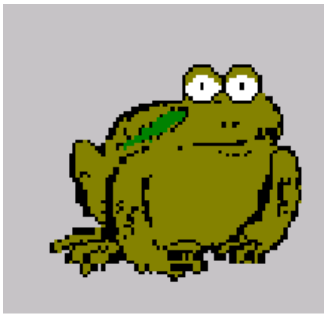

QUEST SOFTWARE

# T.O.A.D. Walk Through

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III. SQL Editor

IV. SQL Builder

V. Stored Procedure Editor/Compiler & Debugger (future)

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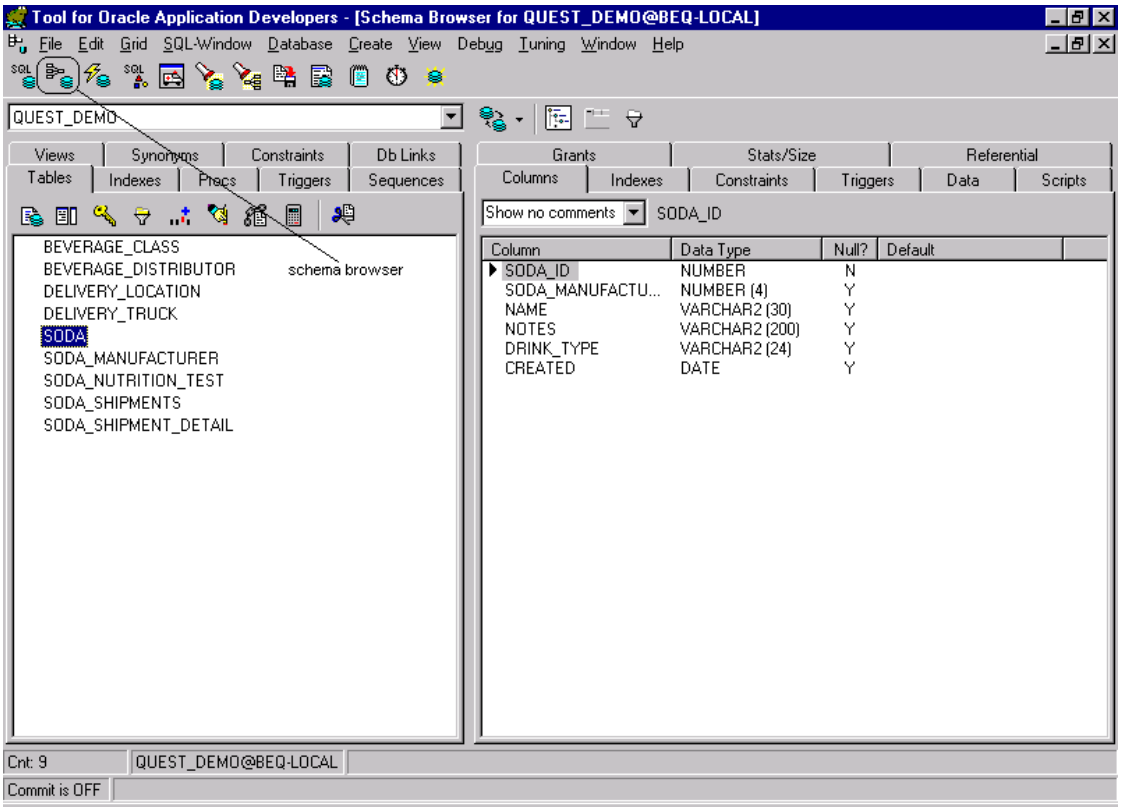
## I. Introduction

The primary purpose of TOAD is to aid application developers in the construction and testing of Oracle SQL statements including select queries, insert/delete statements, blocks of procedure code (dynamic SQL), stored procedures, views, DDL modification statements, and more.

The simple and effective tabbed interface contrasts with the hierarchical approach of most database navigation tools, yielding fast performance. Like other products that were developed as freeware, such as Linux and Apache, TOAD contains a great deal of functionality.

