of the definitions for previously created Materialized View logs.

To alter Materialized View logs

1. From the **Schema Browser**|**Materialized View Logs** page, select a log and click the **Alter Materialized View Log**  button on the toolbar.
2. After you have made changes, you can
3. Click **Show SQL** to copy the generated SQL to the Editor, or to the clipboard.
4. Click **OK** to run the code from the Alter dialog box.

Materialized View Log tab

From this tab, you can alter the following information:

- Tablespace - Change the tablespace where you want the log stored.
- Logging and Cache check boxes - These options are only available on Oracle versions 8 and above.
- New Values - Choose to include or exclude new values.
- With - You can add new items to the WITH clause. You cannot remove items from the WITH clause.

Physical Attributes

From this tab, you can change some of the physical attributes of the log file. For example, the percent free and percent used amounts.

Partitions

You can add, edit or split partitions for your log from this tab.

Related Topics

[Materialized View Logs](#)

[Create Materialized View Log](#)

[Materialized Views](#)

Oracle Scheduler

Schema Browser: Scheduler

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The Oracle Scheduler is included in Oracle 10g and above.

Caution: The Oracle Scheduler is new in Oracle 10g. If you are using a client version lower than 10g to connect to an Oracle 10g database, unexpected errors and failures may occur.

Toad makes use of this scheduler with several new pages in the Schema Browser. These include:

- [Jobs](#)
- [Job Classes](#)
- [Programs](#)
- [Schedules](#)

- [Windows](#)
- [Window Groups](#)

For more detailed information on the Oracle Scheduler, please see your Oracle documentation.

Jobs

Scheduler: Jobs

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

A job is the definition of when to a particular task will be performed. Jobs in the 10g scheduler reuse three basic job parts, which means that you don't have to recreate every similar task multiple times. For more information about Oracle Scheduler Jobs, please see your Oracle documentation.

Objects Panel

From the Sched.Jobs page in the Objects Panel of the Schema Browser you can create, alter, and drop jobs.

Sched:Jobs toolbar



On the toolbar in the Objects Panel are several options. You can select more than one job for some of these operations.

Button	Command
	Create script from job - This command creates a script from the selected job and copies it to the clipboard. An job must be selected to use this command. You can then paste the script into the Procedure Editor or Editor.
	Create new job - This displays the job definition window.
	Alter job - This displays a job definition window for the selected job. You must be connected as the Job Owner to perform this command.
	Filter jobs list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove job - This drops the selected job. You must be connected as the Job Owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list details about the selected job.

Related Topics

[Create Scheduler Job](#)

[Alter Scheduler Job](#)

Scheduler: Jobs

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Toad 9.5

A job is the definition of when to a particular task will be performed. Jobs in the 10g scheduler reuse three basic job parts, which means that you don't have to recreate every similar task multiple times. For more information about Oracle Scheduler Jobs, please see your Oracle documentation.

Objects Panel

From the Sched.Jobs page in the Objects Panel of the Schema Browser you can create, alter, and drop jobs.

Sched:Jobs toolbar



On the toolbar in the Objects Panel are several options. You can select more than one job for some of these operations.

Button	Command
	Create script from job - This command creates a script from the selected job and copies it to the clipboard. An job must be selected to use this command. You can then paste the script into the Procedure Editor or Editor.
	Create new job - This displays the job definition window.
	Alter job - This displays a job definition window for the selected job. You must be connected as the Job Owner to perform this command.
	Filter jobs list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove job - This drops the selected job. You must be connected as the Job Owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list details about the selected job.

Related Topics

[Create Scheduler Job](#)

[Alter Scheduler Job](#)

Create Scheduler Job

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Creating a scheduler job is just as easy as creating a job has been in the past, if not easier.

To create a scheduler job

1. From the **Schema Browser|Sched.Jobs page|Objects Panel**, click the **New Job** button.
2. Select the **Schema** where you want the job from the schema dropdown.
3. Enter a name for your job in the **Name** box.
4. Select parameters for your job from the three information tabs:
5. [Basic Info](#)
6. [Schedule Info](#)

7. [Program Info](#)
 5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 6. Click one of the following:
 7. **Show SQL** to view the code.
 8. **Schedule** to schedule it to run later.
 9. **OK** to create the job.
-

Related Topics

[Schema Browser: Scheduler](#)

[Scheduler: Jobs](#)

[Alter Scheduler Job](#)

[Jobs Basic Info](#)

[Jobs Schedule Info](#)

[Jobs Program Info](#)

Alter Scheduler Job

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can alter a previously created Oracle scheduler job.

To alter an Oracle scheduler job

1. From the **Schema Browser|Oracle Scheduler|Jobs** page, select the job you want to alter.
 2. Click the **Alter Job**  button.
 3. Make any changes to
 4. Basic Info
 5. Schedule Info
 6. Program Info
 4. Click one of the following:
 5. **Show SQL** to view the code.
 6. **Schedule** to schedule it to run later.
 7. **OK** to alter the job.
-

Related Topics

[Schema Browser: Scheduler](#)

[Scheduler: Jobs](#)

[Create Scheduler Job](#)

[Alter Scheduler Job](#)

[Jobs Basic Info](#)

[Jobs Schedule Info](#)

[Jobs Program Info](#)

Jobs Basic Info

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The Basic Info tab contains the general information that must be set for a scheduler job.

Job Class

Select the class where this job will belong. The default is DEFAULT_JOB_CLASS.

Schedule limit

The schedule limit lets you limit the wait time before the job is re-run.

Logging Level

Logging level specifies the job information to log.

Max Failures

This specifies the number of job failures allowed.

Max Runs

This specifies the number of job runs allowed.

Priority

Lets you select an execution priority within the Scheduler. You can choose a priority of 1 for highest to 5 for lowest. The default is 3.

Enabled

Check to enable the job, clear to disable it. The default is unchecked.

Auto Drop

Check this box to drop a job following the run. This is only available on non-repeating jobs. The default is unchecked.

Restartable

If this is checked, when a job fails, it will be restarted. If not checked, when a job fails Oracle does not try to run it again. The default is checked.

Stop on window

When checked, when a job is running within a window, and the window is dropped from the database, then the job will be stopped immediately. Not specifying this will allow the job to complete. The default is unchecked.

Comments

Add any comments you want to associate with this job.

Related Topics[Schema Browser: Scheduler](#)[Scheduler: Jobs](#)[Create Scheduler Job](#)[Alter Scheduler Job](#)[Jobs Schedule Info](#)[Jobs Program Info](#)**Jobs Schedule Info**

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The Schedule Info tab lets you specify information regarding the schedule on which to run this job. You can use a predefined schedule, or specify a schedule specifically for this job.

To enter a predefined schedule

- Either enter a Schedule Owner and Schedule name in the appropriate boxes

Or

Click the drill down  button to select a schedule.

To enter a schedule for this job

- Enter the start date, end date and repeat interval in the appropriate boxes. These should be in Oracle specific format.

Note: You can view the next several dates when the job will run by clicking the **Show Next 10**

Run Times  button beside the Repeat Interval box.

Related Topics[Schema Browser: Scheduler](#)[Scheduler: Jobs](#)[Create Scheduler Job](#)[Alter Scheduler Job](#)[Jobs Basic Info](#)[Jobs Program Info](#)**Jobs Program Info**

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The Program Info tab lets you specify information regarding the program for this job. You can use a predefined program, or specify a schedule specifically for this job.

Toad 9.5

To enter a predefined program

- Either enter a Program Owner and Program Name in the appropriate boxes
Or

Click the drill down  button to select a program.

To enter a program for this job

1. Select **Specify Program Info**.
 2. Enter or select the Program Type.
 3. Click the **Program Action**  drilldown and select the options you want from the What to Execute dialog.
 4. Click **OK**.
-

Related Topics

[Schema Browser: Scheduler](#)

[Scheduler: Jobs](#)

[Create Scheduler Job](#)

[Alter Scheduler Job](#)

[Jobs Basic Info](#)

[Jobs Schedule Info](#)

Job Arguments

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Enter any arguments required for the selected program.

When you have selected a program, required arguments will populate the grid, letting you easily enter the values for those arguments.

To enter an argument

- Click in the Value box of an argument and enter the value for that argument.
-

Related Topics

[Schema Browser: Scheduler](#)

[Scheduler: Jobs](#)

[Create Scheduler Job](#)

[Alter Scheduler Job](#)

[Jobs Basic Info](#)

[Jobs Schedule Info](#)

[Jobs Program Info](#)

Scheduler Chains

Scheduler: Chains

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The job chain can be used to string jobs together using dependency rules to achieve a business objective. Each step in a chain represents a task, and you can specify dependencies between tasks. Job chains were introduced in Oracle 10gr2.

Objects Panel

From the Sched.Chains page in the Objects Panel of the Schema Browser you can create, alter, and drop chains.

Sched:Chains toolbar



On the toolbar in the Objects Panel are several options. You can select more than one job for some of these operations.

Button	Command
	Create script from chain - This command creates a script from the selected job and copies it to the clipboard. An job must be selected to use this command. You can then paste the script into the Procedure Editor or Editor.
	Create new chain - This displays the chain definition window.
	Alter chain - This displays a chain definition window for the selected chain. You must be connected as the chain Owner to perform this command.
	Filter chains list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove chain - This drops the selected chain. You must be connected as the chain Owner to perform this command.

Details Panel

The Details Panel has **Info**, **Steps & Rules**, and **Scripts** tabs that list details about the selected chain.

Related Topics

[Scheduler: Chains](#)

[Alter Scheduler Chain](#)

[Create Scheduler Chain](#)

Create Scheduler Chain

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can create a job chain from the Schema Browser|Sched.Chains page with a few clicks of your mouse button.

To create a scheduler job chain

1. From the **Schema Browser** | **Sched.Chains page** | **Objects Panel**, click the **New Chain**  button.
2. Select a schema, and enter a name for your job in the **Chain Name** box.
3. Click the **Basic Info** tab and select the rule set owner, rule set name, and evaluation interval for the new chain.
4. Click the **Enabled** check box to clear it if you want the chain disabled when first created.
5. Click the **Comments** tab and enter any comments you want attached to the chain. by default this parameter remains NULL.
6. Click the **Steps** tab and enter the chain steps from the [Define Chain Step](#) dialog.
7. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
8. Click **OK**.

Note: You can also display the SQL (click **Show SQL**) to create the Job Class, or you can choose to Schedule this task for later (click **Schedule**).

Related Topics

[Scheduler: Chains](#)

[Alter Scheduler Chain](#)

Define Chain Step

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

[Use the define chain step dialog to create the various steps you want to include in your chain.](#)

[You can specify the step type, the timeout and various other parameters as follows:](#)

Note: [These parameters are defined in detail in your Oracle documentation.](#)

Basic Info tab

[Use the Basic Info tab to define the Step type and the timeout for the chain step you are defining.](#)

Step Type

[Select the step type from the drop down list in the step type box. You can choose from:](#)

- [Event Schedule](#)
- [Inline Event](#)
- [Program \(the default\)](#)
- [Subchain](#)

[Timeout](#)

[Enter the timeout in this box.](#)

[Skip, Pause, Restart on Recovery](#)

[Select the options you want to include.](#)

Info tab

[The info tab changes to reflect the step type you have selected on the Basic Info page.](#)

[Click on this tab to add the particular parameters for the step type you have chosen.](#)

Alter Scheduler Chain

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

[You can change a job chain from the Schema Browser|Sched.Chains page with a few clicks of your mouse button.](#)

[To alter a scheduler job chain](#)

1. [From the Schema Browser|Sched.Chains page|Objects Panel, click the Alter Chain button.](#) 
 2. [Make any changes to the parameters by clicking the various tabs.](#)
 3. [You can alter specific steps by clicking on the step in the grid and then clicking **Alter**. Delete them by clicking **Delete**.](#)
-

Related Topics

[Scheduler: Chains](#)

[Create Scheduler Chain](#)

Job Classes

Scheduler: Job Classes

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can use job classes to group jobs that are similar. For example, you can group jobs that should run at the same time, jobs that perform similar tasks (such as database management), and so on. This makes it easier to find the appropriate job when you need it.

Objects Panel

From the Sched.Jobs Classes page in the Objects Panel of the Schema Browser you can create, alter, and drop job classes.

[Sched.Jobs Classes toolbar](#)

On the toolbar in the Objects Panel are several options. You can select more than one job class for some of these operations.



Button	Command
	Create script from job class - This command creates a script from the selected job class and copies it to the clipboard. A job class must be selected to use this command. You can then paste the script into the Editor.
	Create new job class - This displays the job class definition window.
	Alter job class - This displays a job class definition window for the selected job class so you can alter it. You must be connected as the job class owner to perform this command.
	Filter job class list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove job class - This drops the selected job class. You must be connected as the job class owner to perform this command.

Details Panel

The Details Panel has tabs for viewing Info for selected job classes and the script related to them.

Related Topics

[Create Scheduler Job Class](#)

[Alter Scheduler Job Class](#)

Scheduler: Job Classes

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

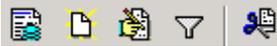
You can use job classes to group jobs that are similar. For example, you can group jobs that should run at the same time, jobs that perform similar tasks (such as database management), and so on. This makes it easier to find the appropriate job when you need it.

Objects Panel

From the Sched.Jobs Classes page in the Objects Panel of the Schema Browser you can create, alter, and drop job classes.

[Sched.Jobs Classes toolbar](#)

On the toolbar in the Objects Panel are several options. You can select more than one job class for some of these operations.



Button	Command
	Create script from job class - This command creates a script from the selected job class and copies it to the clipboard. A job class must be selected to use this command. You can then paste the script into the Editor.
	Create new job class - This displays the job class definition window.
	Alter job class - This displays a job class definition window for the selected job class so you can alter it. You must be connected as the job class owner to perform this command.
	Filter job class list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove job class - This drops the selected job class. You must be connected as the job class owner to perform this command.

Details Panel

The Details Panel has tabs for viewing Info for selected job classes and the script related to them.

Related Topics

[Create Scheduler Job Class](#)

[Alter Scheduler Job Class](#)

Create Scheduler Job Class

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Creating a scheduler job class is easy.

To create a scheduler job class

1. From the **Schema Browser | Sched.Job Class page | Objects Panel**, click the **New Job Class**  button.
2. Enter a name for your job in the **Job Class Name** box.
3. Choose the resource consumer group with which you want to associate the job class.
4. If desired, enter the Service the job class belongs to in the **Service** box.
5. Select the number of days you want to keep any logs in the **Log History** box. (The default is 30.)
6. Select the logging level from the **Logging Level** drop down. Select from:
 7. Runs - Logs detailed information for each run in this job class.
 8. Off - No logging
 9. Full - Logs each run and all operations performed on all jobs in the class. (Logs ever job created, enabled, disabled, altered, and so on.)
7. Enter any comments you want to associate with this job class. By default, this parameter remains NULL.
8. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.

9. Click **OK**.

Note: You can also display the SQL (click **Show SQL**) to create the Job Class, or you can choose to Schedule this task for later (click **Schedule**).

Related Topics

[Scheduler: Job Classes](#)

[Alter Scheduler Job Class](#)

Alter Scheduler Job Class

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Altering a scheduler job class is an easy procedure.

To alter a scheduler job class

1. From the **Schema Browser|Sched.Job Class page|Objects Panel**, select a job class from the Objects list and then click the **Alter Job Class**  button.
2. Make any changes to the parameters for the Job Class.
3. Click **OK**.

Note: You can also display the SQL (click **Show SQL**) to create the Job Class, or you can choose to Schedule this task for later (click **Schedule**).

Related Topics

[Scheduler: Job Classes](#)

[Create Scheduler Job Class](#)

Programs

Scheduler: Programs

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Within the Oracle Scheduler, a program defines what is executed. It contains information about the what the scheduler should run. This includes things such as the name of the program, the program action (for example, a procedure or executable name), program type (for example, PL/SQL stored procedures, anonymous blocks, or OS executable file) and the number of arguments required for to execute.

Programs are separate from jobs. Jobs can contain programs, and different jobs can use the same program. Given appropriate privileges, different users can use the same program without having to redefine it.

For more information about Oracle Scheduler Programs, please see your Oracle documentation.

Objects Panel

From the Sched.Programs page in the Objects Panel of the Schema Browser you can create, alter, and drop Programs.

Programs toolbar

On the toolbar in the Objects Panel are several options. You can select more than one program for some of these operations.



Button	Command
	Create script from program - This command creates a script from the selected program and copies it to the clipboard. A program must be selected to use this command. You can then paste the script into the Editor.
	Create new program - This displays the program definition window.
	Alter program - This displays a program definition window for the selected program so you can you can then alter it. You must be connected as the program owner to perform this command.
	Filter program list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove program - This drops the selected program. You must be connected as the program owner to perform this command.

Details Panel

The Details Panel has **Info** and **Script** tabs that information about the program and the script connected to the program.

Related Topics

[Create Scheduler Programs](#)

[Program Basic Info](#)

[Program Arguments](#)

[Program Comments](#)

Scheduler: Programs

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

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Programs are separate from jobs. Jobs can contain programs, and different jobs can use the same program. Given appropriate privileges, different users can use the same program without having to redefine it.

For more information about Oracle Scheduler Programs, please see your Oracle documentation.

Objects Panel

From the Sched.Programs page in the Objects Panel of the Schema Browser you can create, alter, and drop Programs.

Toad 9.5

Programs toolbar

On the toolbar in the Objects Panel are several options. You can select more than one program for some of these operations.



Button	Command
	Create script from program - This command creates a script from the selected program and copies it to the clipboard. A program must be selected to use this command. You can then paste the script into the Editor.
	Create new program - This displays the program definition window.
	Alter program - This displays a program definition window for the selected program so you can then alter it. You must be connected as the program owner to perform this command.
	Filter program list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove program - This drops the selected program. You must be connected as the program owner to perform this command.

Details Panel

The Details Panel has **Info** and **Script** tabs that information about the program and the script connected to the program.

Related Topics

[Create Scheduler Programs](#)

[Program Basic Info](#)

[Program Arguments](#)

[Program Comments](#)

Create Scheduler Program

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can easily create a program for the scheduler. These programs can then be maintained in program libraries and used by multiple users with the correct privileges.

To create a scheduler program

1. From the **Schema Browser|Sched. Programs** page, click the **New Program** button.
2. Select the schema that will own the new program from the dropdown **Schema** box.
3. Enter a name for the program in the **Name** box.
4. Select appropriate **Basic Info**.
5. Select appropriate **Arguments**.
6. Add **Comments** if necessary.
7. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.

8. Click one of the following:
 9. **Show SQL** to view the code.
 10. **Schedule** to schedule it to run later.
 11. **OK** to create the schedule.
-

Related Topics

[Scheduler: Programs](#)

[Program Basic Info](#)

[Program Arguments](#)

[Program Comments](#)

Alter Scheduler Program

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can alter a previously created Oracle scheduler job.

To alter an Oracle scheduler program

1. From the **Schema Browser|Oracle Scheduler|Programs** page, select the program you want to alter.
 2. Click the **Alter Program**  button.
 3. Make any changes to
 4. [Basic Info](#)
 5. [Arguments](#)
 6. [Comment](#)
 4. Click one of the following:
 5. **Show SQL** to view the code.
 6. **Schedule** to schedule it to run later.
 7. **OK** to alter the program.
-

Related Topics

[Scheduler: Programs](#)

[Create Scheduler Program](#)

[Program Basic Info](#)

[Program Arguments](#)

[Program Comments](#)

Program Basic Info

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

There are several very basic choices that go into specifying a program.

Program Type

Program type can be one of three types of code:

- PL/SQL Block
- Stored Procedure
- Executable

Program Action

If you have selected a Stored Procedure, you will need to select the object you want to execute. You can choose a Procedure or a Package.

To select the object to execute

1. From the **Create New Program** window, select **Stored Procedure** from the program type box.
2. Click the **Program Action**  button.
3. In the What to execute dialog box, select:
4. the **Object Type**
5. the **Schema** where it resides
6. the **Object Name**
7. and, if necessary, the **Sub Object**
4. Click **OK**.

Enabled check box

Select or clear this check box to enable or disable the program. As Oracle Scheduler programs are created disabled by default, this option lets you skip the enabling step after creation.

Related Topics

[Scheduler: Programs](#)

[Create Scheduler Programs](#)

[Program Arguments](#)

[Program Comments](#)

Program Arguments

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

After you have entered the basic info, if the program you have created requires arguments to run, they will be listed here.

These arguments are presented in grid format, as they would be in the Editor. (See [Debugger: Setting Parameters](#) for more information.)

To set an argument

1. From either the **Create Program** or **Alter Program** window, click the **Arguments** tab.

2. In the grid, enter the arguments required in the appropriate boxes.
 3. Click either one of the other tabs to enter more information.
- Or

Click **OK** to create the program.

Related Topics

[Setting Parameters](#)

[Scheduler: Programs](#)

[Create Scheduler Programs](#)

[Program Basic Info](#)

[Program Comments](#)

Program Comments

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can enter comments that will be saved with the program.

Oracle has a character limit of 240 for this field.

Related Topics

[Scheduler: Programs](#)

[Create Scheduler Programs](#)

[Program Basic Info](#)

[Program Arguments](#)

Schedules

Scheduler: Schedules

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The schedule defines when and how often a job will be performed. You can use the same schedule for several programs.

Objects Panel

From the Sched.Schedules page in the Objects Panel of the Schema Browser you can create, alter, and drop Schedules.

Schedules toolbar

On the toolbar in the Objects Panel are several options. You can select more than one Schedule for some of these operations.



Button	Command
	Create script from schedule - This command creates a script from the selected schedule and copies it to the clipboard. A schedule must be selected to use this command. You can then paste the script into the Editor.
	Create new schedule - This displays the schedule definition window.
	Alter schedule - This displays a schedule definition window for the selected schedule that you can alter. You must be connected as the schedule owner to perform this command.
	Filter schedule list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove schedule - This drops the selected schedule. You must be connected as the schedule owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list information about the schedule and the script that defines it.

