



## **Rapid SQL® 7.6 Evaluation Guide**

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## Introduction to Embarcadero's Rapid SQL

Rapid SQL® is an integrated development environment that enables developers to create, edit, version, tune, and deploy server-side objects residing on Microsoft® SQL Server, Oracle®, Sybase Adaptive Server®, IBM® UDB DB2®, and IBM® DB2® for OS/390® databases. Its unified database development environment provides extensive graphical facilities that simplify SQL scripting, object management, reverse engineering, database project management, version control and schema deployment. With Rapid SQL, programmers can develop and maintain high-quality, high-performance client/server and web-based applications in less time, and with greater accuracy.

### Product Benefits by Audience

#### Database Developers/Administrators

Rapid SQL **provides an easy-to-use graphical user interface (GUI)**, which allows Database Developers to be immediately productive in a cross-platform environment without having platform specific knowledge. Along this line, Rapid SQL provides **standard object creation wizards and graphical object editors for all supported platforms**, which greatly reduce the time and effort to build an application database from the ground up.

Rapid SQL also offers several **cross-platform code-generation options**, which help Developers build SQL code that is syntactically and functionally correct the first time. In addition, Rapid SQL can be used for the **immediate or scheduled execution of SQL scripts and files**, both with output and notification options.

Rapid SQL makes short order of working with data by providing Developers with several **easy-to-use browsing, visual query building and data editing options**. All operations can be completed with drag-and-drop, point-and-click ease, with little or no SQL coding required.

#### Database Project Management

Rapid SQL **provides seamless, out-of-the-box integration with all major Version Control Systems (VCS)**. Rapid SQL offers **complete database project management** capabilities, which allows for the **reverse-engineering of live database objects** into corresponding off-line SQL source code files, which may be checked into and out of any of the supported VCSs. Rapid SQL also provides **detailed HTML reports at the database object level** that can be viewed immediately within the application or published to a defined web directory.

## About this Evaluation Guide

This evaluation guide is intended to help you get started using Embarcadero's Rapid SQL.

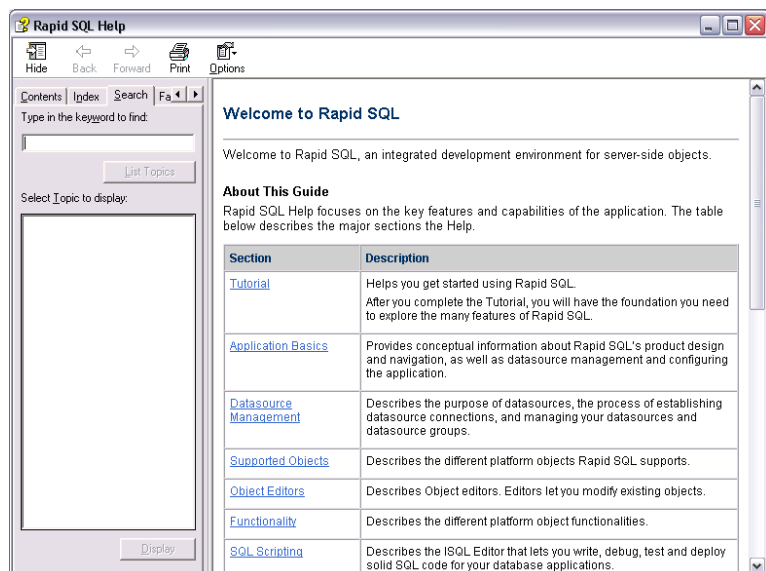
After completion of this evaluation guide, you'll have the foundation you need to explore the many features of Rapid SQL. You'll have learned how to register and connect cross-platform datasources, navigate the database explorer, work with the individual object browsers, editors and wizards, build and manage projects, and leverage many of the productivity-focused features offered throughout Rapid SQL. You will also know that Rapid SQL allows you to concentrate more on what needs to be done and less on how it should be done.