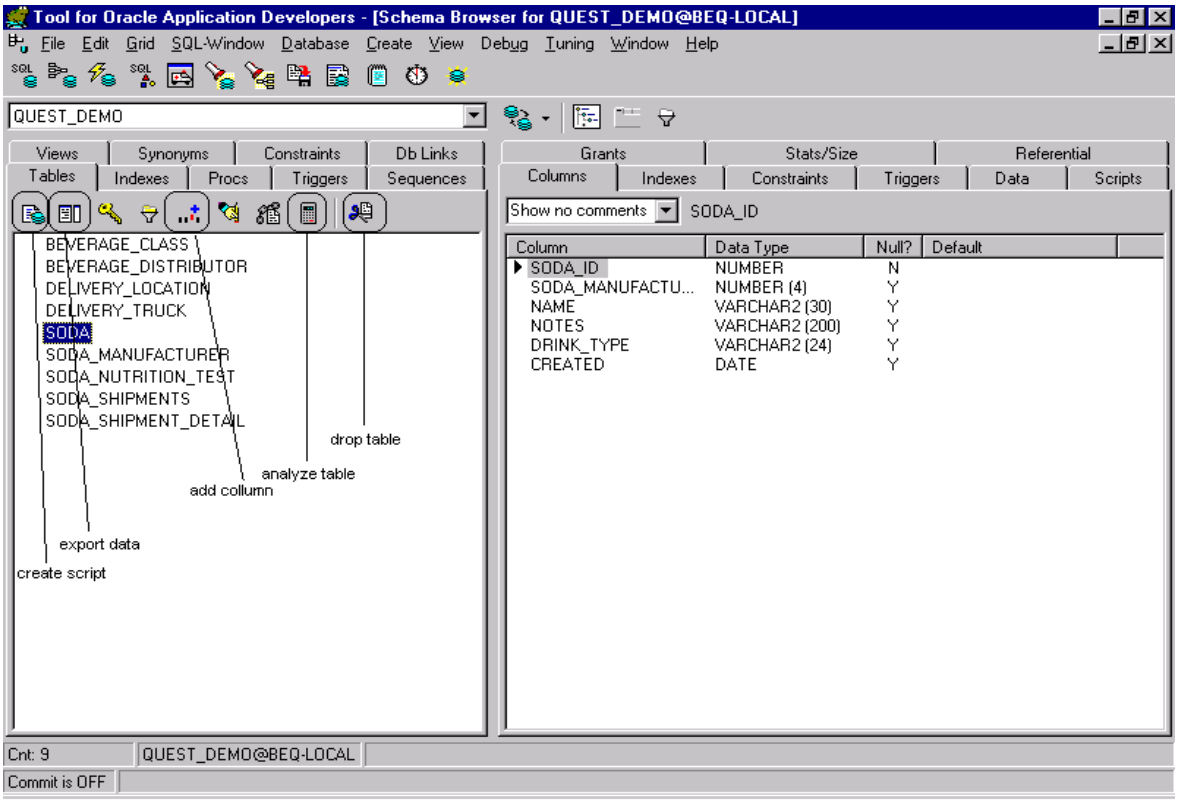
## II. Schema Browser




The Browser provides a quick view of the objects in the database. Click on the second button from the right to open a new schema browser window (arrow). The browser separates tables, indexes, procedures, triggers, etc. onto separate tabs. You may customize the tabs on this screen. For example, you can remove a tab for objects that you use infrequently.

Example: quest_demo.soda

When you click on any individual object on the left, details or the DDL structure for that object are displayed in a separate area to the right of the browser window.



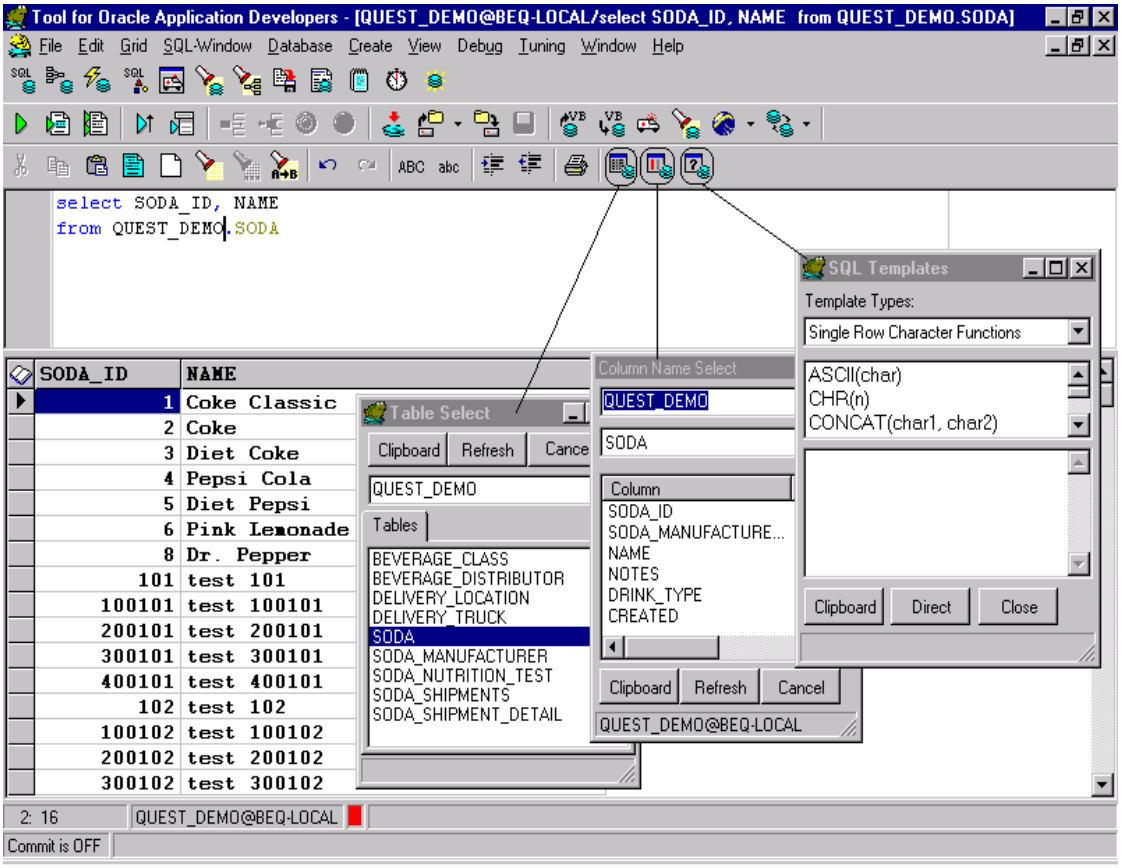

Many of the objects can be manipulated from the schema browser with buttons.