Related Topics

[Create Scheduler Schedule](#)

[Alter Scheduler Schedule](#)

Scheduler: Schedules

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

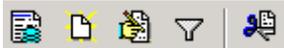
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Objects Panel

From the Sched.Schedules page in the Objects Panel of the Schema Browser you can create, alter, and drop Schedules.

Schedules toolbar

On the toolbar in the Objects Panel are several options. You can select more than one Schedule for some of these operations.



Button	Command
	Create script from schedule - This command creates a script from the selected schedule and copies it to the clipboard. A schedule must be selected to use this command. You can then paste the script into the Editor.
	Create new schedule - This displays the schedule definition window.
	Alter schedule - This displays a schedule definition window for the selected schedule that you can alter. You must be connected as the schedule owner to perform this command.



Filter schedule list - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red.



Remove schedule - This drops the selected schedule. You must be connected as the schedule owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list information about the schedule and the script that defines it.

Related Topics

[Create Scheduler Schedule](#)

[Alter Scheduler Schedule](#)

Create Scheduler Schedule

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can easily create a schedule.

To create a schedule

1. From the **Schema Browser|Sched.Schedule** page, in the **Objects Panel**, click the **Create New Schedule**  button.
 2. Select the **schema** where you want the schedule to reside.
 3. Enter a schedule name in the **name** box.
 4. Enter start date, end date, repeat interval, and event queue information in the appropriate boxes. See your Oracle documentation for proper formatting of these selections.
 5. Enter any comments in the **Comment** box. (Oracle has a limit of 240 characters on comments.)
 6. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 7. Click one of the following:
 8. **Show SQL** to view the code.
 9. **Schedule** to schedule it to run later.
 10. **OK** to create the schedule.
-

Related Topics

[Scheduler: Schedules](#)

[Create Scheduler Schedule](#)

[Alter Scheduler Schedule](#)

Alter Scheduler Schedule

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can easily alter a schedule.

To alter a schedule

1. From the **Schema Browser|Sched.Schedule** page, in the **Objects Panel**, click the **Alter New Schedule**  button.
 2. Make any needed changes to the schedule parameters.
 3. Click one of the following:
 4. **Show SQL** to view the code.
 5. **Schedule** to schedule it to run later.
 6. **OK** to alter the schedule.
-

Related Topics

[Scheduler: Schedules](#)

[Create Scheduler Schedule](#)

Windows

Scheduler: Windows

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The word windows in the scheduler refers to time rather than to a screen on the computer monitor. You can define your peak times and schedule jobs based on database activity at those times. For more information on Oracle Scheduler windows please see your Oracle documentation.

Objects Panel

From the Sched.Windows page in the Objects Panel of the Schema Browser you can create, alter, and drop windows.

Windows toolbar

On the toolbar in the Objects Panel are several options. You can select more than one window for some of these operations.



Button	Command
	Create script from window - This command creates a script from the selected window and copies it to the clipboard. A window must be selected to use this command. You can then paste the script into the Editor.
	Create new window - This displays the window definition screen.
	Alter window - This displays a window definition window for the selected window as described in Create Window, which you can then alter. You must be connected as the window owner to perform this command.
	Filter window list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove window - This drops the selected window. You must be connected as the window owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list information about the selected window and the script that defines it.

Related Topics

[Create Scheduler Window](#)

[Alter Scheduler Window](#)

[Window Basic Information](#)

[Window Schedule Information](#)

Scheduler: Windows

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The word windows in the scheduler refers to time rather than to a screen on the computer monitor. You can define your peak times and schedule jobs based on database activity at those times. For more information on Oracle Scheduler windows please see your Oracle documentation.

Objects Panel

From the Sched.Windows page in the Objects Panel of the Schema Browser you can create, alter, and drop windows.

Windows toolbar

On the toolbar in the Objects Panel are several options. You can select more than one window for some of these operations.



Button	Command
	Create script from window - This command creates a script from the selected window and copies it to the clipboard. A window must be selected to use this command. You can then paste the script into the Editor.
	Create new window - This displays the window definition screen.
	Alter window - This displays a window definition window for the selected window as described in Create Window, which you can then alter. You must be connected as the window owner to perform this command.
	Filter window list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove window - This drops the selected window. You must be connected as the window owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list information about the selected window and the script that defines it.

Related Topics

[Create Scheduler Window](#)

[Alter Scheduler Window](#)

[Window Basic Information](#)

[Window Schedule Information](#)

Create Scheduler Window

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

To create a scheduler window

1. From the **Schema Browser|Sched.Window** page, in the **Objects Panel**, click the **Create New Scheduler Window**  button.
 2. Enter a name for the window in the **Name** box.
 3. Select parameters for your job from the two information tabs:
 4. [Basic Info](#)
 5. [Schedule Info](#)
 4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 5. Click one of the following:
 6. **Show SQL** to view the code.
 7. **Schedule** to schedule it to run later.
 8. **OK** to create the schedule.
-

Related Topics

[Scheduler: Windows](#)

[Alter Scheduler Window](#)

[Window Basic Information](#)

[Window Schedule Information](#)

Alter Scheduler Window

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

To create a scheduler window

1. From the **Schema Browser|Sched.Window** page, in the **Objects Panel**, click the **Alter New Scheduler Window**  button.
2. Change parameters for your job from the two information tabs:
3. [Basic Info](#)
4. [Schedule Info](#)
4. Click one of the following:
5. **Show SQL** to view the code.
6. **Schedule** to schedule it to run later.

7. **OK** to create the schedule.

Related Topics

[Scheduler: Windows](#)

[Create Scheduler Window](#)

[Window Basic Information](#)

[Window Schedule Information](#)

Window Basic Information

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The Basic Information tab contains the general information that must be set for a scheduler window.

Resource Plan

Select a resource plan. A resource plan lets you specify how resources should be allocated among job classes during the created window.

Duration

Specify how long the window will be open. There is no default for this attribute. In order to avoid errors you must specify a duration.

Use the format

Interval 'n' type

For example: `interval '5' hour` specifies five hours, and `interval '6' minutes` specifies six minutes.

The duration interval ranges from 1 minute to 99 days.

Window Priority

This parameter only becomes relevant when two windows overlap. Only one window can be in effect at a time, and Oracle uses window priority to determine which window to use.

You may choose between high and low priority. The default is low.

Enabled

Choose to Enable or Disable the window.

Active

If this is checked, the window will become active immediately upon creation. The default is unchecked.

Comment

Enter any comments you want associated with the window.

Related Topics

[Scheduler: Windows](#)

[Create Scheduler Window](#)

[Alter Scheduler Window](#)

[Window Schedule Information](#)

Window Schedule Information

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The Schedule Info tab lets you specify information regarding the schedule on which to run this job. You can use a predefined schedule, or specify a schedule specifically for this job.

To enter a predefined schedule

- Either enter a Schedule Owner and Schedule name in the appropriate boxes
Or

Click the drill down  button to select a schedule.

To enter a schedule for this job

- Enter the start date, end date and repeat interval in the appropriate boxes. These should be in Oracle specific format.

Related Topics

[Scheduler: Windows](#)

[Create Scheduler Window](#)

[Alter Scheduler Window](#)

[Window Basic Information](#)

Window Groups

Scheduler: Window Groups

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can collect similar windows into window groups to more easily manage your jobs and schedules. For more information on Oracle Scheduler windows please see your Oracle documentation.

Objects Panel

From the Sched.Window Group page in the Objects Panel of the Schema Browser you can create, alter, and drop window groups.

Window Groups toolbar

On the toolbar in the Objects Panel are several options. You can select more than one window group for some of these operations.



Button	Command
	Create script from window group - This command creates a script from the selected window group and copies it to the clipboard. A window group must be selected to use this command. You can then paste the script into the Editor.
	Create new window group - This displays the window group definition screen.
	Alter window group - This displays a window group definition window for the selected window group as described in Create window group, which you can then alter. You must be connected as the window group owner to perform this command.
	Filter window group list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Remove window group - This drops the selected window group. You must be connected as the window group owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list information about the selected window group and the script that defines it.

Related Topics

[Create Scheduler Window Groups](#)

[Alter Scheduler Window Groups](#)

[Window Group Basic Info](#)

[Window Groups Member Windows](#)

Scheduler: Window Groups

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

You can collect similar windows into window groups to more easily manage your jobs and schedules. For more information on Oracle Scheduler windows please see your Oracle documentation.

Objects Panel

From the Sched.Window Group page in the Objects Panel of the Schema Browser you can create, alter, and drop window groups.

Window Groups toolbar

On the toolbar in the Objects Panel are several options. You can select more than one window group for some of these operations.



Button	Command
	Create script from window group - This command creates a script from the selected window group and copies it to the clipboard. A window group must be selected to use this command. You can then paste the script into the Editor.
	Create new window group - This displays the window group definition screen.



Alter window group - This displays a window group definition window for the selected window group as described in Create window group, which you can then alter. You must be connected as the window group owner to perform this command.



Filter window group list - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red.



Remove window group - This drops the selected window group. You must be connected as the window group owner to perform this command.

Details Panel

The Details Panel has **Info** and **Scripts** tabs that list information about the selected window group and the script that defines it.

Related Topics

[Create Scheduler Window Groups](#)

[Alter Scheduler Window Groups](#)

[Window Group Basic Info](#)

[Window Groups Member Windows](#)

Create Scheduler Window Groups

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

To create a scheduler window group

1. From the **Schema Browser|Sched.Window Group** page, in the **Objects Panel**, click the **Create New Scheduler Window Group**  button.
2. Enter a name for the window in the **Name** box.
3. Select parameters for your job from the two information tabs:
4. [Basic Info](#)
5. [Member Windows](#)
4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
5. Click one of the following:
6. **Show SQL** to view the code.
7. **Schedule** to schedule it to run later.
8. **OK** to create the window group.

Related Topics

[Scheduler: Window Groups](#)

[Alter Scheduler Window Groups](#)

[Window Group Basic Info](#)

[Window Groups Member Windows](#)

Alter Scheduler Window Groups

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

To create a scheduler window

1. From the **Schema Browser**|**Sched.Window** page, in the **Objects Panel**, click the **Alter New Scheduler Window**  button.
 2. Change parameters for your job from the two information tabs:
 3. [Basic Info](#)
 4. [Member Windows](#)
 4. Click one of the following:
 5. **Show SQL** to view the code.
 6. **Schedule** to schedule it to run later.
 7. **OK** to create the schedule.
-

Related Topics

[Scheduler: Window Groups](#)

[Create Scheduler Window Groups](#)

[Window Group Basic Info](#)

[Window Groups Member Windows](#)

Window Group Basic Info

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

The Basic Info page contains information about the window group you are creating.

Enabled

Select the **Enabled** check box if you want the window group enabled immediately after creation. If unchecked, it will be created as disabled. The default is unchecked.

of Windows

This displays the number of windows included in your window group. There will be no number listed until you have added windows in the [Member Window](#) page.

Comments

Enter any comments about the window group.

Related Topics

[Scheduler: Window Groups](#)

[Create Scheduler Window Groups](#)

[Alter Scheduler Window Groups](#)

Window Group Member Windows

Note: This Toad feature is only available in Toad with the optional Quest DBA Module.

Use this page to add and remove member windows from the windows group.

To add a member window

1. Click **Add Window**.
2. Select the windows you want to add in the Windows grid.
3. Click **OK**.

To remove windows from the window group

1. Select the windows you want to delete.
2. Click **Delete Selected Windows**.
3. Click **OK**.

Related Topics

[Scheduler: Window Groups](#)

[Create Scheduler Window Groups](#)

[Alter Scheduler Window Groups](#)

[Window Group Basic Info](#)

Packages

Schema Browser: Packages

Objects Panel

The Packages page Objects Panel lists PL/SQL packages. You can open them in the Editor, execute them, compile or save them to files.

Different types and status of packages are differentiated by different icons. See [Icon Legend](#) for more information.

Packages Toolbar



Button	Command
	Copy script to clipboard
	Create New Package
	Save to a SQL file - Click this option to save the selected procedure to a file (extensions for these files are configured from View Toad Options File-General). The Save as dialog box appears. You can name the file and save it.

	Filter Package list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Load in Editor - Loads the package into an editor window.
	Compile Packages - The Compile All button compiles all procedures, functions, packages, and triggers for the current schema. On databases prior to 8.1.7, it compiles only INVALID objects.
	<p>Compile All Invalid Objects - You can compile all invalid packages at once, without selecting any of them. Click Compile all Invalid Objects on the toolbar, and everything invalid in the objects list will be compiled, including items that have been hidden by the use of a filter.</p> <p>Note: Depending on the number of items in your list, this option can take quite some time.</p>
	<p>Compile Dependencies - You can compile the dependent procedures, packages, or functions from a selected procedure, package or function. Select a procedure, package or function, and then click the Compile Dependent Procedures icon on the toolbar. All procedures, packages, or functions dependent upon the selected procedure, package or function are recompiled. For more information about compiling dependent procedures, packages, or functions see Dependencies.</p>
	<p>Execute Package - To Execute a procedure, package or function from the Schema Browser, select the item and click Execute. If parameters are required, Toad will prompt you for them and then the procedure, package or function will execute.</p> <p>Note: In the Debugger this button is called Run, because in that case it calls the procedure, package or function, but also allows you to stop execution (by setting breakpoints).</p>
	<p>Add or change privileges - This displays the privileges window. The user list is multi-select by pressing the CTRL button and clicking on multiple user names.</p> <p>To add or revoke privileges, select the users you want to have the privileges, right-click and select the appropriate choice from the right-click menu: Grant, Grant - with Admin, or Revoke. Click Apply.</p> <p>You can revoke all privileges by clicking Revoke All.</p>
	<p>Make Synonym - Select a procedure, package or function and click this icon to create a Synonym for the selected item. This defaults to creating a public synonym.</p>
	<p>Drop package - Select a procedure, package or function and click Drop. Toad prompts you to confirm, and the selected procedure, package or function is dropped from the database.</p>

Details Panel

The Details Panel contains tabs that allow you to see information about the selected package. These tabs include: Source, Arguments, Deps (Uses), Deps (Used by), Errors, Grants, Synonyms, and Auditing.

When you select a package from the Objects Panel, the top of the Details panel displays the created date and last modified date for the object. The information for both the spec and the body are included.

Schema Browser: Policies

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Policies are available only if you are using Oracle 8i or above.

You can create, enable, disable, edit, and drop policies. You can also view policy details. Also see the [Create Policy Definition](#) topic.

Objects Panel

The Objects Panel lists policies for the selected schema. You can create, enable, disable, edit the predicate package source, and drop the policy.

Policy Toolbar



Button	Command
	Create New Policy - This displays the Policy Definition window, which has a box for the policy name. It also has dropdowns for the Schema, Table/View, Schema Containing Predicate Package, and Predicate Function.
	Enable Policy - This button is active if the selected policy is disabled. This enables the selected policy.
	Disable Policy - This button is active if the selected policy is enabled. This disables the selected policy. Disabled policies will have a red X preceding them in the object list.
	Refresh Policy
	Edit Policy Predicate Package Source - This lets you edit the selected policy's Predicate Package Source in the Editor.
	Filter Policies - This opens a Browser Filters window and lets you filter the Policies list. If a filter is in use, this icon turns red.
	Drop Policy - This drops the selected policy.

Details Panel

The Details Panel displays various parameters and values for the selected policy such as the Name, the Predicate Package, and the Predicate Function.

Related Topics

[Create Policy Definition](#)

[Policy Groups](#)

[Create Policy Group](#)

Create Policy Definition

Note: Since this is a new Toad feature (optional), it is only available in the commercial version of Toad with the optional Quest DBA Module.

Use this window to create a new policy through the DBMS_RLS package. If you do not have DBMS_RLS you cannot use this function in Toad. Refer to the Oracle documentation for more information.

To create a new policy definition

1. From the **Schema Browser|Policies** page click the **Create new policy** button
Or

From the **Create** menu, select **Policy**.
 2. Enter the **name** of the **new policy** in the name field.
 3. Select the **schema** where you want to locate the table or view.
 4. Select either the **Tables** or **Views** option and then select the **table** or **view** you want to include from the Table/View field.
 5. Select the **Schema containing the predicate package**, **Predicate Package**, and **Predicate Function**.
 6. Select the statement type: **Select**, **Insert**, **Update**, **Delete** (if connected to a 10g database, **Index** is also available).
 7. Another check box lets you **Enable the Policy at Creation**.
 8. If you are using Oracle 10g or above:
Click the **Security Relevant Columns** tab to select columns to include in the `sec_relevant_cols` clause, or to set the `sec_relevant_cols_opt` clause.
 9. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 10. Click **Execute** to create the policy group definition.
-

Related Topics

[Policies](#)

[Policy Groups](#)

[Create Policy Group](#)

Policy Groups

Schema Browser: Policy Groups

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Policy groups are a way of applying more than one security policy to a table. For more information see your Oracle documentation. Policy groups are available only if you are using Oracle 9i or above.

You can create and drop policy groups. You can also view policy details.

Objects Panel

The Objects Panel lists policy groups for the selected schema.

Policy Toolbar



Button	Command
--------	---------



Copy Script to Clipboard - This creates and copies the SQL script to the clipboard.



Create New Policy group - This displays the [Policy Group Definition](#) window, which lets you define a new policy group.



Filter Policy Groups - This opens a [Browser Filters](#) window and lets you filter the Policy Group list. If a filter is in use, this icon turns red.



Drop Policy Group - This drops the selected policy group.

Details Panel

The Details Panel displays various parameters and values for the selected policy group organized on three tabs: Info, Policies and Objects, and Script.

Related Topics

[Policies](#)

[Create Policy Definition](#)

[Create Policy Group](#)

Create Policy Group

Note: Since this is a new Toad feature (optional), it is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you create a new policy group through the DBMS_RLS package. If you do not have DBMS_RLS you cannot use this function in Toad. Refer to the Oracle documentation for more information.

To create a policy group

1. Access the policy group definition window in one of the following ways:
 2. From the **Database|Create** menu, select **Policy Group**.
 3. From the **Schema Browser|Policy Group** page, click the **New Policy Group**  button.
 2. Enter the name of the new policy group in the **name** box.
 3. Select the **schema** where you want to locate the table or view.
 4. Select either the **Tables** or **Views** option and then select the table or view you want to include from the Table/View box.
 5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 6. Click **Execute** to create the policy group definition.
-

Related Topics

[Policies](#)

[Create Policy Definition](#)

[Policy Groups](#)

Procedures

Schema Browser: Procedures

Objects Panel

The Procedures page Objects Panel lists PL/SQL procedures, packages, or functions. (Functions and packages have separate tabs.) You can open them in the Editor, execute them, compile or save them to files.

Different types and status of procedures, packages, or functions are differentiated by different icons. See [Icon Legend](#) for more information.

There are also detailed commands available from the [Procedures popup menu](#).

Procedures Toolbar



Button	Command
	Copy script to clipboard
	Save to a SQL file - Click this option to save the selected procedure to a file (extensions for these files are configured from View Toad Options File-General). The Save as dialog box appears. You can name the file and save it.
	Open in Procedure Editor - To use this command, you must first select a procedure, package or function. Then click the icon on the toolbar. The object you selected is copied into a new Editor window and you can debug or work with it there.
	Compile Selected Procedure - You can recompile a procedure, package or function from the Schema Browser. Select the object or objects you want to recompile, and click Compile Procedure on the toolbar. The object compiles. If it was invalid (marked with a red X) and compiles correctly, it will be remarked as valid and the X no longer appears beside the object name. In addition, the dropdown from this button lets you choose to compile the package spec, body, or both.
	Compile Procedures - The Compile All button compiles all procedures, functions, packages, and triggers for the current schema. On databases prior to 8.1.7, it compiles only INVALID objects. You can compile all invalid procedures, packages, or functions at once, without selecting any of them. Click Compile all on the toolbar, and everything invalid in the objects list will be compiled, including items that have been hidden by the use of a filter. Note: Depending on the number of items in your list, this option can take quite some time.
	Filter Procedure list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Compile Dependent Procedures - You can compile the dependent procedures, packages, or functions from a selected procedure, package or function. Select a procedure, package or function, and then click the Compile Dependent Procedures icon on the toolbar. All procedures, packages, or functions dependent upon the selected procedure, package or function are recompiled. For more information about compiling dependent procedures, packages, or functions see Dependencies .
	Execute Procedure - To Execute a procedure, package or function from the Schema Browser, select the item and click Execute. If parameters are required, Toad will prompt you for them and then the procedure, package or

function will execute.

Note: In the Debugger this button is called Run, because in that case it calls the procedure, package or function, but also allows you to stop execution (by setting breakpoints).



Add or change privileges - This displays the privileges window.

The user list is multi-select by pressing the CTRL button and clicking on multiple user names.

To add or revoke privileges, select the users you want to have the privileges, right-click and select the appropriate choice from the right-click menu: **Grant**, **Grant - with Admin**, or **Revoke**. Click **Apply**.

You can revoke all privileges by clicking **Revoke All**.



Make Synonym - Select a procedure, package or function and click this icon to create a Synonym for the selected item. This defaults to creating a public synonym.



Drop procedure - Select a procedure, package or function and click Drop.

Toad prompts you to confirm, and the selected procedure, package or function is dropped from the database.

Details Panel

The Details Panel contains tabs that allow you to see information about the selected procedure, package or function. These tabs include: Code, Arguments, Deps (Uses), Deps (Used by), Errors, and Grants.

When you select a procedure, package or function from the Objects Panel, the top of the Details panel displays the created date and last modified date for the object. If the object is a package, the information for both the spec and the body are included.

Related Topics

[Procs: Popup menu](#)

[Create new procedure](#)

[Calling stored procedures](#)

Procedures: popup menu

Right-Click Menu

Select an object from the Objects Panel and then right-click in either the Objects Panel or the Details Panel.

Save to file

Select **Save to file** to display the Save as dialog box. This saves your procedure, function or trigger to a file you specify.

Compile

Select **Compile** to compile a procedure, function or trigger. This is useful for compiling invalid procedures.

Compile Dependencies

You can compile the dependent procedures from a selected procedure, function or package. Select a procedure, and then click the Compile Dependent Procedures icon on the toolbar. All procedures dependent upon the selected procedure are recompiled. For more information about compiling dependent procedures see [Dependencies](#).