This guide is divided into separate sessions. Do them all at once, or complete them individually as you have time:

- Session 1: Getting Started with Rapid SQL
- Session 2: Productivity Enhancers
- Session 3: Scripting
- Session 4: Working with Code Workbench
- Session 5: Building a Database Project
- Section 6: Visual Query Builder and Data Editor
- Section 7: Code Analyst
- Section 8: SQL Debugging and Profiling

You can use this basic tutorial as a roadmap of product highlights; but also to help you find your own path to explore Rapid SQL.

Once you've started, you can select **Help Topics** from the **Help** menu to find many additional resources including Tutorials that complement and build on many of the activities shown in this brief guide.



## Session 1: Getting Started with Rapid SQL

### Download and Install

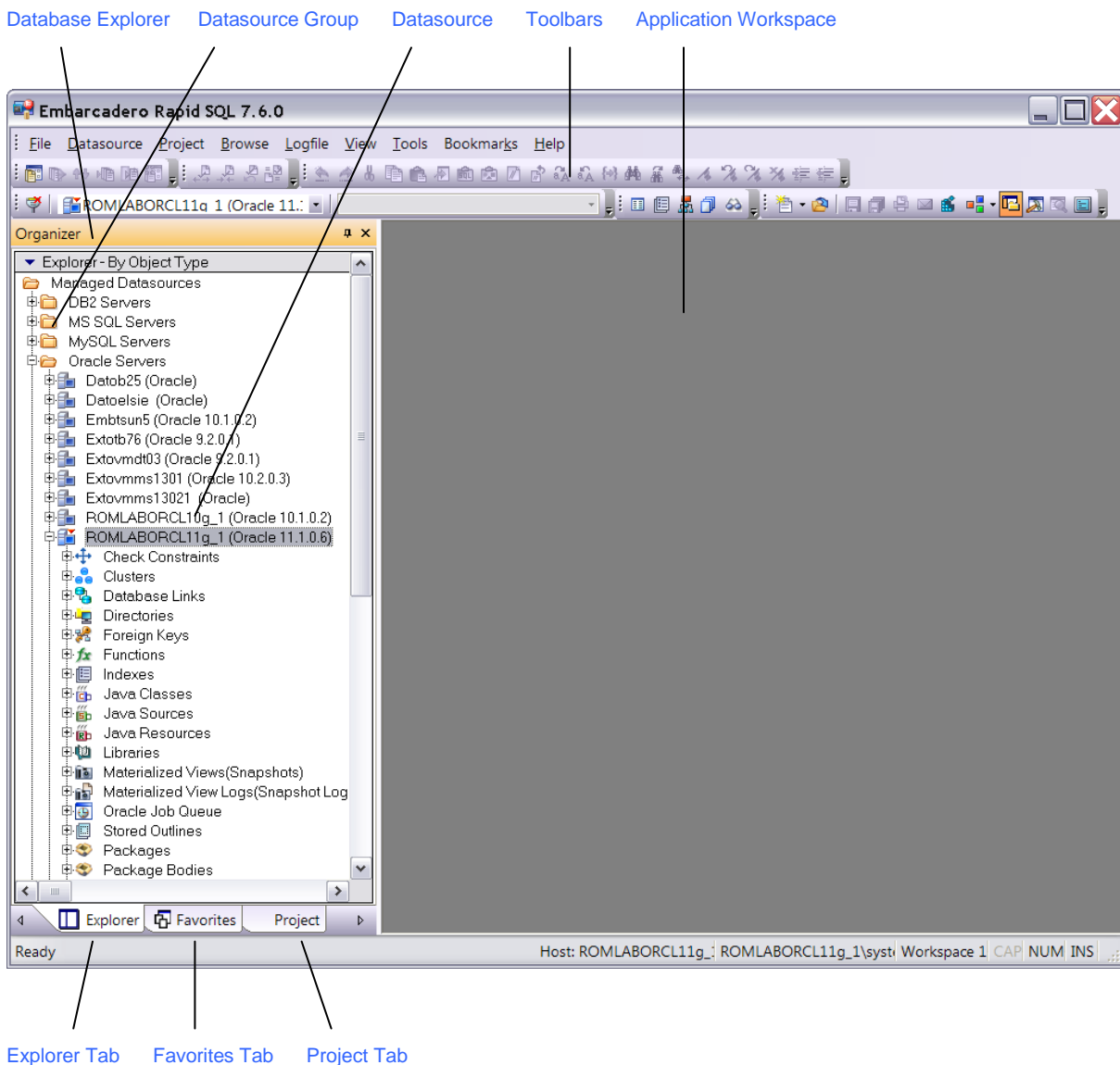
You can obtain the latest version of the Rapid SQL software from the Embarcadero website at [www.embarcadero.com](http://www.embarcadero.com).