Examples: Add a column, drop a table, export data or analyze table functionality can all be started from buttons. Tabs on the right hand show details of the object selected on the left

TOAD can create DDL scripts – Oracle Statements to recreate the object – for most of the objects displayed on the object browser. Click on the create script button to create a DDL script for the object highlighted (always the first button on the object browser).

III. SQL Editor

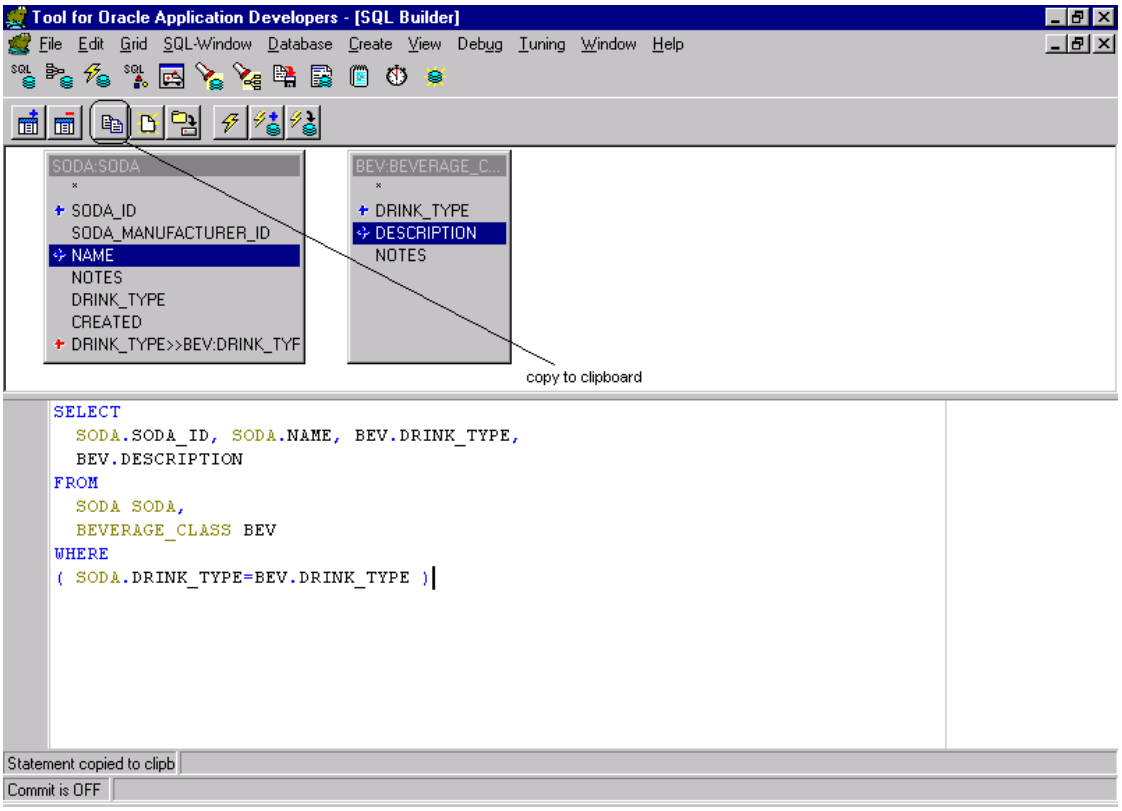
A developer will spend at least half of their time in a SQL Edit Window. The SQL Edit window consists of 2 sections: an upper text edit window and a lower data grid that displays the results of SELECT statements. There is support for LONG and LONG RAW columns via popup windows, exporting data to disk, printing, editing data, etc.




With the 'show tables window', 'show columns window' and 'show SQL help window' buttons, SQL scripts can easily been build by drag and drop functionality. The last button shows a variety of templates, which are all customizable.
With the 'Explain plan' button (ambulance), Oracle's explain plan function will be used and explain plan data will be showed in the lower half of the screen. Auto trace (right-click menu) is a mini version of Sql Trace that displays quick results directly.
With the 'Show Recall' button (F8) the previous SQL edited can be selected. The AutoCorrect feature can be used to correct typing error (teh / the) or to use abbreviations rather than full text (ndf /no data found).
Type dbms_output. & wait a second – the available options will pop up. Type ctrl + spacebar – code templates will pop up (these like all the templates in TOAD can be user defined).