Load in Editor

Select this option to load the SQL for the selected procedure into the Editor.

Execute Procedure

Select this option to **execute** the procedure, function or trigger. This displays the parameters dialog box enter required parameters and click OK. The procedure executes. This does not activate any debugging options, but simply executes the entire procedure.

Privileges

Select this option to change privileges for the procedure, function or trigger.

This displays the privileges window.

- The user list is multi-select by pressing CTRL and clicking on multiple user names.
- To add or revoke privileges, select the users you want to have the privileges, right-click and select the appropriate choice from the right-click menu: **Grant**, **Grant - with Admin**, or **Revoke**. Click **Apply**.
- You can revoke all privileges by clicking **Revoke All**.

Copy Source to Clipboard

This allows you to copy the entire source SQL to the clipboard to paste in an editor, or another application.

Copy Selected Source to Clipboard

You can also copy only part of the source SQL to the clipboard.

To copy selected source

1. Select a **procedure**, **function** or **trigger**, and then click the **Code** tab on the **Details Panel**. The SQL is displayed for the selected item.
2. Select a portion of the code, right-click and select **Copy Selected Source to Clipboard**. The portion you have selected is copied to the clipboard.

Print Source

This sends the contents of the Code tab directly to your default printer.

Related Topics

[Schema Browser: Procs](#)

[Create new procedure](#)

[Calling stored procedures](#)

Create New PL/SQL Object

Use this dialog box to use a template for your new procedure, function, package, or trigger.

To create a new PL/SQL Object

1. From the Editor, click the Create New PL/SQL Object button in the toolbar.

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2. Select the type of object you want to create:
 - Function
 - Procedure
 - Package (spec)
 - Package Body
 - Type (spec)
 - Type Body
 - Trigger
2. Enter the name of your new object in the New Object Name box, or leave this blank for now and enter a name when you save the object.
3. The default templates are read from the Toad for Oracle\User Files folder. If you want to use a template you have created other than the default, choose it from the drop down menu. The following default templates are located in the Toad for Oracle\User Files folder:
 4. NEWPROC.SQL For creating a new Procedure
 5. NEWFUNC.SQL For creating a new Function
 6. NEWPackage.SQL For creating a new Package spec
 7. NEWPackageBody.SQL For creating a new Package body
 8. NEWType.SQL For creating a new Type spec
 9. NEWTypeBody.SQL For creating a new Type body
 10. NEWTrigger.SQL For creating a new Trigger spec

Note: In addition to the above templates, there are two others stored in the Toad/User Files folder and editable as described below. These are useable within a created package and include both Package Procedures and Package Functions. See [Using Templates within Packages](#) for more information.
4. You can edit these files in the Editor as desired, perhaps to adjust the comment prolog, standard error handling section, and so on. Use any text editor, or select the file from the Toad Options|Editor|[Proc Templates](#) topic and click **Edit**.
5. You can also delete, change, or add new files as desired. See Toad Options|Editor|[Proc Templates](#).
6. You can load these New Procedure templates from any network path.

Simply specify where the files are located when you add them to the list. To change the path, you will need to add the new path and delete the old entry.

Auto Replace Keywords

There are several keywords in the templates for which Toad will automatically substitute in values when you open the templates. In addition to these, you can also specify custom keywords from [Options: Editor - Proc Templates](#).

KEYWORD RESULT REPLACEMENT

%YourObjectName% Object Name
%SYSDATE% Workstation date, for example, mm/dd/yyyy
%DATETIME% Workstation date and time, for example, mm/dd/yyyy hh:mm:ss am
%DATE% Workstation date, for example, mm/dd/yyyy
%TIME% Workstation time, for example, hh:mm:ss am
%USERNAME% Username specified in Toad Options, Editor node

%TRIGGEROPTS% Trigger Options for triggers only, for example, Before insert on, for each row

Note:

- `"*YourObjectName*"` is also supported for backwards compatibility.
 - The keywords ARE NOT case sensitive.
 - The date and time formats come from the Windows Control Panel settings.
 - This feature is only in the Commercial version of Toad, not the freeware Toad.
-

Related Topics

[Schema Browser: Procs](#)

[Procs: Popup menu](#)

[Calling stored procedures](#)

[Using Templates within Packages](#)

[Options: Editor: Proc Templates](#)

Calling Stored Procedures

From Editor window

This is an example of a small anonymous block of PL/SQL that can be executed in an Editor window. A call to a stored procedure must be a full anonymous PL/SQL block (in other words, must have a BEGIN and END).

```
begin
CallMyProc();
end;
```

From Schema Browser

You can also call stored procedures in the Schema Browser window.

To call a stored procedure from the Schema Browser

1. Open the **Schema Browser**, and select **Procedures** from the Object Panel.
 2. Select a **PL/SQL procedure, function, or package**, and click **Execute**.
-

Related Topics

[Schema Browser: Procs](#)

[Procs: Popup menu](#)

[Create new procedure](#)

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Profiles

Schema Browser: Profiles

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can create, modify, and drop profiles. You can also view resource details.

Objects Panel

The Profiles Objects Panel provides a list of profiles for the selected schema. From the toolbar, you can create, modify, or drop a profile, or create a SQL script.

Profiles Toolbar



Button	Command
	Create Script - This creates and copies the SQL script to the clipboard.
	Filter Scripts - This opens a Browser Filters window and lets you filter the Profiles list. If a filter is in use, this icon turns red.
	Create New Profile - This displays the Create Profile window, which is discussed in the Create Profile topic.
	Create Like - This command opens a Create Profile window, but fills in the blanks in imitation of the selected profile. This lets you easily make similar profiles.
	Modify Profile - This displays the Modify Profile window for the selected profile, which has the same features as the Create Profile window.
	Drop Profile - This drops the selected profile.

Details Panel

The Details Panel has several tabs to display various details for selected profiles.

Resource tab

The resource tab describes the profile parameters and the values for each.

Password tab

In Oracle 8 and above, a password tab displays the password parameters for the selected profile.

Users tab

Displays the users for the selected profile, when each user was created, and what default tablespace is used for the user.

Related Topics

[Create profile](#)

Create Profile

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

A profile is a set of limits on database resources. If you then assign the profile to a user, that user cannot exceed those limits.

To create a profile

1. From the **Database|Create** menu, select **Profile**.

Or

- From the **Schema Browser|Profiles** page, click the **Create New Profile** button.
2. Select **Default** or **Unlimited** for parameter items from the Resource Parameters and **Password Parameters** tabs.
3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
4. Click **Show SQL** to see **SQL Strings**, **SQL Text**, **Clause Text** and **Values**.

Related Topics

[Profiles](#)

[Queue Tables](#)

Queue Tables

Advanced Queuing is supported only in Oracle 8, 8i and above. Toad hides the Queue Tables and Queues page in the Schema Browser if you are running an older version of Oracle.

Objects Panel

Click the tab titled Queue Tables on the **Objects Panel** of the Schema Browser. A list of Queue Tables in the selected schema appears.

Queue Tables toolbar



On the toolbar in the Objects Panel are several options.

Button	Command
	Copy Script to Clipboard - This creates and copies the SQL script to the clipboard.
	Create New Queue Table - This displays the Create Table window, with Queue Table pre-selected. For more information, see the topic Create Queue Table .
	Alter Queue Table - This displays an Alter Table window for the selected queue table. For more information, see the topic Alter Queue Table . Note: Alter Queue Table is not supported in Oracle 8.0.
	Filter Queue Tables - This opens a Browser Filters window and lets you filter the Queue Table list. If a filter is in use, this icon turns red.



Drop Queue Table - This drops the selected Queue Table. A confirmation window will ask you if you are sure you want to drop the selected table. Click **Yes** to drop the table.

Details Panel

The Details Panel provides information about the selected table.

General

The General tab displays information about the selected queue table. This information includes payload type, compatibility, and options.

Queues

The Queues tab on the details panel allows you to select a queue from the list and then use the toolbar to start and stop enqueues and dequeues of the various queues.

Note: The exception queue cannot be enqueued.

Scripts

The Scripts tab displays a complete set of scripts to recreate all the queues in the queue table.

Statistics

The Statistics tab displays the statistics for all the queues in the current queue table. These statistics include the number of messages in each queue that are in the states of waiting, ready, and expired. One grid row represents one queue.

Schedules

The Schedules tab displays the current schedules for propagating messages for all the queues in the current queue table.

Related Topics

[Create Queue Table](#)

[Alter Queue Table](#)

[Queues](#)

Create Queue Table

Advanced Queuing tables are a table type for use with Oracle's Advanced Queuing features. The Create Queue table command uses Oracle's DBMS_AQADM.CREATE_QUEUE_TABLE procedure. You can create a queue table in one of two ways.

To create a queue table

- From **Database|Create|Table**, select **Advanced Queuing** from the radio button selection of table types.

Or

From the **Schema Browser**|**Queue Tables** page|**Create New Table** button on the toolbar, which opens the Create table dialog box with the Advanced Queuing radio button pre-selected.

When you create a Queue table, four standard objects are created:

- A default exception queue associated with the table. This is called **aq\$_<queue_table_name>_e**.
- A read-only view, which is used by AQ applications for querying data. This is called **aq\$_<queue_table_name>**.
- An index, or an index organized table (in the case of multiple consumer queues) for the queue monitor operations, called **aq\$_<queue_table_name>_t**.
- An index or index organized table (in the case of multiple consumer queues for dequeue operations), called **aq\$_<queue_table_name>_i**.

If you have created an Oracle8i compatible queue table, the following three index organized tables are also created:

- A table to store information about the subscribers, called **aq\$_<queue_table_name>_s**.
- A table to store information about rules on subscriptions, called **aq\$_<queue_table_name>_r**.
- A table to store dequeue history data, called **aq\$_<queue_table_name>_h**.

Organization tab

Use this tab to organize and set the space requirements for the table.

Comments tab

Enter any comments to attach to the table here.

Queue tab

Use the Queue tab to actually set up an advanced queuing table. This dialog box allows you to easily enter the information required to set the Oracle parameters.

Payload type

Enter the type of payload this table will handle. This option maps to the DBMS_AQADM.CREATE_QUEUE_TABLE payload parameter.

Options

Allow subscribers maps to the DBMS_AQADM.CREATE_QUEUE_TABLE multiple_consumers parameter.

Allow message grouping maps to the DBMS_AQADM.CREATE_QUEUE_TABLE message_grouping parameter.

Compatibility

Select the compatibility you want for this table.

For example, if you are using Oracle 9i, and you want this table to be compatible with Oracle 8 Advanced Queuing, select 8.0.

Note: If you are using Oracle 8.0, Compatibility is not a parameter you can set. This box will be hidden.

Sort list

Sort keys for dequeue ordering, if any, must be defined when you create the table. You can specify the queues to be sorted in one of the four ways described in the table below. If you do not specify a sort, then all the queues in the queue table are sorted by the enqueue time, in ascending order.

Sort Key	Meaning
ENO_TIME	By time of enquiry
PRIORITY	By priority of queue
PRIORITY, ENO_TIME	By priority of queue and then by time of enquiry
ENO_TIME, PRIORITY	By time of enquiry and then by priority.

Note: Even if you have specified a default order a dequeuer can choose a message to dequeue that is not in this order. The msgid, correlation, and sequence_deviation take precedence over the default dequeuing order if they are specified.

Related Topics

[Queue Tables](#)

[Alter Queue Table](#)

[Queues](#)

Alter Queue Table

Advanced Queuing tables are a table type used specifically by Oracle's Advanced Queuing features. As such, how you alter them is limited.

The Alter Queue table command uses Oracle's DBMS_AQADM.ALTER_QUEUE_TABLE procedure. From this window you can:

- Change limited storage parameters from the Organization tab.
- Change your comments on the Comments tab.
- Change the compatibility parameter on the Queue tab.

To alter a queue table

- From the **Schema Browser|Queue Tables** page, click the **Alter Queue Table**  button on the toolbar.
-

Related Topics

[Queue Tables](#)

[Create Queue Table](#)

[Queues](#)

Queues

Schema Browser: Queues

Advanced Queuing is supported only in Oracle 8, 8i and above. Toad hides the Queue Tables and Queues page in the Schema Browser if you are running an older version of Oracle.

Objects Panel

Click the tab titled Queues in the **Objects Panel** of the Schema Browser. A list of Queues in the selected schema appears.

Queues toolbar



On the toolbar in the Objects Panel are several options.

Button	Command
	Copy Script to Clipboard - This creates and copies the SQL script used to recreate the queue to the clipboard.
	Create Queue - This lets you create a new queue. For more information see Create Queue .
	Alter Queue - This lets you alter an existing queue. For more information see Alter Queue .
	Filter Queue list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Start Enqueue - This enables enqueueing on the selected queue using the DBMS_AQADM.START_QUEUE functionality.
	Stop Enqueue - This stops enqueueing on selected queues using the DBMS_AQADM.STOP_QUEUE functionality.
	Start Dequeue - This enables dequeueing on the selected queue using the DBMS_AQADM.START_QUEUE functionality.
	Stop Dequeue - This stops dequeueing on selected queues using the DBMS_AQADM.STOP_QUEUE functionality.
	Drop Queue - This allows you to drop one or more selected queues.

Details Panel

The Details Panel has **Info** and **Stats** tabs that list parameters and their values.

Related Topics

[Create Queue](#)

[Alter Queue](#)

[Queue Tables](#)

Create Queue

The Create Queue window uses the DBMS_AQADM.CREATE_QUEUE procedure, with the exception of creating a Non-persistent queue as described below.

First, at the top of the window, select the schema from the dropdown, and name the queue.

General Tab

From the General tab you can set the basic parameters associated with this queue.

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[Queue table](#)

Select the queue table to associate with this queue.

[Comment](#)

If you want, enter a comment describing the queue.

[Queue Type](#)

- Normal - Creates a normal queue.
- Exception - Creates an exception queue. Exception queues do not let you set any information below the Queue Type group box.
- Non-persistent - Selecting non-persistent creates an in-memory queue using the CREATE_NP_QUEUE procedure.
- Allow subscribers check box - Check the Allow subscribers check box if you want to allow subscribers to your non-persistent queue. When you check this box, the Subscribers tab (see below) becomes visible.

[Retries](#)

Lets you set the number of retries and the delay between each retry.

[Enqueue](#)

You can enable or disable enqueueing for this queue.

[Dequeue](#)

You can enable or disable dequeueing for this queue.

[Message retention](#)

Select how long you want to retain messages after they have been dequeued.

Subscribers tab

The Subscribers tab is hidden unless you opt to create a non-persistent queue which allows subscribers.

From this tab you can add, edit and delete subscribers to the queue.

The Subscribers tab uses the Oracle DBMS_AQADM.ADD_SUBSCRIBER procedure.

Related Topics

[Queues](#)

[Alter Queue](#)

[Queue Tables](#)

Alter Queue

In a queue that is not an exception queue, you can alter most of the parameters, with the exception of the Queue type. Parameters are listed on the Alter Queue window in the same format as in the [Create Queue](#) window.

Exception queues will allow you to alter your comments, and nothing else.

Related Topics

[Queues](#)

[Create Queue](#)

[Queue Tables](#)

Recycle Bin

Schema Browser: Recycle Bin

In Oracle version 10g and above, a recycle bin is available to retrieve tables and associated objects (such as indexes, constraints, and triggers) you have dropped from the database. From the Schema Browser's Recycle Bin page you can access this bin and retrieve dropped tables if necessary.

Objects Panel

The Objects Panel lists the objects available in the recycle bin for the selected schema.

Refresh Group Toolbar



Button	Command
	Flashback the selected table. Note: If you selected Purge when you dropped the table, it will not be available for retrieval in the Recycle Bin.
	Purge the recycle bin.
	Filter refresh group list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.

Details Panel

The details panel includes information about the dropped objects.

Schema Browser: Recycle Bin

In Oracle version 10g and above, a recycle bin is available to retrieve tables and associated objects (such as indexes, constraints, and triggers) you have dropped from the database. From the Schema Browser's Recycle Bin page you can access this bin and retrieve dropped tables if necessary.

Objects Panel

The Objects Panel lists the objects available in the recycle bin for the selected schema.

Refresh Group Toolbar



Button	Command
	Flashback the selected table. <i>Note: If you selected Purge when you dropped the table, it will not be available for retrieval in the Recycle Bin.</i>
	Purge the recycle bin.
	Filter refresh group list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.

Details Panel

The details panel includes information about the dropped objects.

Flashback Table

You can easily retrieve a table from the recycle bin and place it back in your database.

To flashback table

1. From the **Schema Browser|Recycle Bin**, select the table you want to retrieve.
 2. Click the **Flashback Table**  button on the Objects Panel toolbar.
 3. Choose to either use the same name as the dropped table
Or
Choose to rename the table and enter a new name in the **Rename To** box.
 4. Click **OK** to replace the table.
-

Purging Objects from the Recycle Bin

You can easily delete (purge) objects from the recycle bin.

To purge the recycle bin

1. From the **Schema Browser|Recycle Bin|Objects Panel**, select the objects you want to purge.
2. Click the Purge Objects from the **Recycle Bin**  button on the toolbar.
3. Select from the following options:

4. Purge Selected Tables and Indexes (Triggers cannot be purged individually.)
 5. Purge everything from connected schema (SCHEMANAME)
 6. Purge Entire recycle bin - database wide
 7. Purge Everything in specified tablespace
 4. If you have chosen to purge everything in a selected tablespace:
 5. enter the **tablespace** to be purged
 6. if you want to limit the purge to one user within that tablespace, check the **Only specified user's objects** box and enter the username
 5. Click **OK**.
-

Refresh Groups

Schema Browser: Refresh Groups

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

From the Schema Browser, you can add materialized views to existing refresh groups, remove materialized views, refresh selected groups, and drop groups.

Objects Panel

The Objects Panel lists the refresh groups available in the selected schema.

Refresh Group Toolbar



Button	Command
	Create script for selected object and copy to clipboard.
	Create new refresh group.
	Alter existing refresh group.
	Add materialized view to refresh group.
	Remove materialized view from refresh group.
	Refresh the object list - This refreshes the list of refresh groups in the Object Panel
	Filter refresh group list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop refresh group - This drops the selected refresh group.

Details Panel

The Details Panel contains information about the selected refresh group.

Schema Browser: Refresh Groups

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From the Schema Browser, you can add materialized views to existing refresh groups, remove materialized views, refresh selected groups, and drop groups.

Objects Panel

The Objects Panel lists the refresh groups available in the selected schema.

Refresh Group Toolbar



Button	Command
	Create script for selected object and copy to clipboard.
	Create new refresh group.
	Alter existing refresh group.
	Add materialized view to refresh group.
	Remove materialized view from refresh group.
	Refresh the object list - This refreshes the list of refresh groups in the Object Panel
	Filter refresh group list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop refresh group - This drops the selected refresh group.

Details Panel

The Details Panel contains information about the selected refresh group.

Create Refresh Group

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily create a refresh group.

To create a refresh group

1. From the **Database|Create** menu, select **Refresh Group**

Or

From the **Schema Browser|Refresh Group** page click the **Create New**  button.

2. Name your group by entering a name in the **Refresh Group Name** box.

3. Click the **Properties** tab and select the [options](#) you want to use to create your refresh group.
 4. Click the **Objects** tab and then click **Add MV**.
 5. From the Add Materialized Views dialog box, you can:
 6. Filter the views list
 7. Select one or more materialized views to add
 8. Edit the add query (Click Edit Query)
 6. Click **OK** when you have made your selection of materialized views.
 7. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 8. Click **View SQL** to see the query that will create the Refresh Group
- Or

Click **OK** to create the Refresh Group.

Alter Refresh Group

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily alter an existing refresh group.

To alter a refresh group

1. From the **Schema Browser|Refresh Group** page select a refresh group and click the **Alter**  button.
2. Using the same methods described in the [Create Refresh Group](#) topic, you can alter everything in the refresh group but the name.

Note: If you have selected **Implicit destroy** and you remove all of the materialized views from the group, the group will be removed as well.

Refresh Group Options

Properties Tab

Implicit Destroy

If checked, if you delete all of the mviews from the refresh group, Oracle will automatically delete the refresh group too.

Job

This is the identification number of the refresh group. It is created by Oracle.

Push Deferred RPC

This option is used for snapshots that can be updated only. Check this box to indicate that local updates will be pushed back to the master site.

When unchecked, local updates will not be visible during the refresh.

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Refresh After Errors

This option is used for snapshots that can be updated only. Check this box to indicate that refreshes should occur even if errors exist in the DEFERROR data dictionary view.

Job Broken

When checked, this option marks a job as broken so Oracle will not attempt to execute the job.

Rollback Segment

Enter the rollback segment you want to use for this refresh group. When Oracle refreshes the snapshots in a refresh group, the server can generate a significant amount of rollback data. Be sure to select a rollback segment large enough for the group's refreshes. If left blank, the default rollback segment is used.

Next Date

Enter the next date the refresh should occur.

Interval

Enter the interval you want to use between refreshes. For example, Every 7 days at midnight. You can click the drill down  button to select from a list of standard intervals.

Specify Parallelism

This option is applicable only if push_deferred_rpc is checked. This option determines the maximum degree of parallelism; default is 1.

Specify Purge Option

This option is applicable only if push_deferred_rpc is checked. This option determines the purge option. The default is 1. See your Oracle documentation for more information about these types of purges.

- 0 - do not purge
- 1 - lazy
- 2 - aggressive

Specify Heap Size

This option is used only if parallelism > 0. It sets the maximum number of transactions to be examined simultaneously for determining parallel scheduling. If unchecked and unspecified, Oracle will determine this value.

Objects in Group tab

Use the grid on this tab to add or remove mvviews to and from the Refresh Group.

Note: If this group is set to Implicit Destroy, then removing all mvviews from the group will also delete the group.

Resource Consumer Groups

Schema Browser: Resource Consumer Groups

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can create, alter, drop, and clear pending resource consumer groups. You can also view resource consumer group details.

Note: Resource consumer groups are only available Oracle 8i and above.

Objects Panel

The Objects Panel lists the resource consumer groups available in the selected schema.