Click “**Download**”, and follow the steps indicated. Save the file on your computer and then double-click to launch the self-extracting file that will guide you through the installation process.

When you first install an evaluation copy of Rapid SQL, you can use the tool for 14 days. After that time, a permanent license is needed.

### Overview

The graphic below illustrates all the elements of the Rapid SQL application window.



**Rapid SQL allows you to view and manage all of your databases at the same time from the Database Explorer.** You can easily move from DB2 to Oracle to SQL Server to Sybase all within the same window. Rapid SQL's multi-threaded, productivity-enhancing environment allows you to have several workspaces open at the same time so you can continue to work, even while the application processes in the background.

## Start Rapid SQL

1. Choose **Start > Programs>Embarcadero Rapid SQL 7.6.0>Rapid SQL 7.6.0.**

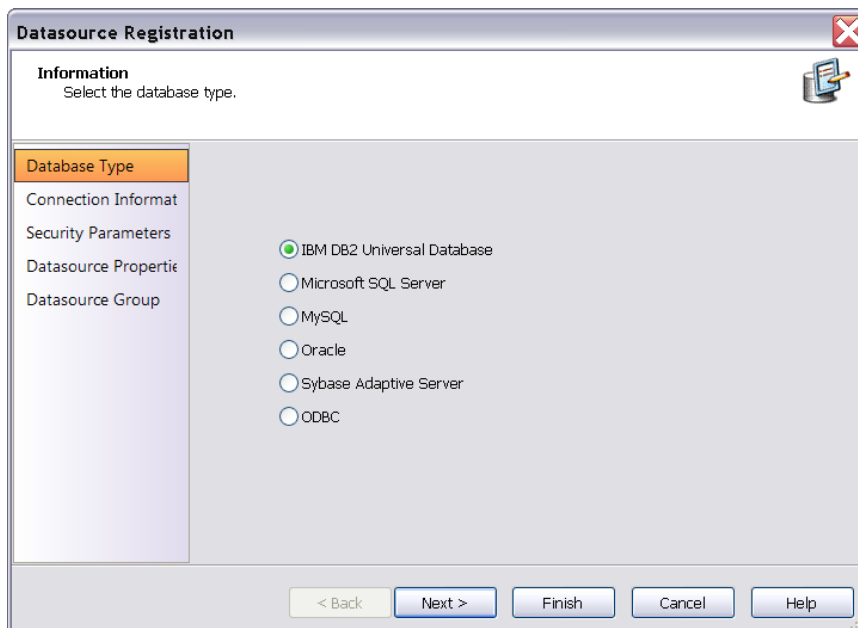
The first time Rapid SQL starts, it offers to automatically discover and register any datasources on your network. The Discover Datasources feature automatically searches the DBMS configuration files and discovers datasources residing on your system that are not currently registered. When you use this feature, a dialog box lists the name of the server or instance and the type of DBMS of all unregistered datasources found on your network or local machine and gives you the option to register the discovered datasources.

2. Choose "No" for the purpose of this guide.

## Registering Cross-Platform Datasources

For now, you will register a data source manually.