IV. SQL Builder

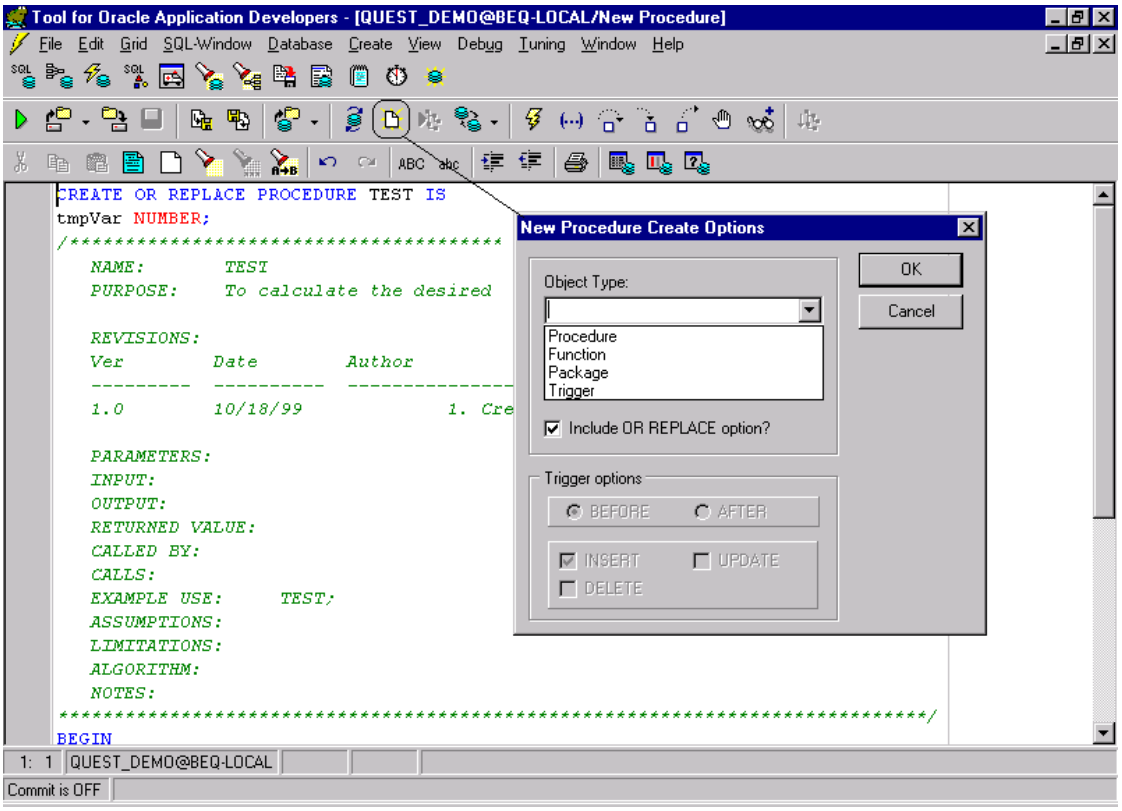

The SQL Builder gives you a fast means for creating the framework of a Select, Insert or Update Statement. You can select tables, join table columns, select columns, and create the desired type of statement.
Example: Create a join (soda & beverage_class).




By clicking the 'copy to clipboard' button, the created framework for the Select, Insert or Update is highlighted and can be pasted into the SQL Editor window by the 'paste text from clipboard (cntrl-v) button.

V. Stored Procedure Edit/Compile

Procedure Edit is designed solely for editing and compiling Stored Procedures, Functions, Packages, and Triggers. The Procedure Edit Window attempts to work as closely as possible to the way in which developers are accustomed to working by allowing multiple statements per file, Package Headers and Bodies in the same file, and with SQL*Plus style scripts.