Resource Consumer Group Toolbar



Button	Command
	Copy script to clipboard - This creates and copies the SQL script to the clipboard.
	Create resource consumer group- This opens the Create Resource Consumer Group window.
	Alter resource consumer group - This opens the Alter Resource Consumer Group window for the selected role.
	Filter resource consumer group list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Clear pending area - While resource consumer groups are being created, they reside in a "pending" area. If errors occur during the process of creating/altering/dropping a resource consumer group, objects may remain in the pending area. Toad's GUI will usually clear the pending area when errors occur, but this will clear the pending area manually if necessary.
	Drop resource consumer group - This drops the selected resource consumer group.

Details Panel

The Details Panel contains tabs to display details for resource plans.

These details include:

- Information
- Grantees
- Plans
- Script

Related Topics

[Create Resource Consumer Group](#)

[Alter Resource Consumer Group](#)

Create Resource Consumer Group

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily create a resource consumer group.

To create a resource consumer group

1. From the **Database|Create** menu, select **Resource Consumer Group**

Or

From the **Schema Browser|Resource Consumer Group** page click the **Create New**  button.

2. Name your Group by entering a name in the Resource Group Name box.
 3. Oracle only allows for the ROUND-ROBIN CPU method at this time. Enter any comments you want to include in the Comments box.
 4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 5. Click either
 6. **Show SQL** to display the SQL before running it.
 7. **OK** to create the resource consumer group.
-

Related Topics

[Resource Consumer Groups](#)

[Alter Resource Consumer Group](#)

Alter Resource Consumer Groups

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily alter a resource consumer group.

To alter a resource consumer group

1. From the **Schema Browser|Resource Consumer Group** page click the **Alter**  button.
 2. You cannot change the name of a Resource Group. Oracle only allows for the ROUND-ROBIN CPU method at this time.
 3. Enter or change any comments you want to include in the Comments box.
 4. Click either
 5. **Show SQL** to display the SQL before running it.
 6. **OK** to alter the resource consumer group.
-

Related Topics

[Resource Consumer Groups](#)

[Create Resource Consumer Group](#)

Resource Plans

Schema Browser: Resource Plans

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can create, alter, drop, schedule and clear pending resource plans. You can also view resource plan details.

Objects Panel

The Objects Panel lists the resource plans available in the selected schema.

Different types and status of resource plans are differentiated by different icons. See [Icon Legend](#) for more information.

Research Plan Toolbar



Button	Command
	Copy script to clipboard - This creates and copies the SQL script to the clipboard.
	Create resource plan- This opens the Create Resource Plan window.
	Alter resource plan- This opens the Alter Resource Plan window for the selected role.
	Filter resource plan list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Activate resource plan - Click this button to put the resource plan into effect. This is also available from the right-click menu. Note: Only one plan can be active at a time. Activating a new plan will deactivate the first plan.
	Deactivate resource plan - Click this to deactivate a resource plan. This is also available from the right-click menu.
	Schedule resource plan - Click this to alter the daily resource plan schedule . This command is also available from the DBA menu. Note: You must be logged in as SYS to alter this schedule.
	Clear pending area - While resource plans are being created, they reside in a "pending" area. If errors occur during the process of creating/altering/dropping a resource plan, objects may remain in the pending area. Toad's GUI will usually clear the pending area when errors occur, but clicking this will clear the pending area manually if necessary.
	Drop resource plan- This drops the selected resource plan.

Details Panel

The Details Panel contains tabs to display details for resource plans.

These details include:

- General information
- Levels
- Parallelism

- SQL Script that governs the resource plan
-

Related Topics

[Create Resource Plan](#)

[Alter Resource Plan](#)

[Schedule Resource Plans](#)

Create Resource Plan

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily create a resource plan.

To create a resource plan

1. From the **Database|Create** menu, select **Resource Plan**.

Or

2. From the **Schema Browser|Resource Plan** page click the **Create New**  button.
 3. Name your new Resource Plan.
 4. Create new plan directives by dragging available resource consumer groups and subplans from the **Available Groups and Subplans** area to the **Resource Plan Directives** area.
 5. Enter any comments for the entire resource plan in the comments panel. This is a large text box. Click in it and start typing.
 6. Click the **Levels** tab. Set CPU percentages by clicking in the appropriate cell and adjusting the percentage using the keyboard or mouse.
 7. Click the **Parallelism** tab. Click in the **Maximum Degree of Parallelism** column to change the setting for the selected group. The default is **unlimited**.
 8. Click the **Directive Comments** tab and enter comments for any plan directives.
 9. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
-

Related Topics

[Resource Plans](#)

[Alter Resource Plan](#)

[Schedule Resource Plans](#)

Alter Resource Plan

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you easily alter an existing resource plan.

To alter a resource plan

1. From the **Schema Browser|Resource Plan** page click the **Alter**  button. You can then make changes as follows:

2. Change or create new plan directives by dragging available resource consumer groups and subplans from the **Available Groups and Subplans** area to the **Resource Plan Directives** area.
 3. Enter any comments for the entire Resource Plan in the comments panel. This is a large text box. Click in it and start typing.
 4. Click the **Levels** tab. Set CPU percentages by clicking in the appropriate cell and adjusting the percentage using the keyboard or mouse.
 5. Click the **Parallelism** tab. Click in the **Maximum Degree of Parallelism** column to change the setting for the selected group. The default is unlimited.
 6. Click the **Directive Comments** tab and enter comments for any plan directives.
 2. Click **OK** to alter the resource plan.
-

Related Topics

[Resource Plans](#)

[Create Resource Plan](#)

[Schedule Resource Plans](#)

Schedule Resource Plans

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To schedule resource plans, the schema that you log in with must be connected as **SYSDBA**.

Note: This scheduler creates jobs that are viewable in the Schema Browser under the [Jobs](#) tab. Modifying these jobs is not advisable and may cause the scheduler to perform incorrectly.

To schedule resource plans

1. From the **Schema Browser | Resource Plans** page, click the **Schedule Resource Plan**  button.
 2. From the Daily Resource Plan Schedule that appears, you can:
 3. Add new plans by clicking the **Add Plan**  button.
 4. Remove plans by clicking the **Remove Plan**  button.
 5. Enable plans by selecting the Enabled check boxes in the grid, or by clicking **Enable All**.
 6. Disable plans by deselecting the Enabled check boxes, or by clicking **Disable All**.
 7. Display the SQL that will make the change by clicking **Show SQL**. From this dialog box you can save the SQL to a file to be run later.
 3. Click **OK** to run the SQL, or click **Cancel** to close the window without making changes.
-

Related Topics

[Resource Plans](#)

[Create Resource Plan](#)

[Alter Resource Plan](#)

Schema Browser: Roles

You can view roles and privileges details. If you have the Quest DBA Module, you can also [create](#), alter and drop roles.

Objects Panel

The Objects Panel lists the roles available in the selected schema.

Roles Toolbar



Button	Command
	Copy script to clipboard - This creates and copies the SQL script to the clipboard.
	Create role - This opens the Create Role window, which is discussed in the Create Role topic.
	Alter role - This opens the Alter Role window for the selected role.
	Filter resource plan list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Drop role - This drops the selected role.

Details Panel

The Details Panel contains tabs to display details for Roles. These tabs include: Info, Role Grants, System Privileges, Object Grants, and Resource Groups.

Note:

- Object Privileges tabs do not include SYS and SYSTEM objects.
- Configure grantees is available only with the Quest DBA module.

Related Topics

[Create Role](#)

[Alter Roles](#)

Create Role

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

To access the create role window

- From the **Database|Create** menu, select **Role**

Or

From the **Schema Browser|Roles** page, click the **Create new Role** button.

This window lets you create a role and assign it privileges and grants. To do this, there are four tabs: [Role Info](#), [Roles](#), [System Privileges](#), and [Grants](#). When you click **OK**, information on all of the tabs is collated and included in the role you are creating.

- When you have selected all the privileges and entered all info for the new role, click **Show SQL** to display the code that will create the role. From the SQL Statement dialog box, you can save the SQL to the **Clipboard**, **Save to a File**, or **Close** the window.
- Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
- Click **OK** to create the new role.

Role Info tab

Use this tab to insert the basic information about the role you are creating. This must be provided before you click OK from any of the various tabs.

Name box

- Enter the **name** you want to give the Role.

Identification radio buttons

- Not Identified
- Use Database Authentication

Note: If you select this radio button then you need to type in the password in the password box.

- Use Operating System Authentication
- Use Enterprise Authentication

Roles tab

Use this tab to grant various roles to the user role you are creating.

You can select Grant and Administrative privileges to each role name individually for the new role by clicking in the appropriate check boxes, or you can use the buttons along the top to select them at once as follows:

Admin All

This automatically checks all of the administrative boxes for the listed roles.

Admin None

This clears all the administrative check boxes for the listed roles.

Grant All

This checks all of the grant boxes for the listed roles

Revoke All

This clears all the grant boxes for the listed roles.

System Privileges tab

Use this tab to select various system privileges for the new role in the same manner as the Roles tab above.

Grants tab

Use this tab to select various grants for the new role in the same manner as the Roles tab above.

Related Topics

[Schema Browser Roles](#)

[Alter Roles](#)

Alter Roles

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can Alter roles that you have created.

To alter a role

- From the **Schema Browser | Roles** page, select a role to alter and click the **Alter Role**  button on the toolbar. The Modify role window appears. Modify information on any of four tabs as described below.

Role Info

You can modify how the role name is identified. Select a new radio button.

- Not Identified
- Use Database Authentication
 - Note:** If you select this radio button then you need to type in the password in the password box.
- Use Operating System Authentication
- Use Enterprise Authentication

Roles

Use this tab to grant or revoke various roles to the user role you are altering.

You can change Grant and Administrative privileges to each role name individually for the new role by clicking in the appropriate check boxes, or you can use the buttons along the top to select them at once as follows:

- Admin All - This automatically checks all of the administrative boxes for the listed roles.
- Admin None - This clears all the administrative check boxes for the listed roles.
- Grant All - This checks all of the grant boxes for the listed roles
- Revoke All - This clears all grant boxes for the listed roles.

System Privileges

Use this tab to change the various system privileges for the new role in the same manner as the Roles tab above.

Grants

Use this tab to change the various grants for the new role in the same manner as the Roles tab above.

Related Topics

[Roles](#)

[Create Role](#)

Rollback Segments

Schema Browser: Rollback Segments

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

Objects Panel

From the Rollback Segments page in the Objects Panel of the Schema Browser you can create, alter, and drop rollback segments. You can place rollback segments online or offline. You can also view details of the parameters of rollback segments. Also see the [Create Rollback Segment](#) topic.

Different types and status of rollback segments are identified by different icons. See [Icon Legend](#) for more information.

Rollback toolbar

On the toolbar in the Objects Panel are several options. You can select more than one rollback segment for some of these operations.



Button	Command
	Create new rollback segment - This displays the Rollback Segment window for you to create rollback segments.
	Alter rollback segment - This displays an Alter Rollback Segment window for the selected rollback segment.
	Shrink segment - This button lets you shrink the selected rollback segments.
	Place online - This button is enabled if the rollback segment is offline. Clicking this icon places the selected rollback segment online and makes it available for transactions. The Info tab for the segment (in the Details Panel) will list the status value as ONLINE.
	Place offline - This button is enabled if the rollback segment is online. Clicking this icon places the selected rollback segment offline and makes it unavailable for transactions. The Info tab for the segment (in the Details Panel) will list the status value as OFFLINE. Offline segments will have a red X icon displayed to the left of them in the segments list (on the left panel).
	Filter scripts - This opens a Browser Filters window and lets you filter the Profiles list. If a filter is in use, this icon turns red.



Drop rollback segment - This drops the selected Rollback Segment. A confirmation window will ask you if you are sure you want to drop the selected segment. Click **Yes** to drop the segment. If the Rollback Segment was online when you click Drop, it will automatically be taken offline first.

Details Panel

The Details Panel has **Info** and **Stats** tabs that list parameters and their values.

Related Topics

[Create Rollback Segment](#)

Create Rollback Segment

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This window lets you create a new rollback segment. A rollback segment is an object that Oracle uses to store data necessary to reverse (undo) changes made by non-completed transactions.

To create a rollback segment

1. Open the window from the **Database|Create|Rollback Segment** menu item
Or

From the **Schema Browser|Rollback Segments** page, click the **Create New Rollback Segment** button.

2. Enter the **Name** in the box and choose the **Tablespace** where you want the rollback segment created from the dropdown.
 3. Check the **Public** check box if you want the Rollback Segment to be public (available to any instance). The default is unchecked.
 4. Use the following dropdowns to select Extents and Size.
 5. **Initial Extent** specifies the size of the object's first extent.
 6. **Next Extent** specifies the size of the next extent allocated to the object.
 7. **Min Extents** specifies the total number of extents to allocate when the object is created.
 8. **Max Extents** specifies the maximum number of extents that can be allocated.
 9. **Optimal Size** specifies an optimal size for the rollback segment.
 5. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 6. Use the **Show SQL** button to display the create statement for the new rollback segment.
 7. Use the **Clipboard** button to copy the statement to the clipboard.
 8. Use the **Save to File** button to save the statement.
-

Related Topics

[Schema Browser: Rollback Segments](#)

Sequences

Schema Browser: Sequences

A sequence can either be ascending or descending. Oracle computes and caches the specified number of sequence values in memory before they are requested. This lets Toad and Oracle run faster.

Right-Click Menu

These options can be accessed from the right-click menu. You can right-click in either the Objects Panel or the Details Panel to find them.

Alter Sequence

This right-click option on the Schema Browser Sequences tab brings up the Alter Sequence dialog box. Changing these parameters and pressing Execute will cause Toad to issue an ALTER SEQUENCE command.

Recreate Sequence

This right-click option on the Schema Browser Sequences tab brings up the Alter Sequence window populated with the sequence's current parameters. You can alter these parameters and press Execute. Toad will issue a DROP SEQUENCE command and a CREATE SEQUENCE command instead of an ALTER SEQUENCE command.

Reset Next Value

This right-click option alters the sequence's max value and changes it to a cycling sequence, then resets the value of the sequence by incrementing the sequence until it wraps around to the minimum value. It then restores the sequence's max value and cycling/non cycling behavior. Only sequences with a positive Increment value are supported.

Objects Panel

The Objects Panel contains a list of Sequences in the selected schema. You can select any of these by clicking on the name of the sequence in the list. Details about that sequence display in the Details Panel (see below).

Sequences Toolbar



Button	Command
	Create script - This creates a SQL Script for the selected sequence and copies it to the clipboard for you to paste into another window or application. Another dialog box will ask you whether or not you want to include object grants in your script.
	Create new sequence - This displays the Create Sequence window, which includes a box for the name. You can leave the max value box blank if you do not want a max value. You can leave the Number to Cache blank for no cache. See also Create Sequence .
	Alter sequence - This command displays the Alter sequence dialog box where you can make changes to your sequence.
	Add or edit privileges - This displays the Privileges window.
	Add Public Synonym - This adds a public synonym for the selected sequence.



Filter the Table List - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red.



Drop sequence - This drops the selected sequence from the list.

Details Panel

The **Info** tab in the Details Panel shows the selected sequence's Max Value, its Increment, the number to Cache, and its Next or Last Cached Value.

The **Grants** tab in the Details Panel lets you view grants.

Related Topics

[Create Sequence](#)

[Alter Sequence](#)

[Export Sequence](#)

Create Sequence

Sequences are counters that Oracle maintains to generate unique integers. They can be used to automatically generate primary key values. Because they are independent of tables, the same sequence can be used to generate values for one or multiple tables and for multiple users.

Oracle syntax for this command is complicated, but Toad can generate a Create sequence command at the click of a button.

To create a new sequence

1. From the **Database|Create** menu, select **Sequence**.

Or

From the **Schema Browser|Sequences** page, click the **Create New Sequence** button.

2. Enter the sequence information.
 3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 4. Click the **Execute** button to create the Sequence.
-

Related Topics

[Sequences](#)

[Alter Sequence](#)

[Export Sequence](#)

Alter Sequence

Use this dialog box to either modify or recreate a sequence. To access this dialog box:

From the **Schema Browser**, select the sequences dropdown item or tab.

To alter a sequence

1. Select a **sequence** in the **Objects Panel**.
 2. Click **Modify** or **Recreate** on the Details Panel.
 - Modify adjusts an existing sequence.
 - Recreate drops the sequence, creates it again, and reissues the grants.

Note: Alter Sequence is also available from the **Objects Panel** toolbar, or the right-click menu.
 3. Select the desired **Start With**, **Max Value**, **Increment By**, **Cycle**, and **Number to Cache** options and then click **Execute**.
-

Related Topics

[Sequences](#)

[Create Sequence](#)

[Export Sequence](#)

Synonyms

Schema Browser: Synonyms

Objects Panel

The Objects Panel contains a list of available synonyms and a toolbar of commands to work with these objects.

Different types and status of synonyms are differentiated by different icons. See [Icon Legend](#) for more information.

Synonyms Toolbar



Button	Command
	Create script - This creates and copies a Create Public Synonym script for the selected synonym.
	Create new synonym - This opens the Create Synonym window.
	Filter synonyms list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Save list to file for syntax highlighting - This saves the list of synonyms to the syntax-highlighting file. Before saving, a confirmation dialog box appears. See Syntax Highlighting for more information about this list.
	Drop Synonym - This drops the selected synonym.

Details Panel

The Details Panel has tabs for Columns, Source, Data, Grants, Deps (Uses), and Deps (Used by).

Schema Browser: System Privileges

Objects Panel

The Objects Panel contains a list of available system privileges and a toolbar of commands to work with these objects.

Sys Privs Toolbar



Button	Command
	Create script - This creates and copies a Create System Privileges script for the selected privilege.
	Configure grantees - This opens the Grants window for the select privilege. From this window, you can grant or revoke the privilege to/from a selected user by checking or unchecking the appropriate box. In addition, you can do the same to a selected role or roles.
	Filter system privileges - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.

Details Panel

Note: Configure grantees is available only with the Quest DBA module.

The Details Panel has tabs that will list grantees and display the script for the selected system privilege.

Configure Grantees

From the System Privileges window you can grant or revoke selected privileges to/from a selected user. In addition, you can do the same to a selected role or roles.

To grant or revoke a privilege

1. From the **System Privileges** page of the [Schema Browser](#), select a privilege.
 2. Click the **Configure Grantees**  button.
 3. Check or clear the appropriate boxes to grant or revoke privileges to users or roles.
-

Tables

Schema Browser: Tables

Objects Panel

The Objects Panel lists the tables in the current schema, as well as a toolbar of commands.

List of Tables

Different types and status of tables are differentiated by different icons preceding the table name. See [Icon Legend](#) for more information.

Sometimes a table may be of more than one type, and only one of the multiple icons will display in the margin. In this case, the icon with the highest priority will be shown. For example, a partitioned snapshot table will show the snapshot icon.

For more about tables see the [Create Table](#) topic.

Note: Advanced Queuing tables are not listed on the Tables page of the Schema Browser. For information on Advanced Queuing tables, see [Queue Tables](#).

Tables Toolbar



Button	Command
	Create SQL script - This creates and copies a SQL script for the selected table. You can then paste it into the Editor or the Editor.
	Create table - Click Create Table to call the Create Table dialog box .
	Modify table - Select a table and then click this icon to display the Alter table dialog box for the selected table.
	Generate a file of INSERT statements for selected table - Select a table and click this icon to export data in the file to either the clipboard or a file. See Data Export for more information about how this feature works.
	Open table in ER diagram - Select a table and click this icon. Toad lets you specify the number of referential tables to open and then opens the table the ER Diagram .
	Add or edit privileges - This displays the Privileges window .
	Add constraint - Select a table and click Add constraint to display the Create Constraint dialog box. For detailed information, see the Create Constraint topic.
	Analyze table - Use this dialog box to analyze the selected table from the tables object list. This collects statistics so that COST based query optimization can be used. So, the optimizer can run better queries. You can estimate statistics (faster than compute), compute statistics, or delete current statistics.
	Add synonym - This adds a synonym to the selected table.
	Filter the table list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Rebuild table - Click Rebuild Table to display the Rebuild Table window. For more information, see the Rebuild Table topic. Note: You must own the schema you are browsing in order to rebuild a table from it.
	Compile dependencies - You can compile the dependent procedures from a selected procedure, function or package. Select a procedure, and then click the Compile Dependent Procedures icon on the toolbar. All procedures dependent upon the first are recompiled. For more information about compiling dependent procedures see Dependencies .
	Drop selected table - Drops the selected table.
	Remove all data from selected table - Select a table and click this icon to perform a truncate table .

Details Panel

From the Details Panel you can view and edit data for a selected table. In addition, you can see the status of indexes, constraints, triggers, grants, synonyms, partitions, referential tables, among other information.

Data tab toolbar



	Commit the grid edits to the database
	Filter the data grid, also sets sort criteria
	Advance to the first record
	Advance to the previous record
	Advance to the next record
	Advance to the last record
	Insert a record
	Delete a record
	Post grid edits
	Cancel grid edits
	Refresh the grid

Columns Tab Toolbar

Button	Command
	Add a column to the end of a table.



Drop a column from the table.

Clear all Filters

Related Topics

[Alter Table](#)

[Create Table Like](#)

[Create Table](#)

[Column Definition](#)

[Table Script Creation](#)

[Tables - Data Grids](#)

Creating Tables

Create Table

Note: Toad does not support the following functionality at this time: foreign key references, LOB storage, and Varrays.

This window lets you create a new Oracle table.

Tabs and options are slightly different depending on what kind of table you are creating.

- Standard tables, index-organized tables, and clustered tables - see [Standard Create Tables](#)
- Global Temporary tables - see [Global Temporary Tables](#)
- Advanced Queuing tables - see [Create Queue Tables](#)
- External tables - see [External Tables](#)

To create a table

1. From the **Database|Create** menu, select **Table**.

Or

From the **Schema Browser|Tables** page, click the **Create Table** button.

2. Enter a name for the table in the **Table Name** box.
3. Select a **table type** as described in [Table Types](#).

Note: The Schema box has a dropdown. Enter the name of the table in the Name box, and then choose a type of table by clicking on the name.

3. Define your table using the [tabs](#):
4. [Columns](#)
5. [Physical Attributes](#)
6. [Additional Attributes](#)
7. [Constraints](#)
8. [Partitions](#)
9. [Subpartition Template](#)

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10. [Comments](#)
 4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
 5. Click the **Execute** button to create the table.
-

Related Topics

[Schema Browser: Tables](#)

[Alter Table](#)

[Create Table Like](#)

[Create Queue Table](#)

[Column Definition](#)

[Table Script Creation](#)

[Tables - Data Grids](#)

Table Types

The Table Type contains radio buttons that, when selected, enable or disable the associated parameter options.

Standard Table

Select Standard Table if you want a normal relational table.

Global Temporary Table

Select this if you want a table whose data is only visible for the current session.

Index Organized Table

Select this if you want a table whose data rows are stored in the primary key index.

Clustered Table

Select this if you want a table that is part of a cluster.

Advanced Queuing

Select this if you want to create an advanced queuing table. For more information about Advanced Queuing tables, see [Create Queue Table](#).

External

External tables can only be created using Oracle 9i or higher. See [External Tables](#) for more information.

Related Topics

[Create Table](#)

Loading Columns from File

You can load columns for your table from a file instead of entering them manually.

To load columns from file

1. In the [Create Table](#) window, click the **Load Columns from File** button.
2. Select the type of file where your data resides:
 3. XLS file
 4. Delimited text file
 5. MS Access DB file
3. Enter the filename or click the drilldown  button and select the file.
4. If you are using an MS Access database as your source, choose the source table in the table box.
5. Click **OK** to import columns.

Note: Clicking **Clear all Columns** will clear all columns that have been entered into the table.

Related Topics

[Create Table](#)

Editing BLOB/CLOB/NCLOB Parameters

You can edit the parameters for your BLOBs, CLOBs, and NCLOBs.

To edit parameters

1. From the **Create/Edit table** window, right-click on the column you want to edit.

Note: This column must be of type BLOB, CLOB, or NCLOB.
2. Select **Lob Parameters**.
3. Adjust parameters as desired. (See Parameters, below)
4. Click **OK**.
5. Create the table by clicking **OK** in the **Create** or **Edit Table** window.

Parameters

You can set many different parameters from this window. For detailed information on the parameters you can set, please see your Oracle documentation. Parameters available are listed below.

Physical Attributes tab

- Percent Free
- Percent Used
- Initial Trans
- Max Trans

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- Tablespace
- Storage Clause
- Initial Extent
- Next Extent
- Min Extents
- Max Extents
- Pct Increase
- Free Lists
- Buffer Pool
- Free Groups

Additional Attributes tab

- Index Name
 - In Row
 - Cache
 - Cache Reads
 - Logging
 - Retention
 - Pct Version
 - Chunk
 - Free pools
 - Secure File (11g)
 - De-Duplicate
 - File System-Like Logging
 - Compression
 - None
 - Medium
 - High
 - Encryption Algorithm
-

Create Like

From the **Schema Browser**|**Tables** page, you can create a table based on another table.

To create a table based on another table

1. In the **Schema Browser**, select the **Tables** page. Select the table you want to use as the template for a new table.

2. Right-click the **table** you have selected and choose **Create Like** from the menu. The Table dialog box appears with the Name box selected and the information filled in from the template table.
 3. Enter the **name** you want to use for the new table.
 4. You can now make changes to the table from any of the tabs, just as you would if you were using the [Create Table](#) dialog box.
 5. Click **Show SQL** to show the SQL that will be used to create the table.
 6. Click **OK** to create the table.
-

Related Topics

[Schema Browser: Tables](#)

[Alter Table](#)

[Create Table](#)

[Column Definition](#)

[Table Script Creation](#)

[Tables - Data Grids](#)

Model Table Dialog

The model table dialog box lets you choose the level of referential tables you want to load when creating your SQL Model.

To enter a number of referential tables

1. From the **Schema Browser**, select the **Tables** page.
 2. Select a **table** and click the **Open in Query Builder**  button, or **right-click** and select **Open in Query Builder** from the menu.
 3. Enter the number of **referential tables**, and click **Close**. The dialog box closes, and the Query Builder opens with the selected table and references open.
-

Create Global Temporary Tables

The Create Table window for Global Temporary tables is divided into three tabs: [Columns](#), [Organization](#), and [Comments](#).

The Show SQL button displays a SQL Statement window that contains the associated SQL statement.

Columns Tab

Object Table

Check this if the table will be an object table.

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Grid

- **State** - The first column is the state column. This displays the state of the table column by using bitmaps: + (plus) for an add column, - (minus) for a drop column, triangle for a changed column, cobweb for a set unused column.
- **Name** - This displays the name of the table column. For new tables this is where you type in the name of your table.
- **Data Type** - This is the data type for the table column. The data type dropdown lists the native Oracle data types first, followed by the ANSI data types, and then (if using Oracle 8), the user-defined object types. A dashed line separates the different groups of data types. For new tables you would select a data type from the dropdown.
- **Size** - This displays the size of the data type when applicable. This is sometimes automatically generated based on the data type you select from the dropdown. If you want to change the size simply click in the box and either type a value or use the Up/Down arrows to scroll through the numbers.
- **Precision** - This displays the precision of the data type when applicable.
- **Scale** - This displays the scale of the data type when applicable.
- **Not null** - Click in the box to check/uncheck. If checked, the column cannot accept a null value.
- **Primary Key** - Click in the box to check/uncheck. If checked the column is a primary key.
- **Unique** - Click in the box to check/uncheck. If checked, a unique constraint exists for the column.
- **Ref** - Click in the box to check/uncheck. If checked, the data type is a ref object. This is for object data types only.
- **Default** - This is the default column value for new rows. Click in the box to enter a default column value.
- **Check Constraint** - This is the column constraint expression. Click in the box to enter a constraint expression.
- **Comment** - This is the column comment. Click in the box to enter a comment about the column.

Editing buttons

Add - This adds a new blank row into the columns grid.

Drop - This deletes the selected column. (In Alter function this marks a column for a drop.) This function is only enabled if you have Oracle 8.1.5 or later, because that is when this function was introduced.

Unused - This sets the selected column to unused. This is for the Alter function only and is disabled in the Create Table function. This function is only enabled if you have Oracle 8.1.5 or later, because that is when this function was introduced.

Hot Keys

Command	Function
<Ins>	Add
<Ctrl>	Drop
<Home>	Go to first column in grid
<End>	Go to last column in grid

<Ctrl><Home>	Go to first row in grid
<Ctrl><End>	Go to last row in grid

Organization Tab

The Organization tab contains parameter options that are enabled or disabled by the choice of table type in the main window.

- Cache - You can select or deselect cache functionality.
- Global Temporary Parameters - You can choose to have Toad do one of the following on a commit:
- Delete Rows
- Preserve Rows

Comments tab

You can type in a description for the table in the comments box.

External Tables

External tables are available only in Oracle 9i and above.

The Create Table window for External tables is divided into two tabs: [Columns](#) and [External Properties](#).

The Show SQL button displays a SQL Statement window that contains the associated SQL statement.

Columns Tab

Object Table

Check this if the table will be an object table.

Grid

- **State** - The first column is the state column. This displays the state of the table column by using bitmaps: + (plus) for an add column, - (minus) for a drop column, triangle for a changed column, cobweb for a set unused column.
- **Name** - This displays the name of the table column. For new tables this is where you type in the name of your table.
- **Data Type** - This is the data type for the table column. The data type dropdown lists the native Oracle data types first, followed by the ANSI data types, and then (if using Oracle 8), the user-defined object types. A dashed line separates the different groups of data types. For new tables you would select a data type from the dropdown.
- **Size** - This displays the size of the data type when applicable. This is sometimes automatically generated based on the data type you select from the dropdown. If you want to change the size simply click in the box and either type a value or use the Up/Down arrows to scroll through the numbers.
- **Precision** - This displays the precision of the data type when applicable.
- **Scale** - This displays the scale of the data type when applicable.

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- **Not null** - Click in the box to check/uncheck. If checked, the column cannot accept a null value.
- **Primary Key** - Click in the box to check/uncheck. If checked the column is a primary key.
- **Unique** - Click in the box to check/uncheck. If checked, a unique constraint exists for the column.
- **Ref** - Click in the box to check/uncheck. If checked, the data type is a ref object. This is for object data types only.
- **Default** - This is the default column value for new rows. Click in the box to enter a default column value.
- **Check Constraint** - This is the column constraint expression. Click in the box to enter a constraint expression.
- **Comment** - This is the column comment. Click in the box to enter a comment about the column.

Editing buttons

Add - This adds a new blank row into the columns grid.

Drop - This deletes the selected column. (In Alter function this marks a column for a drop.) This function is only enabled if you have Oracle 8.1.5 or later, because that is when this function was introduced.

Unused - This sets the selected column to unused. This is for the Alter function only and is disabled in the Create Table function. This function is only enabled if you have Oracle 8.1.5 or later, because that is when this function was introduced.

Hot Keys

Command	Function
<Ins>	Add
<Ctrl>	Drop
<Home>	Go to first column in grid
<End>	Go to last column in grid
<Ctrl><Home>	Go to first row in grid
<Ctrl><End>	Go to last row in grid

External Properties

Use this screen to set properties for your external table.

Access Driver

The default for the Access Driver is ORACLE_LOADER.

Access Type

The default for the Access Type is CLOB.

Default Directory

You can set your own default directory. Either choose from the dropdown list, or click the **Create New Directory**  button to create a new directory.

Locations

Oracle lets you set multiple locations for the files you use to create an external table. If your external table consists of multiple files on different directories in the server, use this area to designate where they are.

Reject Limit

The reject limit is the number of records that can be rejected before a SELECT on your external table fails. The default is Unlimited, but you can select **Specify** and enter the appropriate number in the associated box.

Parallel

You can choose to specify that your table will be parallel. If you check this box, you can either accept the default degree of parallelism or enter a new number in the **Degree** box.

Access Parameters

You can create access parameters in one of three ways:

- Create with a GUI by sampling data
 - Create manually with a GUI
 - Create manually by editing an existing SQL*Loader control file
-

Create Table tabs

Standard Create Table Tabs

The Create Table window for standard, index-organized, and clustered tables is divided into tabs. These include:

- [Columns](#)
- [Physical Attributes](#)
- [Additional Attributes](#)
- [Constraints](#)
- [Partitions](#)
- [Subpartition Template](#)
- [Comments](#)
- [Queue](#)

The Show SQL button displays a SQL Statement window that contains the associated SQL statement.

Create Table: Columns tab

Note: In addition, you can load columns from a file (See [Loading columns from file](#) for more information).

Object Table

Check this if the table will be an object table.

Grid

- State - The first column is the state column. This displays the state of the table column by using bitmaps: + (plus) for an add column, - (minus) for a drop column, triangle for a changed column, cobweb for a set unused column.
- Name - This displays the name of the table column. For new tables this is where you type in the name of your table.
- Data Type - This is the data type for the table column. The data type dropdown lists the native Oracle data types first, followed by the ANSI data types, and then (if using Oracle 8), the user-defined object types. A dashed line separates the different groups of data types. For new tables you would select a data type from the dropdown.

Note: If the data type is CLOB, BLOB, or NCLOB, you can edit parameters as described in [Editing BLOB/CLOB/NCLOB Parameters](#).

- Size - This displays the size of the data type when applicable. This is sometimes automatically generated based on the data type you select from the dropdown. If you want to change the size simply click in the box and either type a value or use the Up/Down arrows to scroll through the numbers.
- Precision - This displays the precision of the data type when applicable.
- Scale - This displays the scale of the data type when applicable.
- Nullable - Click in the box to check/uncheck. If checked, the column can accept a null value.
- Primary Key - Click in the box to check/uncheck. If checked the column is a primary key.
- Unique - Click in the box to check/uncheck. If checked, a unique constraint exists for the column.
- Ref - Click in the box to check/uncheck. If checked, the data type is a ref object. This is for object data types only.
- Default - This is the default column value for new rows. Click in the box to enter a default column value.
- Constraint - This is the column constraint expression. Click in the box to enter a constraint expression.
- Comment - This is the column comment. Click in the box to enter a comment.

Editing buttons

Add button - This adds a new blank row into the columns grid.

Drop button - This deletes the selected column. (In Alter function this marks a column for a drop.) This function is only enabled if you have Oracle 8.1.5 or later, because that is when this function was introduced.

Unused button - This sets the selected column to unused. This is for the Alter function only and is disabled in the Create Table function. This function is only enabled if you have Oracle 8.1.5 or later, because that is when this function was introduced.

Hot Keys

Command	Function
<Ins>	Add
<Ctrl>	Drop
<Home>	Go to first column in grid
<End>	Go to last column in grid
<Ctrl><Home>	Go to first row in grid
<Ctrl><End>	Go to last row in grid

Create Table: Physical Attributes tab

These options are enabled when you select either the Standard Table radio button or the Index-Organized table radio button.

- Percent Free entry box - This is the percentage of space in the data block that is reserved for updates.
- Percent Used entry box - This is the minimum percentage of used space that Oracle maintains for each data block of the table.
- Initial Trans entry box - This specifies the initial number of transaction entries allocated within each data block that is allocated to the table.
- Max Trans entry box - This specifies the maximum number of concurrent transactions that can update a data block allocated to the table.
- Tablespace box/drilldown - This specifies the tablespace in which Oracle will create the table.

Storage

Enter any storage requirements in the boxes. You can enter a new value in the box or select from an existing value by using the dropdown list for each option. Options include:

- Initial Extent
- Next Extent
- Pct Increase
- Free Lists
- Free Groups
- Min Extents
- Max Extents
- Buffer Pool

Create Table: Additional Attributes tab

Click on this tab to set additional attributes for your new table. These include:

- Parallel
- Degree
- Instances
- Logging - If checked, the creation of the table will be recorded in the redo logs.
- Cache
- Monitoring
- Row Dependencies
- Enable Row Movement

Index Organized Parameters

These options are enabled if you select the Index-Organized Table radio button.

- Mapping table - check this box to create a mapping table.
- Threshold Pct box - This is the percentage of space reserved in the index for the data row.
- Key Compression check box - If checked, this enables key compression, which eliminates repeated occurrences of primary key column values. This function is only enabled if you have Oracle 8 or later.
- Columns box - This is the number of prefix primary key columns to compress.
- Overflow check box - If checked, data rows that exceed the threshold pct will be placed in an overflow data segment.
- Overflow Column dropdown - This lets you specify a column at which to divide a table into index and overflow portions. You can select a column from the dropdown list.

Cluster Parameters

These options are enabled if you select the Clustered Table radio button.

- Cluster box/dropdown - Enter or select the name of the cluster to which the table will belong.
 - Columns check boxes list - Check the columns that will correspond to the cluster columns.
-

Create Table: Constraints tab

Click on this tab to add constraints to your table and view the constraints that have been added.

Adding constraints

You can easily add constraints.

To add a constraint

1. On the Create Table dialog box, click the **Constraint** tab.
2. Click **Add Constraint**.
3. Enter your constraint parameters in the boxes provided.

Rearranging constraints

You can rearrange constraints on the screen so that you can see the one you want to edit. This cycles through created constraints, bringing each constraint to the top in turn.

To rearrange constraints on the screen

1. On the Create Table dialog box, click the **Constraint** tab.
 2. Click **Rearrange**.
-

Create Table: Partitions tab

You select columns from the Available Columns list to determine which columns the partition will be based upon. Double-click the column name (or Click the column and Click the single right arrow) to move the selected columns into the Partitions Columns list.

Add a Partition

Once you select columns for the partitions to be based upon, you can then add a partition.

- Range Partitions

For range partitions, you do this by clicking the Add button. The Add Partition dialog box appears, and you can provide a partition name. You must enter the upper range for each column within the partition, or select Maxvalue from the dropdown list on that dialog box.

Note: String value upper bounds must be enclosed in single quotes within the grid. For example, for a Last Name column with a datatype of varchar2, an upper bound could be 'Smith'. The single quotes must be entered into the grid.

- Hash Partitions

To add a hash partition, select the Hash Partitions tab at the bottom of the dialog box, and then move the tablespaces to use for the hash partition into the partition area.

- Subpartitions

You can also add a subpartition to either hash or list partitions.

Create Table: Subpartition Template

Select the type of subpartition, and then use the Editing buttons to create the subpartitions.

Editing Buttons

- Auto Add - Click Auto Add to create subpartition names automatically. You can choose the base name and select tablespace naming as well.
- Add 1 - Click Add 1 to add a hash subpartition.

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- Delete - Click delete and choose to delete only one row (must be selected) from the subpartition grid, or to delete all rows.
 - Tablespaces -
 - Clear tablespace names - this will clear all tablespace names from the grid.
 - Fill blank tablespaces with selected - select a tablespace name in the grid and select this option to fill all blank tablespaces with this information.
 - Assign a tablespace to selected subpartitions
-

Create Table: Queue tab

These options are enabled when you select an Advanced Queuing table type. For detailed explanations of these parameters, please see your Oracle documentation.

Payload type

Select either **RAW** or **Object**. If you select Object, you will need to specify the Schema and Type of payload.

Compatibility

Select the appropriate Oracle database.

- 8.0
- 8i
- 10g

Sort List

Select from the following options:

- ENQ_TIME
- PRIORITY
- PRIORITY, ENQ_TIME
- ENQ_TIME, PRIORITY

Options

[Allow subscribers](#)

The default is clear.

[Allow message grouping](#)

The default is clear.

[Secure](#)

The default is clear

Primary Instance

The default is 0.

Secondary Instance

The default is 0.

Create Table: Comments tab

Click the Comments tab to access space to type a description for the table.

Table Details

Column Definition

From the **Schema Browser** | **Tables** page | **Columns** tab, if you want to add a column to the selected table, click the **Add Column**  button. This brings up the **Column Definition** window.

To define a column

1. Enter the **column name**, **data type**, and other appropriate information.
2. Click **Execute** to add the column.

Character Default Values have to be wrapped within single quotes, in order to make a valid "ALTER TABLE..." statement.

Additional columns are always appended to the end of the table definition. You cannot insert columns.

If you want to rename columns, rearrange them, or drop them, see the [Rebuild Table](#) dialog box.

Related Topics

[Schema Browser: Tables](#)

[Alter Table](#)

[Create Table Like](#)

[Create Table](#)

[Table Script Creation](#)

[Tables - Data Grids](#)

Table Referential

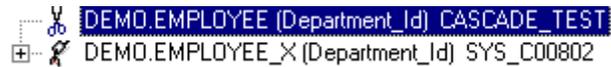
On the **Schema Browser**, **Tables** tab, **Referential** tab, is a hierarchy of tables and how the selected table

- is referenced by other tables
- references other tables.

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Note: This window will populate more quickly if you have access to: sys.con\$, sys.cdef, sys.user\$, sys.obj\$, and dba_cons_columns.

On each node of the hierarchy, there is a bitmap of a "chain" for standard referential, and a bitmap of a pair of scissors if the reference is "**Cascade on Delete**".



Circular references, such as EMPLOYEE.MANAGER_ID referencing EMPLOYEE.EMPLOYEE_ID are captured, so you cannot drill down in the hierarchy endlessly: for example, emp_id is referenced by manager_id, which references emp_id, and so on.

Details of objects

- Select an item in the list, press <F4>, and get a popup window describing the object in detail.

Expand the hierarchy

- Select a branch item and press the plus key (+) on the keypad of your keyboard to expand that item.
- Click the **plus** beside a branch item to expand that item.
- **CTRL-SPACE** to expand the whole tree.
- Press the **asterisk key** on the keypad, (*), to fully expand the selected node.

Build a SQL statement

You can build a SQL statement with a join between the two tables. This statement can then be sent to either the clipboard or the Editor.

To build a SQL statement

1. From the **Schema Browser|Tables|Referential** tab, select one of the tables in either pane.
 2. Right-click and select "**Send Join SQL Statement to Editor**" (or **Clipboard**) .
-

Actions on Tables

Alter Table

This window lets you drop, modify, and add columns, change storage parameters, change data type, add not null constraints, and set unused columns. It is the same window as the [Create Table](#) window, only you are using it to make modifications to an existing table.

Note: Toad does not support the following functionality at this time:

- Foreign key references
- LOB storage
- Varrays

To alter a table

- Select a table from the objects list in the **Schema Browser|Tables** page and then click the **Alter Table**  button.

The Table window will automatically display the **Schema** and the **Name** for the table you selected. You cannot modify the Schema or the Name of the Table.

Related Topics

[Schema Browser: Tables](#)

[Create Table Like](#)

[Create Table](#)

[Column Definition](#)

[Table Script Creation](#)

[Tables - Data Grids](#)

Create Insert Statements

Within the Schema Browser|Tables|Data Grid, you can create an INSERT statement that encompasses all rows in the data grid, or just selected rows.

To create INSERT statements for selected rows

1. Right-click over the data grid and make sure that **Allow Multi-select** is checked.
2. In the data grid, select the rows for which you want insert statements.
3. Right-click and select **Create INSERT for selected rows**. The [Data Export window](#) appears. Make any changes to the settings and click **OK**.

By default, insert statements are copied to the clipboard and you then can paste them within the Editor for editing or running. However, click the options tab and you can specify a destination.

To create INSERT statements for all rows

1. Right-click over the data grid and make sure that **Allow Multi-select** is unchecked.
2. Right-click over the data grid and select **Create INSERT for all rows**. The [Data Export window](#) appears. Make any changes to the settings and click **OK**.

By default, insert statements are copied to the clipboard and you then can paste them within the Editor for editing or running. However, click the options tab and you can specify a destination.

Related Topics

[Data Export Window](#)

[Export to Flat File](#)

Dropping Tables Incrementally

Sometimes you will need to drop an extremely large table from your database. If you do this all at once, it can tie up server resources for long stretches of time. Toad allows you to sidestep this result by dropping tables incrementally.

To do this, Toad first truncates your table and then deletes it in parts, spreading the procedure over a length of time you specify.

Note: You can only drop a table incrementally if it is greater than 200 Mg and has more than 1000 extents.