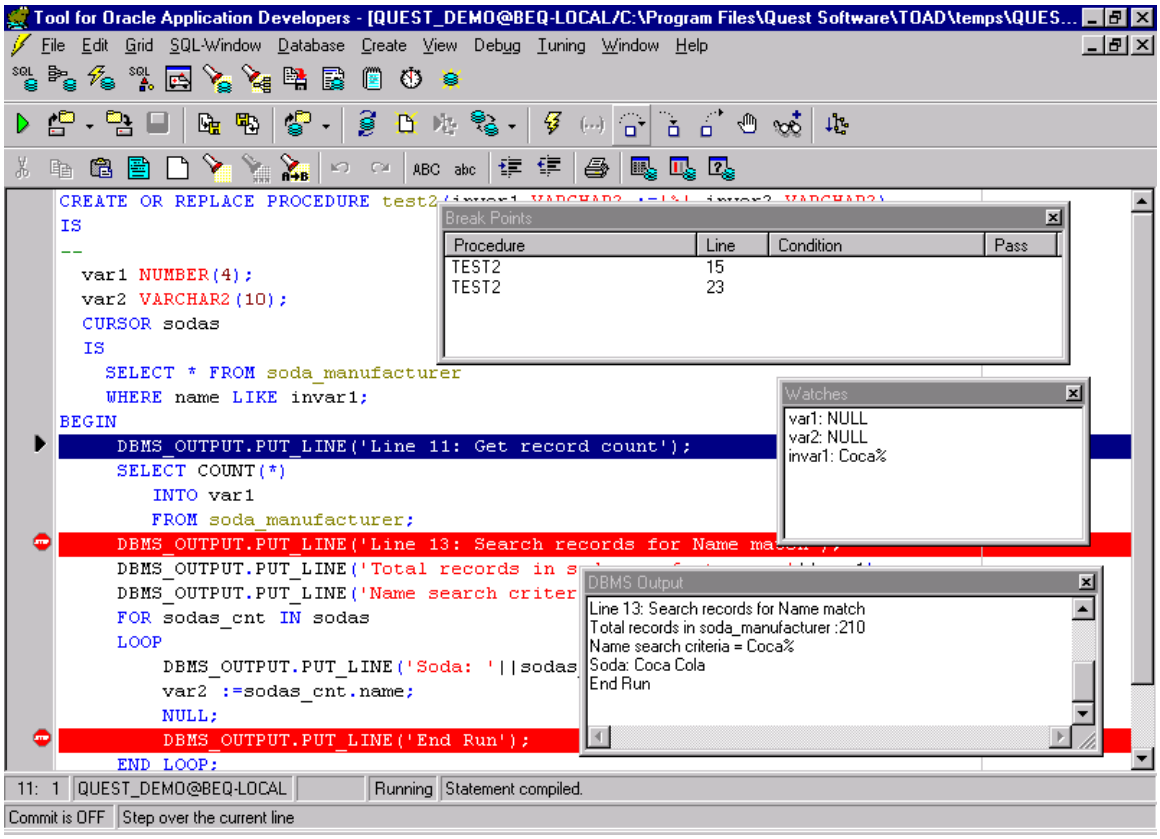



Example:
Create a procedure using a template by clicking the 'create new procedure' button, which will bring up a dialog box, from where you can choose to create a Stored Procedure, Function, Package, or Trigger. Note: you can edit the files that specify the template.

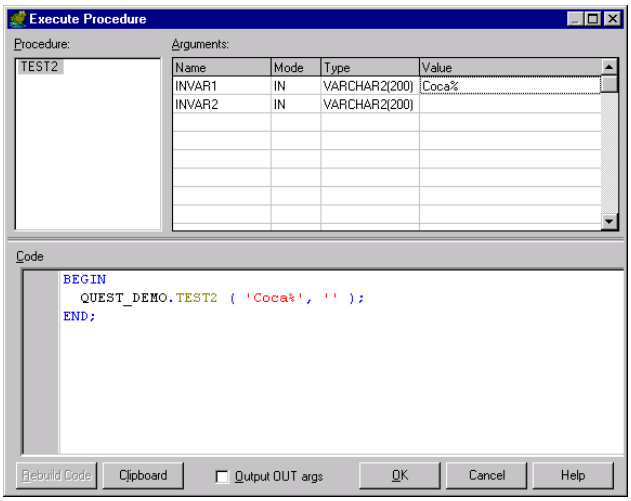
During (or following compilation), the Procedure Edit window will stop on encountering an error. TOAD will hi-light the errant statement in the editor. If multiple errors are returned from Oracle, you can cycle through the list of errors by clicking the PREV/NEXT buttons.

VI. De-bugger (TOAD v6.2.7.19 or later)

The optional debugger allows you to step through your code line-by-line as it executes. The intuitive interface enables you to easily set conditional breakpoints, view watch variables, and view the call stack. After execution, you can view the DBMS_OUTPUT from the server. All debug windows can be stacked as a single tabbed window, or separated for easier viewing.




Before executing the procedure in debugger mode, you can set input variables in the Execute Procedure Window <CTRL>F9.