To drop a table incrementally

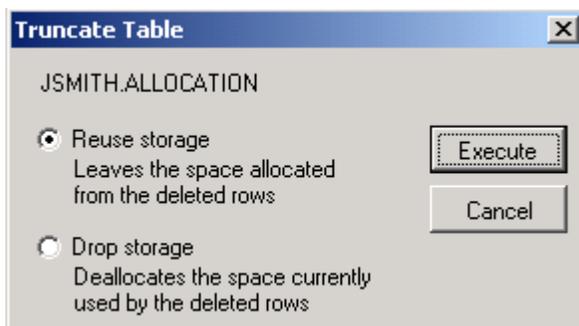
1. From the **Schema Browser**, select the **Tables** tab.
2. Right-click the **table** you want to drop and then select **Incrementally Drop Table** from the menu. A confirmation dialog box appears.
3. Click **Yes**. If the table is not large enough, a warning dialog box appears. You will need to cancel the operation. If the table can be dropped incrementally, the **Deallocate Table Extents** dialog box appears.
4. Select the **day to begin the deallocation/drop process**. Click the **dropdown menu** and select the **appropriate day** from the calendar.
5. Use the spinner to set the **time** you want to start the deallocation process.
6. Set the **number of days** to spend deallocating the table on the second spinner. You cannot take fewer than five days.
7. Click **Execute**. The procedure has been scheduled.
8. To **delete the procedure**, or to check that it has been scheduled, click the **Jobs** tab. The last several jobs on the jobs list will be deallocating and dropping the table you have chosen. You can delete the incremental drop by deleting all related jobs in the list.

Truncate Table

This window lets you truncate a table and either reuse the storage or drop it.

To truncate a table

1. From the **Schema Browser**, select the **Tables** tab. Select a **table** and then click the **Truncate Table** toolbar button. The truncate table dialog box appears.



2. Select the **allocation option** you want to use and click **Execute**. The table is truncated, and storage is either freed or dropped.

Analyze Tables

Use this dialog box to analyze the selected table from the tables object list. This collects statistics so that COST based query optimization can be used. So, the optimizer can run better queries.

You can estimate statistics (faster than compute), compute statistics, or delete current statistics.

To analyze tables

- From the **Schema Browser|Tables** page click the **Analyze Tables**  button on the toolbar.

Working with Data

Schema Browser: Tables - Data Grids

Filter and Sort

On the **Tables - Data** tab, you can filter and/or sort the columns in the data grid.

To filter data

- Click the **Filter Data**  button just above the grid. This opens the [Table Sort](#) dialog box, where you can select the columns to sort and/or filter.

If you want to clear all of the Table/View filters at once, click **Clear Filters**.

Note: Dates can only be entered in mm/dd/yy, mm/dd/yyyy, or the Windows Control Panel, Regional Settings, Date, Short Date Style format. For example, in French, date entry of dd/mm/yy or dd/mm/yyyy is acceptable. Dates entered in dd-mon-yy format will be rejected.

Insert Records

You can also insert records from the Schema Browser|Tables|Data tab.

To insert a record

- Click in the data grid and then click the "+" button. A new record is inserted above your cursor point.
- Enter the data into the grid, pressing <tab> to move between fields.

Unless you have the Auto Commit option checked, data is not committed until you click the commit button.

Note: After an Insert, Toad does not know the rowid until the data has been committed and the dataset refreshed. (Dataset refresh options can be easily changed from the Schema Browser. See [Refresh Options](#) for details.)

Therefore, if you have **if you have Allow Multiselect** checked in the right-click menu, select only the new row, and then select **Create Insert Statement for Selected Rows**, insert statements will be created for ALL rows in the table. (If the new row is part of a group of rows selected, the selected rows will have insert statements, and the new row will be ignored).

Sending Data Query to Editor

If the table is editable, you can send the data tab query to the editor.

To send the query to the Editor

- Click on the desired **Table** in the Object list and then press <CTRL><E>.
-

Related Topics

[Schema Browser: Tables](#)

[Refresh Options](#)

[Alter Table](#)

[Create Table Like](#)

[Create Table](#)

[Column Definition](#)

[Table Script Creation](#)

Table Sort

Accessing the Table Sort dialog box

You can sort and filter the data in a table from the Schema Browser, in the Tables tab.

- From the **Schema Browser**, in the **Objects Panel**, click the **Tables** tab.
- In the Details Panel, click the **Data** tab.
- Click the **Filter/Sort** button just above the grid.

You can also sort and filter from the Views tab.

- From the **Schema Browser**, in the Objects Panel, click the **Tables** tab.
- In the Details Panel, click the **Data** tab.
- Click the **Filter/Sort** button just above the grid.

To set sort criteria

1. From the Table Sort dialog box, select the **column** you want to sort from the column list on the left side of the Table Sort dialog box. Click either the ascending or descending icon.



Columns are sorted in the order they are listed in the right panel. You can move the columns around in the sort window by selecting the column in the right panel and using the following buttons:

Button	Command
	Move column out of sort and back to column list.



Move column up in column list.

Move column down in column list.

2. If you want to filter the grid as well, click the **Filter tab**. Select the **Column**, **Operator**, and **Value** to use as filters.

Click **Add to filter** to add your choices to the filter, **AND into filter** to add additional options using the ADD command, or **OR into filter** to add additional options using the OR command. The SQL for the filter appears in the memo editor at the bottom of the dialog box. You can further edit this SQL.

3. When finished, click **OK** and the data in the grid will be sorted and/or filtered as specified.

This sort and filter criteria are saved in files `schema.tbl`, `schema.tni`, and `\TEMPS\SCHEMA\TABLE.CNI`.

Clearing Criteria

To clear sort

- Click **Clear Sort** to clear all sort criteria in the Table Sort dialog box.

To clear Filter

- Click **Clear Filter** to clear all filter criteria in the Table Sort dialog box

To clear all Filters/Sorts

You can clear the filter/sort criteria for **all tables and views** at once.

- At the top of the Details Panel, click the gray **Clear Filters icon**. After a confirmation prompt, the all filters and sorts will be reset.

The **Clear Filter icon** now clears the filter criteria AND the sort criteria.

Copy data to another Schema

You can quickly copy data from one or multiple tables to the same table or tables in another schema or database. Toad builds insert statements that use array binding in the variables to copy the data. If you set the array size to 500, then 500 rows are inserted with a single insert statement. The array size is adjustable.

To access copy data

1. Select and right-click one or more tables in the Schema Browser.
2. Choose **Copy data to another schema** from the menu.

Source/Dest and Options

To select source destinations and options

1. Click the **Source/Dest and Options** tab to select destination connection, schema, and options.

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Note: Toad copies data from one schema to another between tables that have the same tablename. The tables must exist prior to running this command.

2. Choose a **destination connection** and **schema**.
3. Select options. You can change the **truncate** options, the **array size**, specify a rollback segment, and choose commit options. In addition, you can click the Where Clauses tab and apply where clauses to the SQL that selects your data.

Note: The default is to commit automatically after each insert. This may not be the best option for you or your databases.

In addition, if the source connection is the same as the destination connection, and the source schema is the same as the destination schema, then truncate will be disabled, and a "proceed -- are you sure" dialog box appears.

Where Clauses (optional)

You can add where clauses to the created code.

To add a where clause

1. Click the **Where Clauses (Optional)** tab.
2. Choose the tables you want to apply the WHERE clause:
 - choose **All Tables** to apply to all tables listed.
 - select tables from the list and choose **Selected Tables Only** to apply to some but not all tables.
3. Enter the WHERE clause in the right panel. Include the "WHERE" in the clause. You can check your query by clicking **Test Query**.
4. Click **Apply Where Clause To** to apply the where clause to the appropriate tables. Tables with where clauses applied will be listed in a purplish color, and tables without a where clause applied will remain listed in black.
5. Repeat steps 2-5 as necessary if you want to apply a different where clause to each table.
6. You can check your query by clicking **Test Query**.
7. When a where clause has been added, you can click the table to see its where clause (and edit it if necessary).

Save and Load Settings

You can save your settings to a file and then later reload them from the file. This makes it easier to create similar copies in the future, as you may not have to recreate the WHERE clause, or fill out the options again.

In addition, if you save your settings to a file you can later choose to run the Copy function from the command line. See [Run Copy to another Schema from Command Prompt](#) for more information.

Creating Table Scripts

Create Table Script

You can export table scripts from the main menu - Export DDL dialog, or directly from the Schema Browser. Using the Schema Browser lets you easily choose which tables you want to export.

To export table scripts from the main menu

- Select the **Database|Export|Export DDL** menu item.

See the [Export DDL](#) topic for more information.

To export table scripts from the Schema Browser

1. In the **Schema Browser**, select the **Tables** page.
 2. In the left hand side, select the **tables** you want to export.
 3. Right-click and select **Create Script**.
 4. The Export DDL dialog appears with the basic options set and the objects selected. Make any changes you desire.
 5. Click **OK**.
-

Related Topics

[Export DDL](#)

Creating DML Procedures

Creating DML Procedures

You can use Toad to create DML procedures from your tables in the Schema Browser. You can create DML procedures for one table at a time, or multi-select them from the Objects panel and create procedures for all of the tables at once. After selecting what to include, adding your options, and choosing where you want the output sent, Toad will create the procedures for you.

To create DML procedures

1. From the **Schema Browser, tables page**, select the tables you want to use in the Objects Panel.
 2. Right-click and select **Create DML Procedures**.
 3. Click the [Inclusions tab](#), and make your choices for what to include in the procedure.
 4. Click the [Other Options tab](#) and select the options you want to use.
 5. Click the [Output tab](#) and select a location where you want your completed procedures sent.
 6. Click the [SQL tab](#) to view the SQL for creating the procedure.
 7. Click **OK** to generate the DML procedures.
-

Related Topics

[Inclusions tab](#)

[Other Options tab](#)

[Output tab](#)

DML procedures - Inclusions tab

Use the Inclusions tab on the Create DML Procedures dialog to select what types of procedures you want to create.

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You can include:

INSERT Procedure

Check the INSERT Procedure to create an INSERT procedure for your table. When this option is selected, you will need to choose from the following options:

Procedure Name

Enter a name for the created INSERT procedure. The default is `INS_ %TableName%` Where `%TableName%` will be replaced with the name of the table. If you are creating procedures for multiple tables, the default is recommended.

One Parameter per column

Select this option if you want to include only one parameter per column in the procedure. The created procedure will include declarations for the parameters and their columns. When it is not selected, the created procedure will not include these declarations.

The default is checked.

One ROWTYPE% parameter

Select this option if you want to use only one ROWTYPE% parameter. Otherwise, Toad will use a different ROWTYPE% parameter for each parameter.

The default is unchecked.

Param Type for PK Columns

Use this dropdown to select the parameter type for Primary Key columns. You can choose one of the following:

- IN
- OUT
- IN OUT

UPDATE Procedure

Check the UPDATE Procedure to create an UPDATE procedure for your table. When this option is selected, you will need to choose from the following options:

Procedure Name

Enter a name for the created UPDATE procedure. The default is `UPD_ %TableName%` Where `%TableName%` will be replaced with the name of the table. If you are creating procedures for multiple tables, the default is recommended.

One Parameter per column

Select this option if you want to include only one parameter per column in the procedure. The created procedure will include declarations for the parameters and their columns. When it is not selected, the created procedure will not include these declarations.

The default is checked.

One ROWTYPE% parameter

Select this option if you want to use only one ROWTYPE% parameter. Otherwise, Toad will use a different ROWTYPE% parameter for each parameter.

The default is unchecked.

Where Clause dropdown

Select the appropriate option to create the WHERE clause:

- Use Primary Key for "where" clause
- Use ROWID for "where clause
- Use PK if it exists, else use ROWID

DELETE Procedure

Check the DELETE Procedure to create an DELETE procedure for your table. When this option is selected, you will need to choose from the following options:

Procedure Name

Enter a name for the created DELETE procedure. The default is DEL_%TableName% Where %TableName% will be replaced with the name of the table. If you are creating procedures for multiple tables, the default is recommended.

Where Clause dropdown

Select the appropriate option to create the WHERE clause:

- Use Primary Key for "where" clause
 - Use ROWID for "where clause
 - Use PK if it exists, else use ROWID
-

Related Topics

[Creating DML Procedures](#)

[Other Options tab](#)

[Output tab](#)

DML procedures - Other Options

Click the Other Options tab to specify other options to be used in your DML procedure.

Use packages (one package per table)

Select this option to create your procedures in the form of a package rather than a procedure. When checked, package spec and body will be created. When unchecked, a standard procedure will be created from the table.

The default is checked.

Use "Create or Replace" Syntax

Select this option to use CREATE OR REPLACE in the procedure, rather than simply CREATE.

The default is checked.

Include Package Schema Name

When selected, Toad will include the package schema name when declaring columns, tables, and so on. When it is not selected, the schema will be omitted.

The default is checked.

Package Schema name dropdown

Select the schema name for the package.

Include Table schema name

When checked, the schema name that contains the table will be included in declarations.

The default is checked.

Naming

IN Parameters

Use this box to specify IN parameters for your procedure. The default is `in_<ColumnName>`.

OUT Parameters

Use this box to specify OUT parameters for your procedure. The default is `out_<ColumnName>`.

In Out Parameters

Use this box to specify IN OUT parameters for your procedure. The default is `inout_<ColumnName>`.

Package Names

Use this box to specify package names for your procedure. The default is `DML_<TableName>`.

Related Topics

[Creating DML Procedures](#)

[Inclusions tab](#)

[Output tab](#)

DML procedures - Output tab

Click the Output tab to specify where Toad should send the procedures when they are created.

Destination

Select where and how procedures should be created.

[Create packages in database](#)

When selected, packages will be created directly in the database and you can open them in the Editor using the Load from Database button.

[Create one file per procedure](#)

Use this option when you are creating multiple DML procedures (INSERT, UPDATE, DELETE) from the same table and want the procedures separated into different files.

[Create one file per table](#)

Use this option when you are creating from multiple tables and want the procedures separated into one file for each table.

[Create one file](#)

This option combines all procedures into one file for easy retrieval of everything you've created.

[Send output to clipboard](#)

This option sends the created package or procedures to the clipboard so that you can paste it into whatever application you want, including the Editor window.

Directory

If you have chosen to create one or more files from the generated procedures, enter the directory or file path name where you want them stored in this box. You can click the browse button to drill to the directory you want to use.

Related Topics

[Creating DML Procedures](#)

[Inclusions tab](#)

[Other Options tab](#)

DML procedures - SQL tab

The SQL tab contains the code to create your DML procedure. You can review the code from this window and make sure it does what you want it to do.

Related Topics

[Creating DML Procedures](#)

[Inclusions tab](#)

[Other Options tab](#)

[Output tab](#)

Columns

Select Columns

You can hide columns from the SQL Results grid after the query.

When using this dialog, you can choose to view the columns list alphabetically. This makes it easier to find the columns you want to display or hide.

To select columns to display or hide

- Do one of the following:
 - Right-click over the **SQL Edit window results grid** and then choose **Select Columns**.
 - **Schema Browser|Tables** page select **Data** tab grid.
 - **Schema Browser|Views** page select **Data** tab.
2. Click in the check boxes beside column names to select and de-select the columns that display in the grid.
-

Foreign Key Lookup

When you are editing table data in the Schema Browser, you can easily look up foreign keys and enter the associated data into the selected table.

Foreign key lookup will also work when the grid is in Read Only mode. You can disable this feature from the **Toad Options|[Schema Browser|Data and Grids](#)|Enable FK Lookup**.

To lookup foreign keys

1. In the **Schema Browser**, click the **Tables** tab.
2. Select the table you want to edit and in the Details Panel click the **Data** tab.
3. Click in a column that has foreign keys. Click again to activate Editing mode. A drill down button appears.
4. Click the **drill down**  button and it will bring up the rows in the referential table. When you select a row and click OK, the data will be entered in the appropriate columns in the data grid.

The Foreign Key Lookup Window

Within the lookup window, all foreign key constraints are included. If you want Toad to ignore disabled constraints, see [Toad Options|Schema Browser|Data](#).

You can filter rows by typing or by directly editing the query.

To filter rows by typing

1. Make sure the **Filter by** box in the lower left is checked.
2. Put your cursor in one of the displayed columns. You can now filter by typing (if you type "ab" it will filter out rows that do not begin with "ab").

To filter rows by editing the query

1. Click **Edit Query**.
2. Edit the query within the editing window.
3. Specify variables by clicking the **Variable** button and entering variable information.
4. Check that your query syntax is accurate by clicking the **Check** button.
5. Click **OK** to run your new query and filter the lookup grid.

Tablespaces

Schema Browser: Tablespaces

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can create, alter, and drop tablespaces. You can place tablespaces online or offline. You can also view details of tablespaces.

Objects Panel

The **Objects Panel** includes buttons to create and alter tablespaces, place a tablespace online or take it offline, and the drop/drop all buttons.

Different types and status of tablespaces are differentiated by different icons. See [Icon Legend](#) for more information.

Tablespaces toolbar



Button	Command
	Create script - This creates a create user script and copies it to the clipboard so that it can be pasted into another Toad window or another application.
	Create new tablespace - Click this icon to display the Tablespace window and create a new tablespace. See also Create Tablespace .
	Alter tablespace - This displays the alter tablespace window for the selected tablespace.
	Filters - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Place online - This is enabled if the selected tablespace is offline. It lets you place the selected tablespace online.
	Place offline - This is enabled if the selected tablespace is online. When you have confirmed that you want to place the tablespace offline you have four options to place the selected tablespace offline, unavailable for transactions: Normal, Temporary, Intermediate, and For Recover.
	Show tablespace map - This command displays the tablespace map for the selected tablespace in a new window.
	Export tablespace - This command displays the Export Utility wizard so you can export the selected tablespace.
	Coalesce tablespace - This button lets you easily coalesce the selected tablespaces. Toad will display a confirmation dialog box before performing the coalesce command.



Drop tablespace - This drops the selected tablespace. When you have confirmed that you want to drop the tablespace, Toad asks if you want to include contents, which can include datafiles and/or cascade constraints.

Details Panel

The Details Panel has tabs for **Datafiles**, **Free Space**, **Fragmentation**, **Objects**, **Quotas**, **Extents**, and **Properties**.

Related Topics

[Create Tablespace](#)

[Drop Tablespace](#)

[Export Tablespaces](#)

[Create/Alter Tablespace Quota](#)

[Datafile Definition](#)

[Rename/Move Datafile](#)

Create Tablespace

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

You can use the Create Tablespace window to easily create a new tablespace from within Toad.

To create a new tablespace

1. From the **Database|Create** menu, select **Tablespace**.

Or

- From the **Schema Browser|Tablespaces** page, click the **Create New Tablespace** button.
 2. Enter information to define your tablespace.
 3. Textboxes let you enter names.
 4. Dropdowns let you specify extents.
 5. Radio buttons let you specify **Temporary** or **Permanent** objects.
 6. With **Extent Management** checked you can choose **Dictionary**, if you want the tablespaces to use the SQL dictionary tables to track space usage. If you choose **Local**, then bit maps will track space usage.
 3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
-

Related Topics

[Schema Browser: Tablespaces](#)

[Drop Tablespace](#)

[Export Tablespaces](#)

[Create/Alter Tablespace Quota](#)

[Datafile Definition](#)

[Rename/Move Datafile](#)

Alter Tablespace

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

This tablespace editor lets the DBA construct and submit the DDL to alter an existing tablespace.

To access Alter Tablespace

- Do one of the following:
 - From the **Schema Browser | Tablespaces** page, highlight a **tablespace** in the Object panel and then select **Alter Tablespace** from the toolbar.
 - From the Identify Space Deficits window, click **Alter Tablespace**
 - From the **Database menu | Administer | Tablespaces**, select a **tablespace** and click **Alter Tablespace** in the toolbar.

The Alter Tablespace window lets you alter permanent and temporary tablespaces. If you use Oracle 8i or above, you can alter both dictionary managed and local tablespaces. You can then migrate between the two types.

When you open the Alter Tablespace window, parts of the Tablespace you cannot edit are grayed out. These will differ depending on the type of tablespace you are editing, and whether it is online or off.

To create a new data definition file

1. Click **Add** to create a new Data Definition file to the File Specification area.
2. Enter the information for the Datafile **name** and **size**.
3. If you want the datafile to automatically extend, select the **auto Extend** check box and enter the space allocation information.
4. Click **Execute** to add the new datafile.

To edit a data definition file

1. Click **Edit** to create a new Data Definition file.
2. In the Data Definition dialog box, change the datafile information as required.
3. Click **Execute** to complete the editing and return to the Alter Tablespace window.

Migrate Tablespace

If you are using Oracle 8i or above, you can easily migrate between locally Managed and Dictionary Managed Tablespaces.

Note: To use this function as a DBA user, you must have the EXECUTE privilege on DBMS_SPACE_ADMIN. This must be granted by the SYS user.

Locally Managed tablespaces have the **Locally Managed** check box checked.