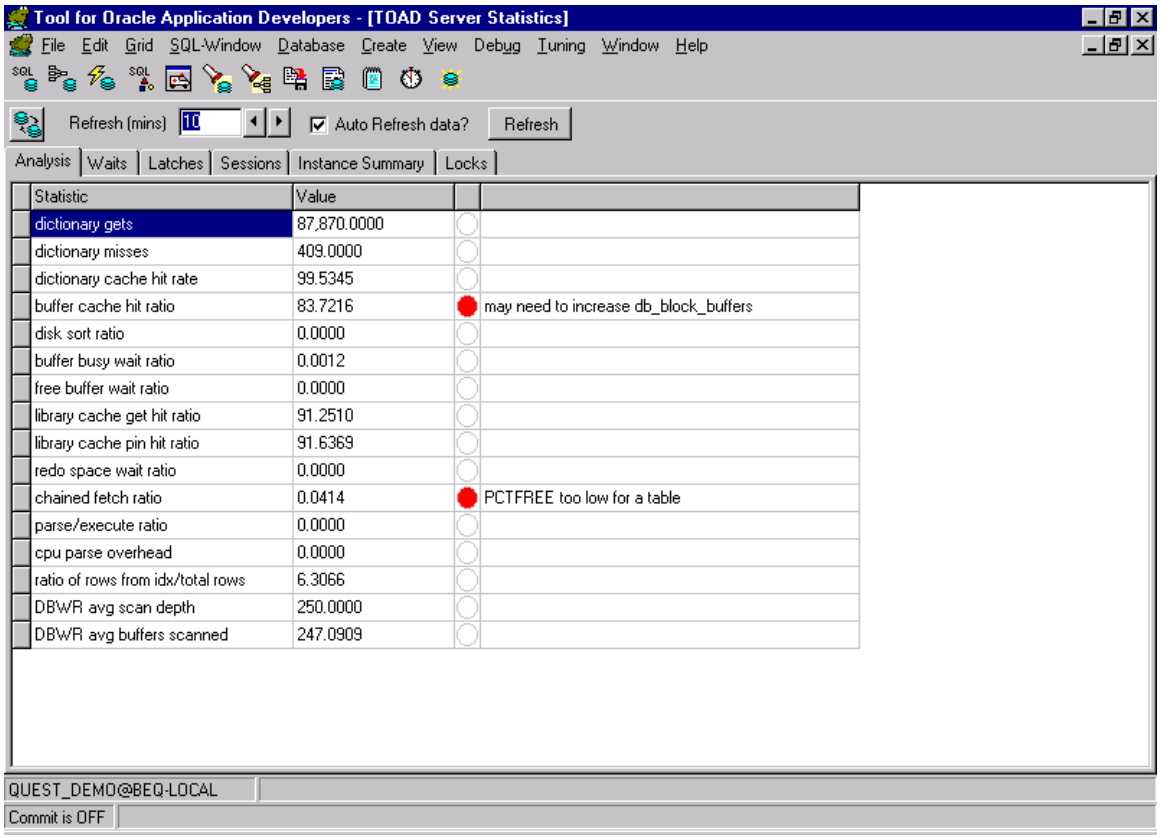


## VII. Optimization

TOAD offers several features to help you optimize queries of view the performance statistics for the server. We saw explain plan earlier in the SQL Editor and Auto trace (which is a mini version of SQL trace that displays quick results directly on the client)

SQL trace (tkprof), a server side utility that will show CPU, IO requirements, and resource usage for a statement, can also be enabled in the SQL editor. The optimizer goal can also be set as a r-mouse option in the SQL Editor.

The server statistics window displays wait, latch, and derived (calculated) statistics using the Oracle V$ tables.

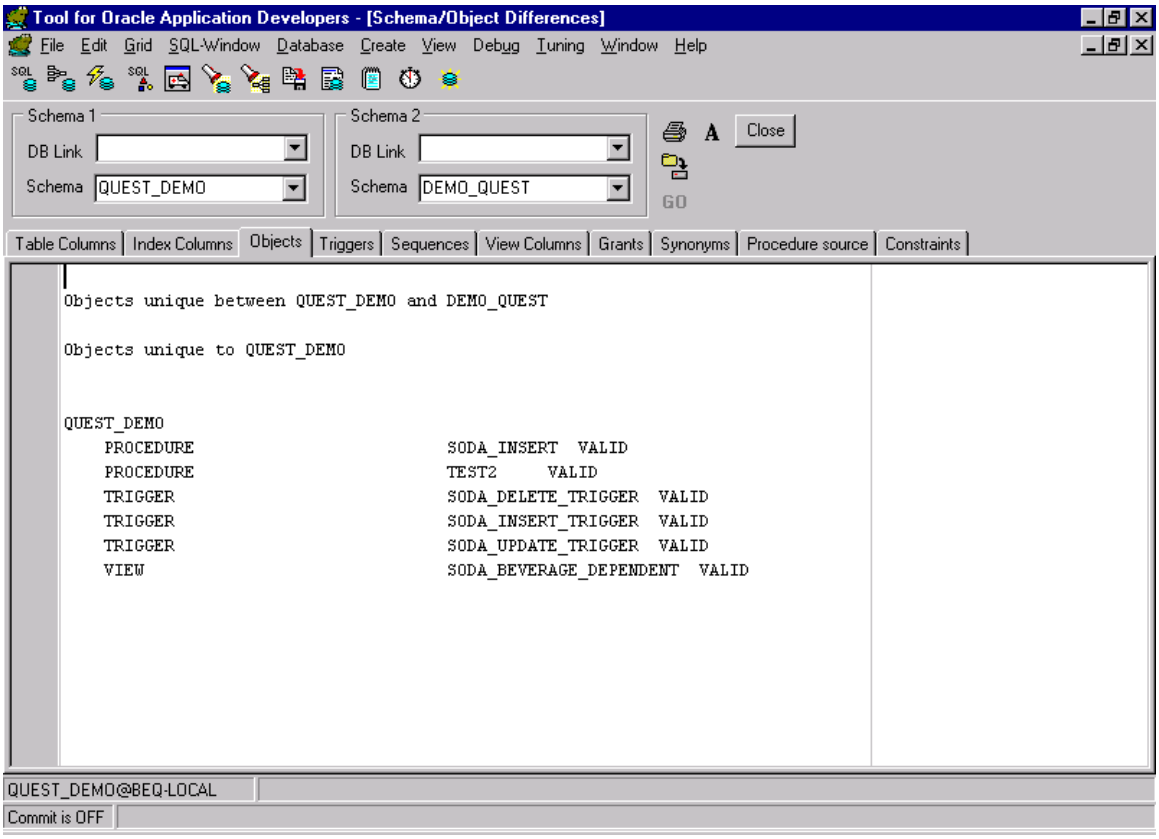



Example: Tuning/Server Stats. Go to locks tab – you have the option of killing a session.

## VIII. Additional Features

### Comparison of 2 schemas:

Use this feature to display the differences between 2 closely related schemas, either on the same Oracle database instance, or across instances. In the last case the schema's will be compared using a database link. From the menu choose 'View - Schema Differences'

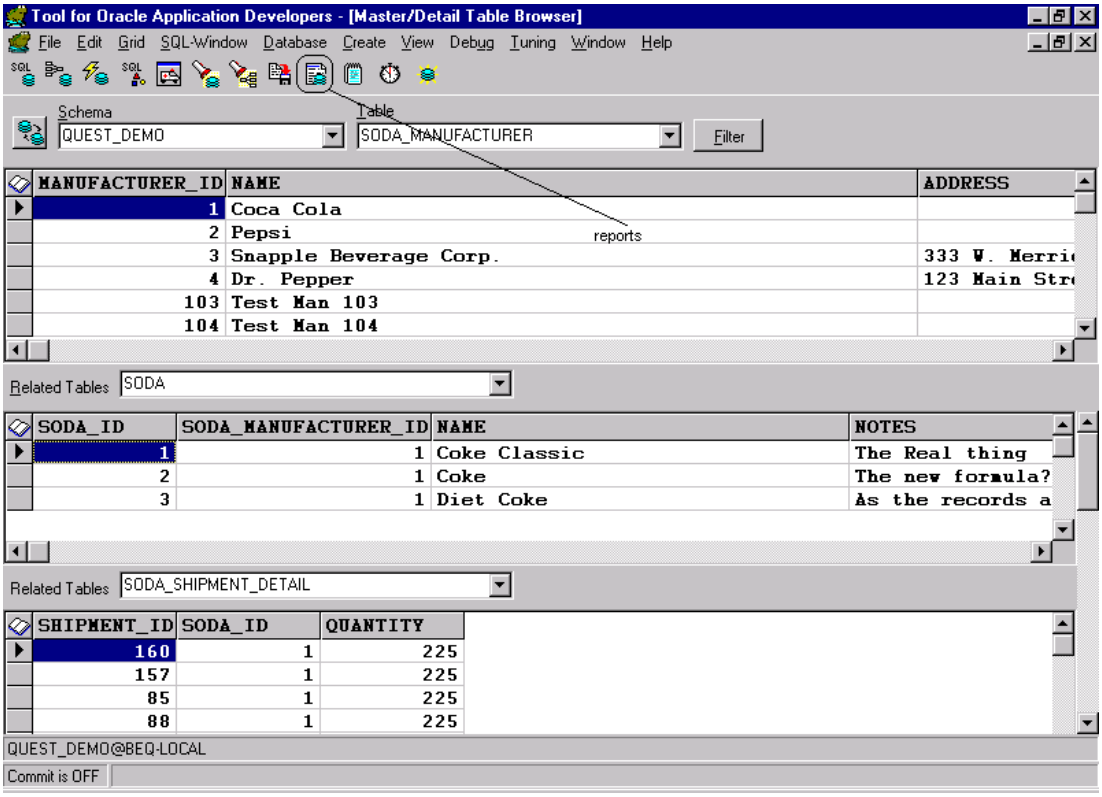



Example: compare schema quest_demo with demo_quest.
The table columns tab shows if there are table columns in one table but not the other, they will be displayed. If the datatype, length, etc. are different, then both columns will be displayed so that you can compare the values.
The objects tab will list objects (functions, indexes, packages, procedures, etc.) found in one schema but not in schema2 and vice versa.

Caution: the queries are slow if you are accessing a database over a slow link or modem.

Master/Detail Table Browser:

Use this function which can be found from ‘Database - Master/Detail Browser’ to view or edit table data in a database, where the tables are linked by foreign keys. This is typical of a database setup from an Entity/Relationship diagram, where objects are related to other objects by a link.