- To switch to a dictionary tablespace from a locally managed tablespace, uncheck this box and then click Execute. If you [spool SQL to screen](#), you can see the SQL that is executed. It should look something like this:

```
begin
```

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```
sys.dbms_space_admin.tablespace_migrate_from_local  
( 'migrate' );  
  
end;
```

- To switch to a locally managed tablespace from a dictionary managed tablespace, check the Locally Managed check box and click **Execute**. If you [spool SQL to screen](#), you can see the SQL that is executed. It should look something like this:

```
begin  
  
sys.dbms_space_admin.tablespace_migrate_To_local ( 'migrate' );  
  
end;
```

Delete Datafile

If you are running Oracle 10g, release 2 or newer, you can also drop a datafile from the tablespace. The datafile must be empty, and it cannot be the last datafile in a tablespace. In the first case, Oracle will return an error if you try to drop it. In the second, the Delete button will not be available.

To delete a datafile

- Select the empty datafile you want to delete and click **Delete**.
-

Drop Tablespace

Note: This Toad feature is only available in the commercial version of Toad with the optional Quest DBA Module.

When you choose to drop a tablespace, Toad presents a dialog box to confirm.

When you have confirmed that you want to drop the tablespace, you are given several options for dropping it.

Including contents

When not checked, Oracle will not allow the tablespace to be dropped if it is not empty. When checked, the tablespace and its contents will be dropped. When checked, the following options become available:

- And Datafile - Oracle 9i only. When checked, Oracle will remove the datafiles for the tablespace from the server. When unchecked, the datafiles remain and must be manually deleted.
 - Cascade Constraints - Can be used only when "Including Contents" is checked. If checked, all referential integrity constraints from tables outside the tablespace that refer to primary and unique keys of tables inside the tablespace are dropped. If unchecked and such referential integrity constraints exist, Oracle returns an error and does not drop the tablespace.
-

Related Topics

[Schema Browser: Tablespaces](#)

[Create Tablespace](#)

[Export Tablespaces](#)

[Create/Alter Tablespace Quota](#)

[Datafile Definition](#)

[Rename/Move Datafile](#)

Drop Datafile

If you are using Oracle 10gR2 or newer, you can drop a datafile from the Schema Browser - Tablespaces page. The datafile must be empty, and must not be the first file in the tablespace.

Note: This button will also drop datafiles in locally managed temporary tablespaces.

To drop a datafile

1. From the **Schema Browser** | **Tablespaces**, select a tablespace.
 2. Click the **Datafile** tab on the Details panel.
 3. Select the datafile you want to drop.
 4. Click the **Drop datafile**  button on the datafiles tab toolbar.
-

Create/Alter Tablespace Quota

Using the Tablespace quota window, you can create or alter tablespace quotas for a selected tablespace or user.

To access the Tablespace quota window

1. From the **Schema Browser**, select the **Tablespaces** page and then select a tablespace.
2. On the right hand side, click the **Quotas** tab.
3. Click the **Create/Alter Tablespace** button.

OR:

1. From the **Schema Browser**, select the **Users** page and then select a user.
2. On the right hand side, click the **Quotas** tab.
3. Click the **Create/Alter Tablespace** button.

Creating or altering a quota

The grid of Tablespace quotas is organized by User Name, Tablespace, Unlimited, Quota, and Units. This information describes which users are assigned to the tablespace.

- If the user has **no quota**, the quota and units column will be blank.
- If the quota is **Unlimited**, there will be a checkmark in the **Unlimited** box.

To add or change a quota

1. At the top of the dialog box, either check **Unlimited** box, or enter the size of the quota you want to add. If the latter, use the dropdown to select either **MB** or **KB**.
 2. Choose the appropriate radio button
- **All** this applies the quota to all users.

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- **Selected** choose the appropriate row from the grid. (You can multi-select by holding down <Ctrl> as you click.)
Any quotas you make on rows will replace any previously existing quota.
 - 3. Click **Apply To**.
 - 4. You can now choose to:
 - Apply changes immediately by clicking **Execute**.
 - Click **Show SQL** and choose to copy to clipboard or save to file.
-

Related Topics

[Schema Browser: Tablespaces](#)

[Create Tablespace](#)

[Drop Tablespace](#)

[Export Tablespaces](#)

[Datafile Definition](#)

[Rename/Move Datafile](#)

Datafile Definition

From the Datafile Definition window you can change or add datafile definitions to a tablespace.

To define a datafile

1. From the **Schema Browser**, click the **Tablespaces** tab (or select Tablespaces from the dropdown).
2. Select a **tablespace** in the **Objects Panel**. The data filenames for that tablespace appear in the Details panel, on the **Datafiles** screen.
3. Choose to add or change a datafile.
4. To change a datafile, double-click the data filename. The Datafile Definition window displays.
5. To add a datafile, click the New Datafile button at the top of the Datafile screen.

Change or add settings

Datafile Name

Datafile Size

Select MB (megabytes), KB (kilobytes) or GB (gigabytes).

Autoextend

You can choose to Autoextend your tablespaces.

If you choose to autoextend then select the amount of additional space you want to add, and the maximum space to allow the datafile.

Buttons

You can display the SQL to make changes before you execute it, execute it immediately, or cancel the change.

Show SQL

Click the **Show SQL** button to display the SQL before you run it. From the Sql Statement dialog box, you can:

- Copy to Clipboard
- Save to file
- Close the window

Execute

Click **Execute** to make the changes you have selected immediately.

Rename

The Rename button appears only on existing datafiles. Renaming a datafile moves the datafile at the OS level. See [Rename/Move Datafile](#) for more information.

Minimize Size

Click **Minimize size** and Toad will analyze the datafile and display a dialog box telling you how small the minimum size for the datafile can be.

Related Topics

[Schema Browser: Tablespaces](#)

[Create Tablespace](#)

[Drop Tablespace](#)

[Export Tablespaces](#)

[Create/Alter Tablespace Quota](#)

[Rename/Move Datafile](#)

Rename/Move Datafile

You can rename a datafile. This entails taking the tablespace offline and moving the files.

To rename a datafile

1. On the [Datafile Definition](#) window, click **Rename**. The Rename/move dialog box displays.
2. Toad fills in the datafile name and tablespace for you. If the current status of the tablespace is ONLINE, Step 1 will be active. Click **Execute** to take the tablespace offline.
3. When the tablespace is offline, you can proceed to step 2. Enter the full path and filename for the new filename. Then click either Copy Unix command to move the file to the clipboard or Copy DOS command to move the file to the clipboard.

A dialog box appears warning to execute the saved command on the server before you move on. Executing this command actually renames the file.

4. In Step 3, issue the "Alter Database" SQL to tell Oracle that the file has moved. Click **Execute**.
5. In step 4, you bring the Tablespace back online. Click **Execute**.
6. Click **Close**.

Related Topics

- [Schema Browser: Tablespaces](#)
- [Create Tablespace](#)
- [Drop Tablespace](#)
- [Export Tablespaces](#)
- [Create/Alter Tablespace Quota](#)
- [Datafile Definition](#)

Triggers

Schema Browser: Triggers

Objects Panel

The **Objects Panel** includes buttons to compile the selected trigger or all triggers, buttons to disable/enable the selected trigger or all triggers, a trigger filter button, and the drop/drop all buttons.

Different types and status of triggers are differentiated by different icons. See [Icon Legend](#) for more information.

Triggers Toolbar



Button	Command
	Create script - This creates a create user script and copies it to the clipboard so that it can be pasted into another Toad window or another application.
	Create new trigger - Click to create a new trigger using the Create Trigger dialog box.
	Save to file - Click this option to save the selected trigger to a SQL file. The Save as dialog box appears. You can name the file and save it.
	Alter trigger - Click to alter an existing trigger using the Alter Trigger dialog box.
	Open in procedure editor - To use this command, you must first select a procedure, package or function. Then click the icon on the toolbar. The object you selected is copied into a new Procedure Edit window and you can debug or work with it there.
	Compile trigger - You can recompile a trigger from the Schema Browser. Select the object or objects you want to recompile, and click Compile Procedure on the toolbar. The object compiles. If it was invalid (marked with a red X) and compiles correctly, it will be remarked as valid and the X no longer appears beside the object name.
	Disable selected trigger - Select an enabled trigger from the list and click this to disable it.



Enable selected trigger - Select a disabled trigger from the list and click this icon to enable it.



Filter trigger list - This opens a [Browser Filters](#) window and lets you filter the object list. If a filter is in use, this icon turns red.



Drop selected triggers - Select one or more triggers from the list and click this icon to drop just those triggers from the database.

Object List

In the object list, icons to the left of the items represent the different types and status of triggers. You can get information about the meaning of each icon through the [Icon Legend](#).

Details Panel

The Details Panel has tabs for Source, Columns, and Errors.

A right-click menu contains Compile, Edit, Disable, Enable, and Save to File items.

Related Topics

[Create Trigger](#)

[Alter Trigger](#)

Create Trigger

The Create Trigger window is available from the Create menu, or from the Schema Browser, Trigger page. You can easily create a new trigger for your database.

To create a trigger

- From **Database|Create** menu, select **Create Trigger**.
- Or

From **Schema Browser|Trigger page**, click the **Create Trigger** button

The create trigger window is divided into three areas. The Main window and Basic Info/Fire Control tab, contain the buttons and main information for the trigger. Two additional information tabs let you create the WHEN clause and the body of the trigger.

Main Window

Schema

From the schema dropdown, select the schema where you want your trigger to reside.

Trigger Name

Enter a trigger name in the Trigger name box.

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Include Schema Name in SQL

This check box near the bottom of the window lets you define whether to include the schema name in the trigger, or not to include it. If it is checked, object names will be defined: *schemaname.object*. If unchecked, they will be entered as: *objectname*.

Show SQL

Click this to display the SQL that will create the new trigger. From this window you can save the code to the clipboard, or save it to a file.

Send to Editor

Click **Send to Editor** to send the completed create trigger code to a new Editor tab for editing before you run it.

OK

Click **OK** to create the trigger.

Basic Info/Fire control

Use this tab to control the basic information for the trigger, in other words, what it acts upon, when it fires, and what it references.

On

In this area, select whether the trigger acts upon a table, view, nested table in a view, a database or an entire schema.

Note: If you have a table or a view in this area and this box has focus, you can press F4 to display the describe window for that table. See also the [Describe](#) topic.

Fire When

Select when the trigger should fire: before, after or instead of the **Fire On** action.

Fire On

Select what action the trigger should fire on: Delete, Insert, and/or Update.

Status

Select the status of the trigger. Should it be enabled or disabled when first created?

For Each

Choose whether the trigger should fire for each row or each statement.

Referencing

By default, Toad references New as New and Old as Old in the created trigger. If you need to change these references, enter the new references in the appropriate boxes. A "**Parent as**" box will appear if "**Nested table of view**" is selected in the **On** area.

When Clause

The tab for the **When** clause lets you enter your own specific clause.

Note: DO not begin with the word "WHEN". Just enter the clause itself. Toad will include the WHEN as it compiles the SQL.

Body

Enter the body code for the trigger. Templates are supported. If Toad cannot load a template, this area will have the notation "your code here". Replace this with code, and you are ready to create your trigger.

Related Topics

[Schema Browser: Triggers](#)

[Alter Trigger](#)

Alter Trigger

The Alter Trigger window is divided into three areas. The Main window and Basic Info/Fire Control tab, which contains the buttons and main information for the trigger, and two information tabs to create the when clause and the body of the trigger.

Note: This window is "Team Coding Aware." If you have [Team Coding](#) enabled, the window will be read-only if the trigger is controlled by Team Coding and is not checked out.

To alter a trigger

- From **Schema Browser|Triggers**, click the **Alter Trigger**  button. Make changes to selections described below.

Main Window

Schema

You cannot alter this schema.

Trigger Name

You cannot alter the trigger name.

Include Schema Name in SQL

This check box near the bottom of the window lets you define whether to include the schema name in the trigger, or not to include it. If it is checked, object names will be defined: *schemaname.object*. If unchecked, they will be entered as: *ObjectName*.

Show SQL

Click this to display the SQL that will alter the trigger. From this window you can save the code to the clipboard, or save it to a file.

Toad 9.5

Send to Editor

Click **Send to Editor** to send the completed alter trigger code to a new Editor tab for editing before you run it.

OK

Click **OK** to alter the trigger.

Basic Info/Fire control

Use this tab to alter the basic information for the trigger, in other words, what it acts upon, when it fires, and what it references.

On

In this area, select whether the trigger acts upon a table, view, nested table in a view, a database or an entire schema.

Note: If you have a table or a view in this area and this box has focus, you can press F4 to display the describe window for that table. See also the [Describe](#) topic.

Fire When

Select when the trigger should fire: before, after or instead of the **Fire On** action.

Fire On

Select what action the trigger should fire on: Delete, Insert, and/or Update.

Status

Select the status of the trigger. Should it be enabled or disabled when first created?

For Each

Choose whether the trigger should fire for each row or each statement.

Referencing

By default, Toad references New as New and Old as Old in the created trigger. If you need to change these references, enter the new references in the appropriate boxes.

When Clause

The tab for the **When** clause lets you enter or change your own specific clause.

Note: DO not begin with the word "WHEN". Just enter the clause itself. Toad will include the WHEN as it compiles the SQL.

Body

You can alter the body code for the trigger from this tab.

Related Topics

[Schema Browser: Triggers](#)

[Create Trigger](#)

Types

Schema Browser: Types

Types are supported only in Oracle 8, 8i and above, in versions with the Objects option enabled. Toad hides the Types page if you are running an older version of Oracle.

Objects Panel

The **Objects Panel** includes buttons to create a new object, alter an object, save an object to file, load in Editor, compile, change privileges, and drop the object.

The Objects Panel consists of a hierarchical list of object types as owned by the selected schema in the dropdown list. You can browse or edit objects in other schemas, provided you have appropriate Oracle Database privileges.

You can drill down or up by either double clicking the item, or single clicking over the plus or minus symbol. You can also drill down by pressing the "+" (PLUS) key on the numeric keypad, "-" (MINUS) to drill up, and "*" (ASTERISK) to expand all.

Different types and status of Types are differentiated by different icons. See [Icon Legend](#) for more information.

If an object name cannot be displayed in the given amount of horizontal screen space, a tooltip popup will appear with the complete object name.

Types Toolbar

The Types toolbar includes buttons to create a new object, alter an object, save an object to file, load in Editor, compile, change privileges, and drop the object.



Button	Command
	Create script - This creates a create user script and copies it to the clipboard so that it can be pasted into another Toad window or another application.
	Create user type - This displays the New Object Type window where you can create a new user type and assign attributes to it. See also Create Object Type .
	Alter user type - This displays the Edit Object Type. See also Edit Object Type . You cannot edit a collection.
	Save to file - This allows you to save a selected type to a file.
	Load in procedure editor - Loads the selected object into a Editor window for further editing. The dropdown menu beside it lets you choose to load the entire procedure, or only the spec or body.
	Compile - Compiles the selected object. The dropdown menu beside it lets you to choose to compile only the spec, body, or both.
	Privileges - Lets you grant the EXECUTE privilege to other users or roles for this type.
	Create object table - Creates an object table from the selected object. You cannot create an object table from a collection.
	Filter types list - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.



Drop user type - Drops the selected object.

Details Panel

The Details Panel provides information about the types in the Objects Panel.

Information is organized into several tabs, including:

Object types

This tab provides a breakdown of the various object types in the selected schema. This list includes the object name; number of attributes; number of methods; the true/false statuses (pre-defined and Complete); and the Object Identifier. The list is sorted alphabetically.

Collections

This tab provides a breakdown of the various collection types in the selected schema.

Attributes

This tab provides information about the attributes in a selected object type. If there are no attributes associated with the selected type, this tab will be blank.

Methods

This tab provides information about the methods in a selected object type. If there are no methods associated with the selected type, this tab will be blank.

Specification

This tab displays the specification code for the selected object or collection type.

Body

This tab displays the body code for the selected object or collection type.

Dependencies

This tab displays information about any dependencies attached to the selected type. If your **Autoload** options are turned off (in View|Schema Browser|Options|[Types Tab](#)), right-click over one of the grids and select **Load** to display the information.

Related Topics

[Create Object Type](#)

[Create Collection Type](#)

[Edit Object Type](#)

Create Object Type

Types are supported only in Oracle 8, 8i and above, in versions with the Objects option enabled.

To create a new object type

- From **Schema Browser|Types** page, click the **New Object Type** button on the toolbar.
- Or

From the **Database|Create Menu**, select **Object**.

Left Panel Object Hierarchy

On the left side of the window there is a hierarchical list of the attributes and methods contained in the selected object.

Each item in the hierarchy has an icon associated with it for easy reference. These include:

Icon	Meaning
	Object
	Attribute
	Method
	Object Changed but not yet recompiled

Renaming Objects

Objects and their attributes and methods are assigned default names. You can rename a type, or its associated attributes and methods. Right-click the item you want to rename and enter the new name.

Toolbar

The toolbar allows you to add a new attribute or method, and to build/refresh the code for the object type.



Icon	Meaning
	New Attribute - Click to create a new attribute associated with this object.
	New Method - Click to create a new method associated with this object. The dropdown lets you create the method with default parameters for: New Procedure, New Function, New Map Procedure, and New Order Function.
	Build/Refresh Code - Click to build or refresh the body and specification code for this object type. This code is displayed in the Body and Specification tabs.

Right Panel Object Details

When an object is selected, the right detail panel displays a three-tab interface listing: Properties, Specification, and Body.

- When the root type is selected, there are only two tabs: Specification and Body.
- When an attribute is selected, the Properties tab displays detailed information about the attribute, including data type, schema, object, length, precision, and scale.
- When a method is selected, the Properties tab displays a list of parameters to the method, the method type, and restrictions of the method.

Properties Tab

Attributes

When an attribute is selected in the hierarchy, the Properties tab allows you to select or adjust the settings for the attribute. You can select from the basic data types for the attribute. For example, INTEGER, VARCHAR2, DATE, and so on, or select REF or Nested Object to refer to other objects, in which case Schema and Object dropdown lists become enabled.

Methods

When a method is selected in the hierarchy, the Properties tab displays a list of parameters to the method, including parameter name, data type, mode (IN, OUT, and so on), and Object.

Also on the Properties tab is a dropdown list to select the method type (Procedure, Function, Map Function, or Order Function), a label indicating if the method is overloaded (True or False), a dropdown for method return data type (if Function), dropdown lists for Schema and Object if the return type is a REF to an object or a Nested Object, and check boxes for method restrictions WNDS, RNDS, WNPS, and RNPS.

These method restrictions tell the PL/SQL compiler what sort of access the method needs to the database. The compiler can then deny the method read/write access to database tables, packaged variables, or both. Methods with defined pragma can be called from SQL expressions.

- WNDS means "writes no database state"
- WNPS means "writes no package state"
- RNDS means "reads no database state"
- RNPS means "reads no package state"

You can Add, Edit, or Delete method parameters by clicking the appropriate buttons. In the case of Add or Edit, you will be prompted for parameter name, mode (IN, OUT, or IN OUT), data type, and in the case of REF or Nested Object, Schema and Object.

Map Functions cannot have any method parameters associated with them. If you change from Procedure, Function, and so on to Map Function, you will be prompted whether or not to automatically delete all method parameters.

Order Functions must have one IN parameter of the same type as the object. If you select Order Function, you will be prompted whether or not to automatically remove all method parameters and add one parameter of the appropriate type.

Specification Tab

This shows the specification for the object's attributes and methods. As with any memo editor in Toad, you can select the text and copy it elsewhere using <CTRL>C.

Body Tab

This shows the code for the object's methods.

Related Topics

[Schema Browser: Types](#)

[Create Collection Type](#)

[Edit Object Type](#)

Create Collection Type

Types are supported only in Oracle 8, 8i and above, in versions with the Objects option enabled.

You can create a new Collection type. You get to the New Collection Type window in one of two ways.

To create a collection type

- From **Schema Browser|Types** page, select the Collection Types group in the hierarchy and click the **New Object Type** button on the toolbar.

Or

From the **Schema Browser|Types** page, select new Collection Types from the dropdown menu beside the **New Object Type** button on the toolbar.

To name the collection

- In the left panel, right-click over the NEWCOLLECTION name. Select **Rename** from the menu. The name is highlighted.
- Type a **new name** for the Collection and press <**Enter**>

Set Properties

In the right panel, select the appropriate properties for the new collection. Options are activated or grayed out depending on which radio button you select, Varray, or Nested Table.

Related Topics

[Schema Browser: Types](#)

[Create Object Type](#)

[Edit Object Type](#)

Edit Object Type

You can edit types, and the attributes and methods associated with them.

From the **Schema Browser|Object Panel|Types** page, select the type you want to edit and click the **Alter User Type** button. The Edit Object Type dialog box appears.

Left Panel Object Hierarchy

On the left side of the window there is a hierarchical list of the attributes and methods contained in the selected object.

Each item in the hierarchy has an icon associated with it for easy reference. These include:

Icon	Meaning
	Object
	Attribute
	Method
	Object Changed but not yet recompiled

Renaming Objects

You can rename a type, or its associated attributes and methods. Renaming the type itself keeps the old type and creates a new one with the new name. To replace the old type, return to the **Schema Browser**|**Types** page and drop the old type.

Removing Attributes

You can remove an attribute, but not a method.

To remove an attribute

- Select the attribute in the left panel hierarchy, right-click, and select **Remove**.

The attribute is not entirely removed from the hierarchy until you click **OK**. You can click **Cancel** to restore the attribute.

Right Panel Object Details

When an object is selected, the right detail panel displays a three-tab interface listing: Properties, Specification, and Body.

- When the root type is selected, there are only two tabs: Specification and Body.
- When an attribute is selected, the Properties tab displays detailed information about the attribute, including data type, schema, object, length, precision, and scale.
- When a method is selected, the Properties tab displays a list of parameters to the method, the method type, and restrictions of the method.

Properties Tab

Properties can be set or adjusted for attributes and methods as described in [Create Object Type](#).

Specification Tab

This shows the specification for the object's attributes and methods. As with any memo editor in Toad, you can select the text and copy it elsewhere using **<CTRL>C**.

Body Tab

This shows the code for the object's methods.

Note: This tab is unavailable for Collection Types.

Related Topics

[Schema Browser: Types](#)

[Create Object Type](#)

[Create Collection Type](#)

Edit Collection Type

You can edit collection types and the attributes and methods associated with them.

From the **Schema Browser|Object Panel|Types** page, select the collection type you want to edit and click the **Alter User Type**  button. The Edit Collection Type dialog box appears.

Right Panel Object Details

When an object is selected, the right detail panel displays the Specification.

Specification Tab