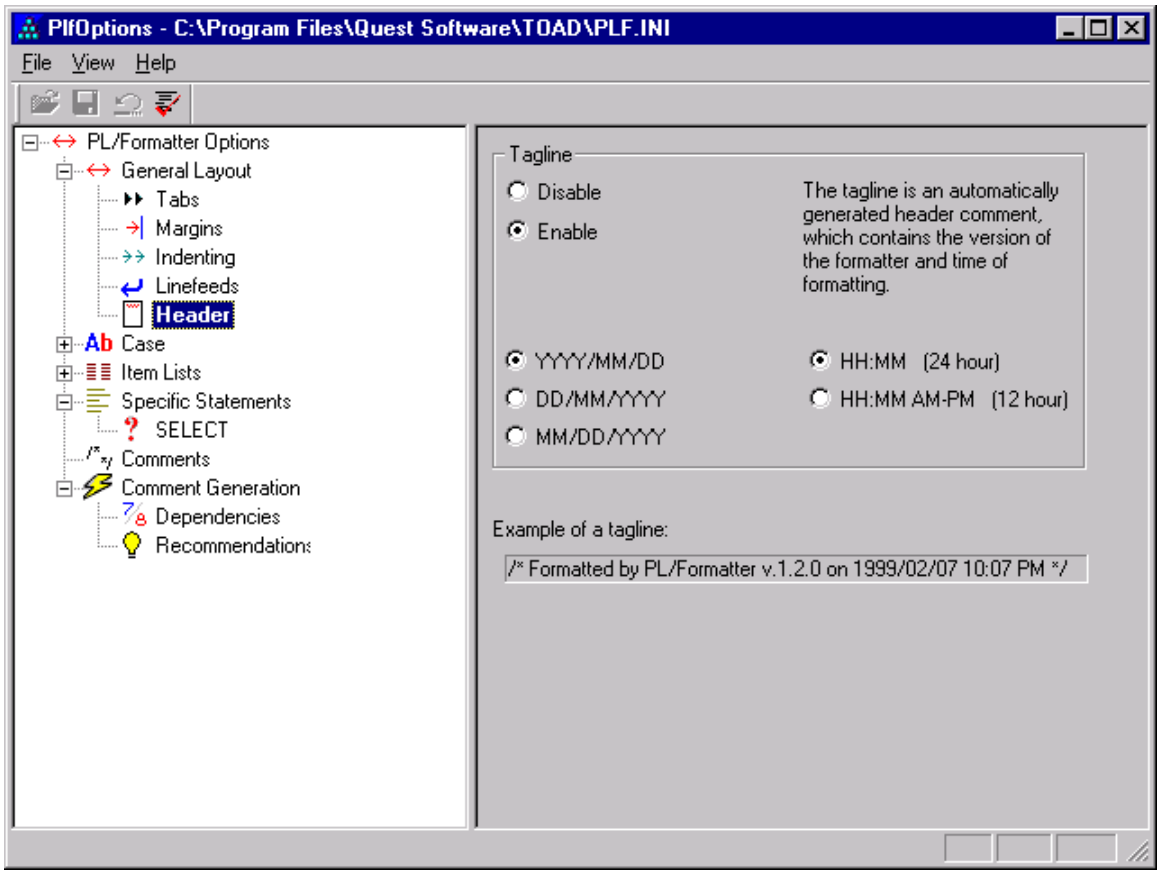



Example: Show data value dependencies. When you hi-light a cell the corresponding field in the related table is hi-lighted).

In the reports TOAD can print a detailed DDL report of a schema.

PL/Formatter option:

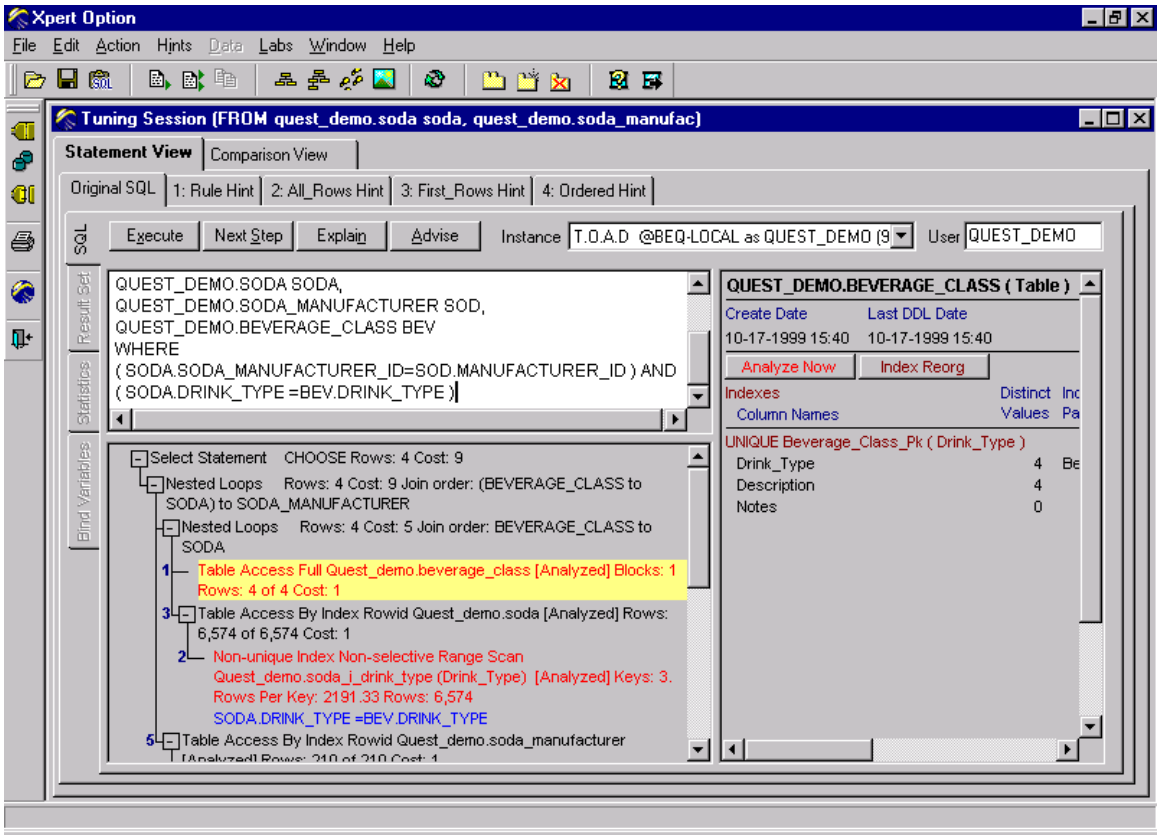
There is an add-on product by RevealNet, called PL/Formatter, which will format your SQL code, inside of TOAD. The PL/Formatter for TOAD allows you to easily modify the way you want to structure your code.




The actual code with in the SQL Editor will be formatted by using right-mouse button click, and selecting Format SQL.

Tuning Option:

With the Tuning option in TOAD, you can  select the desired SQL statement, click the Tuner toolbar button, and the statement will be passed to the SQLab Tuner module for in depth analysis.  After tuning, you can pass back the resulting SQL statement to TOAD. SQLab Tuner actually places the statement into the Windows Clipboard, so that you can paste it back into the TOAD editors where you want it.




In SQLab Tuner/Expert various the code you are producing can be tested in various ways to achieve good performance. With this option you will get in to a laboratory, specific designed to tune SQL.