This shows the specification for the object's attributes and methods. As with any memo editor in Toad, you can select the text and copy it elsewhere using **<CTRL>C**.

Users

Schema Browser: Users

Also see the [Create User](#) topic.

Objects Panel

The Objects Panel lists all users for the current database and lets you easily work with them.

Different types and status of users are differentiated by different icons. See [Icon Legend](#) for more information.

Users Toolbar



The **Objects Panel** allows for several commands to be accessed using toolbar buttons. These commands work as follows:

Button	Command
	Create script - This creates a create user script and copies it to the clipboard so that it can be pasted into another Toad window or another application.
	Create new user - This displays the Create User window that lets you create a user specifying privileges, roles, and other information. The To Clipboard button lets you copy the SQL script to the clipboard.
	Modify user - This displays the Modify User Data window where you can modify User Information, Tablespace information, Roles, System Privileges, Grants, and Quotas. The To Clipboard button lets you copy the SQL script to the clipboard.
	Copy this user - This displays the New User Information window that lets you copy a user and assign the copy a new name and password.
	Filters - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Lock user - This locks the selected account. The status of the account is changed to locked, and the lock date is recorded. Locked accounts display in the objects list with a lock to the left of the name. When someone tries to access a locked account, a message will display that says the account is locked. The locked status appears in the Info tab on the details panel. Note: You must have DBA privileges to lock an account.
	Unlock user - This unlocks the selected user account. The status of the account is changed to unlock, and the lock date is deleted.



Note: You must have DBA privileges to unlock an account.
Drop this user - This drops the selected user from the database.

Details Panel

The Details Panel for the Users page includes tabs (for the selected User) for **Info**, **Role Grants**, **System Privileges**, **Object Grants**, **Objects**, **Extents**, **Quotas** and **Resource Groups**.

Both the Roles and Privileges tabs contain **Revoke** and **Revoke All** buttons.

Note: Object Privileges tabs do not include SYS and SYSTEM objects.

Related Topics

[Create User](#)

[New User Info](#)

Create User

Create User lets you create new users, basing them upon grants from existing users.

To create a user

1. From the **Database|Create** menu, select **User**

Or

From the **Schema Browser|Users** page, click the **Create New User**  button.

2. Enter the required information in the fields described below.
3. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
4. You can save **To Clipboard**, **Execute** the code (Create User), and **Cancel** by using the buttons above the tabs.

User Info tab

Textboxes let you enter the **User Name** and **Password**.

Use Database Authentication radio button - this is the standard and default

Use Operating System Authentication radio button - this uses the network identification for Oracle

Use Enterprise Authentication - this sets up global external authentication

Notice there is also a standard **Verify Password** box.

If you check the **Password expired (user must change password on next login)** check box, you must change the password the next time you connect.

A dropdown lets you choose the **Resource Profile**.

You can lock the account by checking the **Account is locked** check box.

Tablespace tab

Dropdowns let you choose Default Tablespace and Temporary Tablespace.

For **Quota on default tablespace** you can check the **Unlimited** check box OR you can enter your own value and radio buttons let you choose **megabytes** or **kilobytes**.

A dropdown lets you select a **Temporary tablespace**.

You can also set the choices you make here to be the default for all new users. Check the **Set Tablespace names as defaults for all User Creates** box.

Roles tab

This contains a list of the **Available Roles**. Check boxes are arranged in columns Granted, Default and Admin roles. Click in the check boxes to grant or revoke roles to the user.

The **Admin All** button will place a checkmark in all items in the Admin privileges column. The **Admin None** button unchecks all the items in the admin privileges list.

The **Grant All** button places a checkmark in all items in the Granted column. The **Revoke All** removes these checkmarks.

The **Default All** button places a checkmark in all items in the Default column. The **Default None** button removes these checkmarks.

Click the **Copy From** button to copy roles and grants from a selected user. Select the user from the list and click **OK**. This dialog box is not multi-select compatible; however, you can select from it multiple times and the additional roles will be appended to the previous selections.

System Privileges tab

This contains a list of the **Privileges** for the user. Check boxes are arranged in columns for Granted and Admin privileges. Check the boxes to grant or revoke privileges to the user.

The **Admin All** button will place a checkmark in all items in the Admin privileges column. The **Admin None** button unchecks all the items in the admin privileges list.

The **Grant All** button places a checkmark in all items in the Granted column. The **Revoke All** removes these checkmarks.

Click the **Copy From** button to copy roles and grants from a selected user. Select the user from the list and click **OK**. This dialog box is not multi-select compatible; however, you can select from it multiple times and the additional roles will be appended to the previous selections.

Object Grants tab

Click the Object Grants tab to view grants for specific objects.

From this screen you can

- Revoke grants that have previously been granted.
- or Copy grants from an existing user. However, you cannot add new grants. Adding new grants must be done by SQL statement in the Editor.

You can choose to work with **Grants Received** or **Grants Made**.

Quotas tab

Click the Quotas tab to add or modify tablespace quotas for the selected or new user.

If you are creating a new user, the new user must be created before you can add quotas.

On the Quotas page, click the **New/Alter quota**  button .

Resource Groups tab

Click the Resource Groups tab to add or modify resource groups for the selected or new user.

A list of available groups is displayed on the left of the page. To the right are check boxes to select permissions to those groups as follows:

Switch

Switch grants permission to switch to that resource group during a session.

Initial Group

This is the group that the user is a part of when he first connects to the database. When the connection is established, the user can switch to any other resource group included in his "switch" list.

Note: Only one initial group is permissible for a single user.

Admin

A user with the Admin permission can grant the switch privilege for that group to other users.

Proxies tab

Click the proxies tab and add other users to make this user a proxy user for those users.

Related Topics

[Schema Browser: Users](#)

[New User Info](#)

New User Info

This creates a new User based on the Roles/Privs of the selected user. The window lets you enter the new **User Name** and **Password**. An optional check box lets you **Use Operating System Verification**.

To create a new user based on another

- From the **Schema Browser|Users** page, click the **Copy this user** button.
-

Related Topics

[Schema Browser: Users](#)

[Create User](#)

Views

Schema Browser: Views

Also see the [Create View](#) topic.

Objects Panel

The information in the **Objects Panel** is designed so you can easily tell the status of your views. To the left of the view name, an icon appears. To view the legend for these icons, see [Icon Legend](#).

Views Toolbar



The Objects Panel allows for several commands to be accessed using toolbar buttons. These commands work as follows:

Button	Command
	Create script - This creates a SQL script for the selected view and copies it to the clipboard.
	New view - Click this to display the Create View dialog box and create a new view.
	Alter view - You must select a view before using this command. This icon displays the Create view dialog box and allows you to change settings for the selected view.
	Show views in an Editor - This displays the Editor with the script for the selected View
	Save to file - This displays the Save As window for saving the file.
	Compile - This compiles the selected view.
	Compile all - This compiles all the views that are listed.
	View/Edit privileges - This displays the Privileges window for the selected View, where you can add or replace existing privileges.
	Filter views - This opens a Browser Filters window and lets you filter the object list. If a filter is in use, this icon turns red.
	Add synonym - Select view and click this icon to create a synonym for the selected item.
	Compile dependent procedures - You can compile the dependent procedures. Select a view, and then click the Compile Dependent Procedures icon on the toolbar. All procedures dependent upon the view are recompiled. For more information about compiling dependent procedures see Dependencies .
	Save list to file for syntax highlighting - This saves the list of views to the syntax highlighting file. Before saving, a confirmation dialog box appears. See Syntax Highlighting for more information about this list.
	Drop view - This drops the selected view.

Details Panel

The Details Panel includes tabs for Columns, Source, Data, Grants, Deps (Used), Deps (Used by), Triggers, and Errors.

Related Topics

[Create View](#)

[Views - Data Grids](#)

Create View

This window is used to create a new view. A view is a customized display of data from a table or tables or from another view or views. A view does not get any storage space (except for the stored query). It is basically displaying the output of a query in the form of a table.

To create a new view

1. From the **Database|Create|View** menu item

Or

From the **Schema Browser|Views** page, click the **New View** button.

2. Choose the **Schema** from the dropdown and enter a **Name** in the box.
3. Enter any required or optional View information in the areas described below.
4. Optionally, add the object to the Project Manager by selecting the **Add to PM** check box.
5. Click one of the following:
6. **Show SQL** button - The **Show SQL** statement button will display the SQL statement window which will show the create view SQL statement for your new view.
7. **Clipboard** button - Copies the statement to the Clipboard.
8. **Save to File** button - Saves the statement as a file.

View Info tab

Aliases section

For more information about aliases, see [Aliases](#).

- **Add** button - This displays the **Add Alias** window where you enter the name for the alias. The defaults are Alias1, Alias2, and so on.
- **Edit** button - This displays an Edit Alias window for the selected alias. You can then change the name of the alias and click OK to implement the change.
- **Delete** button - This deletes the selected alias.
- **Clear** button - This clears the Alias list.

Force check box

If selected, this forces the creation of the view even if the user does not have access to the table.

With check box

If selected, the following check boxes are enabled.

- **Read Only** - If checked, the alias will be read-only.
- **Check Option** - The Check Option specifies that inserts and updates performed through the view must result in rows that the view query can select. The check option cannot make this guarantee if there is a subquery in the query of this view or any view on which this view is based or INSERT, UPDATE, or DELETE operations are performed using INSTEAD OF triggers.

Source tab

You can type in your subquery in this section. When you have entered your subquery, you can click **Check Query** to make sure it parses correctly before you execute it.

Related Topics

[Schema Browser: Views](#)

[Views - Data Grids](#)

Views - Data Grids

On the **Schema Browser|Views|Data** tab, you can filter and/or sort the columns in the data grid. If the view is updatable, you can also edit the data from the grid.

Filtering data

Click the **Filter Data** toolbar button just above the grid. This opens the [Table Sort](#) dialog box, where you can select the columns to sort and/or filter.

If you want to clear all of the Table/View filters at once, click **Clear Filters**.

Note: Dates can only be entered in mm/dd/yy, mm/dd/yyyy, or the Windows Control Panel, Regional Settings, Date, Short Date Style format. For example, in French, date entry of dd/mm/yy or dd/mm/yyyy is acceptable. Dates entered in dd-mon-yy format will be rejected.

Editing views in the data grids

If the view is updatable, you can edit the data from the grid.

The exception to this are views that are editable, but do not have a RowID. These will be returned as non-editable. This includes views within a view hierarchy, and views containing a join without a primary key that have INSTEAD OF triggers.

Note: If you have trouble refreshing data after editing, or attempting to edit it, a Refresh option may be the culprit. Dataset refresh options can be easily changed from the Data tab. See [Refresh Options](#) for details.

Sending Data Query to Editor

If the view is editable, you can send the data tab query to the editor.

To send the query to the Editor

- Click on the desired **View** in the Object list and then press **<CTRL><E>**.
-

Related Topics

[Schema Browser: Views](#)

[Create View](#)

[Refresh Options](#)

Finding Data

Find

Use this dialog box to enter a keyword or phrase to search for in either the Editor window or the Procedure Edit window.

There are options for case sensitive, finding whole words, using Regular Expressions, and searching forward or backward in the buffer.

If text is highlighted prior to opening the Find dialog box, that text will be placed into the **Text to Find** data entry box. If no text is highlighted, then the word at the cursor will be placed in the **Text to Find** data entry box. The last *n* find items are available in the dropdown list. They are NOT saved from Toad session to Toad session.

You can also copy other text and paste it into the Find dialog box using **<CTRL>V**.

Find may be available for a window even if the Find button is not present on the toolbar. In these cases, you easily can use **<CTRL>F** from the keyboard to access this feature.

To open the Find box

- You get to this dialog box using the **Edit|Find** menu item

OR

the **Find** button on the edit toolbar

OR

the **<CTRL>F** shortcut.

Find In Files

Toad lets you search within files to find the file containing what you are looking for.

To find in files

1. From the **Search** menu select **Find in files**.
2. Enter the text you want to find.
3. Select or clear [options](#).
4. Select the directories you want to search in the **File mask** box.
5. If you want to include subdirectories, check the **Include subdirectories** box.
6. Click **OK** to search in files.

Options

Case sensitive

Select this option if you want to search for the word in a case sensitive manner. For example, sql as opposed to SQL.

Whole words

Select this option to search for whole words only. This tells Toad to differentiate between words that may be contained within other words, such as finding only the occurrences of the word "find" and not "finding."

Regular Expressions

Check this to search using regular expressions. Include your expression in the text to find box.

First occurrence only

When this option is selected, Toad will find the first occurrence of your selected text only.

Find Next, Find Previous

The **Search|Find Next** and **Search|Find Previous** menu items are only enabled after you have performed a Find.

- **Search|Find Next** (or <F3>) will go to the next occurrence of the text you were searching.
 - **Search|Find Previous** (or <SHIFT> <F3>) will go to the previous occurrence of the text that you were searching.
-

Find and Replace Text

Use this dialog box to replace a keyword or phrase with another keyword or phrase, in either the Editor window or the Editor window.

To find and replace text

- From the **Edit** menu, do one of the following:
- Select **Replace**.
- Click the **Replace** button on the edit toolbar.
- Press the <CTRL>**R** shortcut.

There are options for finding whole words, searching only selected text, performing a case sensitive search, and replacing one at a time or all at once. The defaults are finding partial words, not case sensitive.

You can also copy other text and paste it into the Replace dialog box using <CTRL>**V**.

Related Topics

[Regular Expressions Searches](#)

Show All

This command only works after you have performed the FIND command. After you use FIND to search through your text for a word or phrase, you can click **Show All** from the **Search** menu and Show All will display wavy red lines under every occurrence of the search phrase.

The lines will be removed following any change to the text in the editor.

To show all after a find

- Select **Search|Show All**.
-

Goto Line

Use this dialog box to enter what line number to place the cursor at, in the Editor window or Editor window.

This is useful for navigation in a large file.

You must enter an integer from 0 to the last line number of the buffer contents.

You can also use [bookmarks](#) to quickly navigate around the buffer contents.

To access Goto Line

- Select **Edit|Goto Line**.
-

Object Search

Access the Object Search window from the **Find Object** button on the main toolbar or by clicking the **Search|Object Search** item.

Object Search searches all database objects, table columns, index columns, constraint columns, trigger columns, and procedure source code for a user entered phrase. Each of the previously listed items can be searched or excluded from the search by using options.

Search Term

Specify your search term in the box. You can select to search for an exact match, starts with, occurs anywhere, and you can specify a case-sensitive search by selecting that box.

Object Status

If desired, you can limit your search to Valid or Invalid objects. The default choice is to search both.

Specifying your Search

The object search is an extremely powerful feature. You can search for almost anything or combination of things you can conceive.

By default, Toad searches through all objects in the schema you specify to find the search term you enter.

You can limit your search to:

- Schemas

- Object names
- Column Names
- Source
- Any combination of these

Schemas to Search

Select the schemas you want to search. You can right-click in this area to select all, invert your selection, and otherwise control your selection options.

Search Object Names

When the search object names box is checked, you can select object types from the object list. You can right-click in this area to select all, invert your selection, and otherwise control your selection options.

Note: Currently the Quest DBA module is required to search the following objects: Contexts, Dimensions, Directories, Evaluation Context, Library, Operators, Policies, Policy Groups, Profiles, Refresh Groups, Resource Plans, Rules, Rule Sets, Scheduler Chains, Scheduler Jobs, Scheduler Job Classes, Scheduler Programs, Scheduler Schedules, Scheduler Windows, Scheduler Window Groups, and Tablespaces.

Search Column Names

When the search column names box is checked, you can select object types with columns from the list. You can right-click in this area to select all, invert your selection, and otherwise control your selection options.

Source Search

The Search Source area of the window uses the Oracle INSTR function to determine if the search term exists in a given object's source. Because of this, when performing a Source Search, the search always searches as if the search term has specified **Occurs anywhere**, regardless of what is selected in the Search term area.

Object Search DDL Script Options

This window lets you alter the DDL script inclusions for the [Object Search](#) window. You can add or remove DDL scripts for Tables, Indexes, Views, Users, Tablespaces, and All others.

Click in the check boxes to include (checked) or exclude (unchecked) the scripts. By default, all scripts are included.

Regular Expressions

Regular Expression Searches

Books have been written on the use and usefulness of regular expressions. Toad uses the Perl regular expression syntax, and can be used in both the find and replace boxes throughout.

This topic will touch on the basics of using regular expressions. Regular expressions can be used to specify text by its characteristics, rather than searching for exact characters. In addition, you can use regular expressions to find strings that are not otherwise easily searched. This is one of the basic uses for regular expressions.

Simple Matches

Simple matches simply find the occurrence of the specified character. Unless the string contains a metacharacter, Toad will use simple matching. For example, entering "toad" will match "toad", and so on.

Metacharacters

Special characters called [metacharacters](#) serve purposes other than matching themselves. Toad can be told to match a special character exactly if necessary. To escape the character and have it match itself, simply precede it with a backslash (\). For example, ^ means "match beginning of string, but \^ will find occurrences of "^". In the same way, characters which are not metacharacters in themselves are sometimes made into metacharacters by preceding them with the backslash. For example "t" will match all "t"s. However, \t finds the tab character.

Metacharacters are the heart of regular expressions. There are several different kinds of metacharacters. Some of the most often used are described below:

Expression	Meaning
\r	Carriage return
\n	New line
\f	Form feed
\t	Tab character
\b	Backspace
\s	Whitespace character
\S	Space
.	Any single character. For example, c.b matches cab, cob, and cub.
[]	Any one of the characters in the brackets, or any range of characters separated by a hyphen, or a character class operator.
[^]	Any character that EXCEPTING those after the caret. For example, c[^u]b will match cab and cob, but not cut.
^	Start of a line
\$	End of a line (but not the line break characters)
*	Matches none or more of the preceding characters or expressions. For example, bo*t matches bt, bot, and boot.
?	Matches zero or one of the preceding characters or expressions. For example, bo?t matches bt, bot, but not boot.
+	Matches one or more of the preceding characters or expressions. For example, bo+t matches bot, and boot but not bt.

Related Topics

[Character Classes](#)

[Metacharacters](#)

[Examples of Regular Expressions](#)

Character Classes

Character classes in regular expressions can be specified by enclosing a list of characters in square brackets ([]), which will match any one character from the list contained within. If the first character after [is "^", the class matches any character not in the list.

Within a class list, use the "-" character to specify a range. For example, a-z is all the characters between a and z, inclusive. You can include "-" as a member of the class by putting it at either the start or the end of the list, or by escaping it with a backslash.

Examples

Expression	Matches
<code>m[aeiou]ke</code>	'make', 'meke', 'mike', and so on, but not 'mke', 'mbke', 'mcke', and so on.
<code>m[^aeiou]ke</code>	mbke', 'mcke', and so on, but not 'make', 'meke', and so on.
<code>[-az]</code>	'a', 'z' and '-'
<code>[az-]</code>	'a', 'z', and '-'
<code>[a\ -z]</code>	'a', 'z', and '-'
<code>[a-z]</code>	all 26 lower case characters from 'a' to 'z'
<code>[\n-\x0D]</code>	any of the following: '10', '11', '12', or '13'
<code>[\d-t]</code>	any digit, '-', or 't'
<code>[]-a]</code>	any character from ']' to 'a'

Related Topics

[Regular Expression Searches](#)

[Metacharacters](#)

[Examples of Regular Expressions](#)

Metacharacters

There are several different types of metacharacters. Each finds a different kind of string.

Line separators

Character	Matches
<code>^</code>	Start of line
<code>\$</code>	End of line
<code>\A</code>	Start of text
<code>\Z</code>	End of text
<code>.</code>	Any character in line

Predefined classes

Expression	Matches
<code>\w</code>	alphanumeric character (includes "_")
<code>\W</code>	a non-alphanumeric character

<code>\d</code>	a numeric character
<code>\D</code>	a non-numeric character
<code>\s</code>	any type of space (could also be written <code>[\t\n\r\f]</code>)
<code>\S</code>	a non-space

Word boundaries

Expression	Matches
<code>\b</code>	a word boundary
<code>\B</code>	a non-word boundary

Iterators

A regular expression can be followed by an iterator. These metacharacters let you specify the number of occurrences of the previous character, metacharacter, or subexpression.

Iterator	Matches
<code>&</code>	zero or more (greedy), similar to <code>{0}</code>
<code>+</code>	one or more (greedy), similar to <code>{1,}</code>
<code>?</code>	zero or one (greedy), similar to <code>{0,1}</code>
<code>{n}</code>	exactly n times (greedy)
<code>{n,}</code>	at least n times (greedy)
<code>{n,m}</code>	at least n, but not more than m times (greedy)
<code>*?</code>	zero or more (non-greedy), similar to <code>{0,}?</code>
<code>+?</code>	one or more (non-greedy), similar to <code>{1,}?</code>
<code>??</code>	zero or one (non-greedy), similar to <code>{0,1}?</code>
<code>{n}?</code>	exactly n times (non-greedy)
<code>{n,}?</code>	at least n times (non-greedy)
<code>{n,m}?</code>	at least n but not more than m times (non-greedy)

Alternatives

Use the | to separate alternatives for a pattern.

Expression	Matches
m(a e)t	mat or met

Subexpressions

You can combine expressions by adding subexpressions to your search. Subexpressions are numbered based on the left to right order of their opening parentheses. Examples include:

Expression	Matches
(match){5,7}	strings which contain 5, 6, or 7 instances of "match"
mat([0-9] c+)h	mat0h, mat1h, match, matcch, and so on.

Related Topics

[Regular Expression Searches](#)

[Character Classes](#)

[Examples of Regular Expressions](#)

Examples of Regular Expressions

Below are some expressions of regular expressions using the [metacharacters](#) listed.

Expression	Matches
^make	string 'make' only if it begins a line
make\$	string 'make' only if it ends a line
^make\$	string 'make' only if it is the only string in the line
m.ke	strings such as 'make', 'mike', 'mbke', 'm1ke', and so on.
mat\dh	strings such as 'mat1h', 'mat2h', and so on, but not 'match', 'matbh', 'matrh' and so on.
mat[\w\s]h	strings like 'match', 'mat h', 'mathh', but not 'mat1h', 'mat2h', and so on.
mat.*h	strings like 'match', 'matasdkfjdf9sasf', and 'math'.

<code>mat.+h</code>	strings like 'math', 'masjdfksjfs9fsj', but not 'math'.
<code>mat.?h</code>	strings like 'matah', 'matbh', and 'math', but not 'mat9h.'
<code>mat{2}h</code>	the string 'matth'
<code>mat{2,}h</code>	the string 'matth', 'mattt', 'matttth', and so on.
<code>mat{2,3}h</code>	strings like 'matth' or 'matttth', but not 'matttth'.
<code>(match){6,10}</code>	strings which contain 6, 7, 8, 9, or 10 instances of "match".
<code>mat([0-9] a+)h</code>	'mat0r', 'mat1r', 'match', 'matah', and so on.

Related Topics

[Regular Expression Searches](#)

[Character Classes](#)

[Metacharacters](#)

[Examples of Regular Expressions](#)

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