1. On the **Datasource** menu, select **Register Datasource**. A **Datasource Registration** wizard opens.



2. Choose **Microsoft SQL Server** as the DBMS type and then click **Next**.

3. Specify the **Host** name of a SQL Server datasource on your network, override the **Datasource** name with "SAMPLE\_DATASOURCE" and then click **Next**.
4. Provide valid credentials in the **User ID** and **Password** boxes, and then select the **Auto-Connect?** checkbox to eliminate having to provide credentials each time you connect to this datasource.
5. In the left-hand pane, select **Datasource Group**, select the **MS SQL Server** folder, and then click **Finish**.
6. Select **Yes** when prompted to connect to the new datasource.

Rapid SQL offers the same easy-to-use Datasource Registration Wizard for IBM DB2, Microsoft SQL Server, Oracle, Sybase and ODBC connections. The connection information only needs to be set up one time for each platform and can be saved locally or in a common datasource catalog for use by other Embarcadero products.

You can configure Embarcadero database applications to use a datasource catalog stored in the system registry of your machine (local) or to use a datasource catalog located in the registry of another computer (remote). This capability makes it easy to share datasource catalogs among multiple users so that maintenance can occur in one location.

All Embarcadero database management products share the datasource catalog, which means that when you set up your datasource catalog using one product such as Rapid SQL, the same list of datasources is available in other Embarcadero Technologies products. Any changes you make to the datasource catalog are reflected in all Embarcadero database management products.



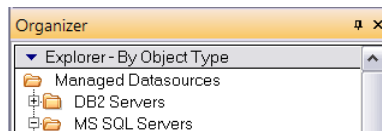
## Session 2: Productivity Enhancers

### Database Object Management Made Easy

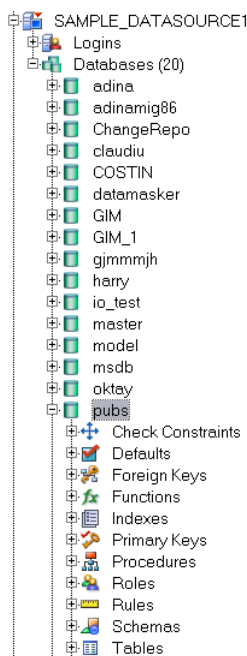
Rapid SQL makes it easy and intuitive to navigate between datasources and to drill-down into atomic database objects within the Database Explorer Tree. The Database Explorer Tree displays all registered datasources and serves as the entry-point for much of Rapid SQL's advanced functionality.

#### The Database Explorer Tree

1. Click on the Explorer title bar and select **By Object Type**.



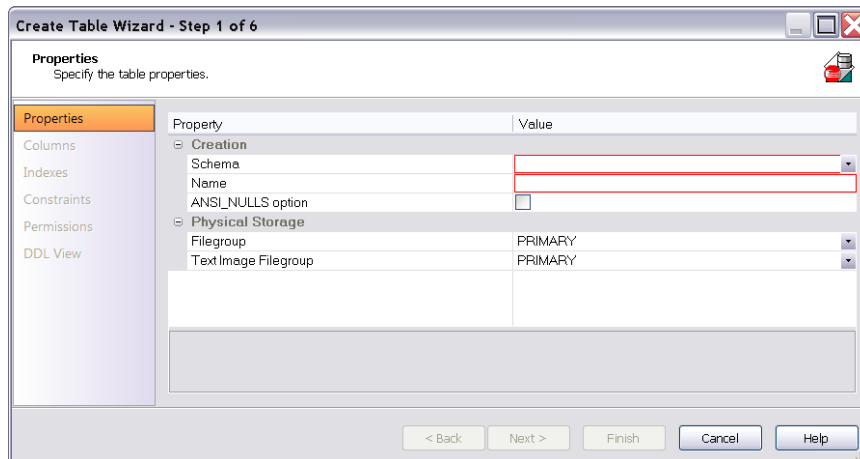
2. Select and Expand the **SAMPLE\_DATASOURCE > Databases > pubs** node to display the database object sub-nodes.



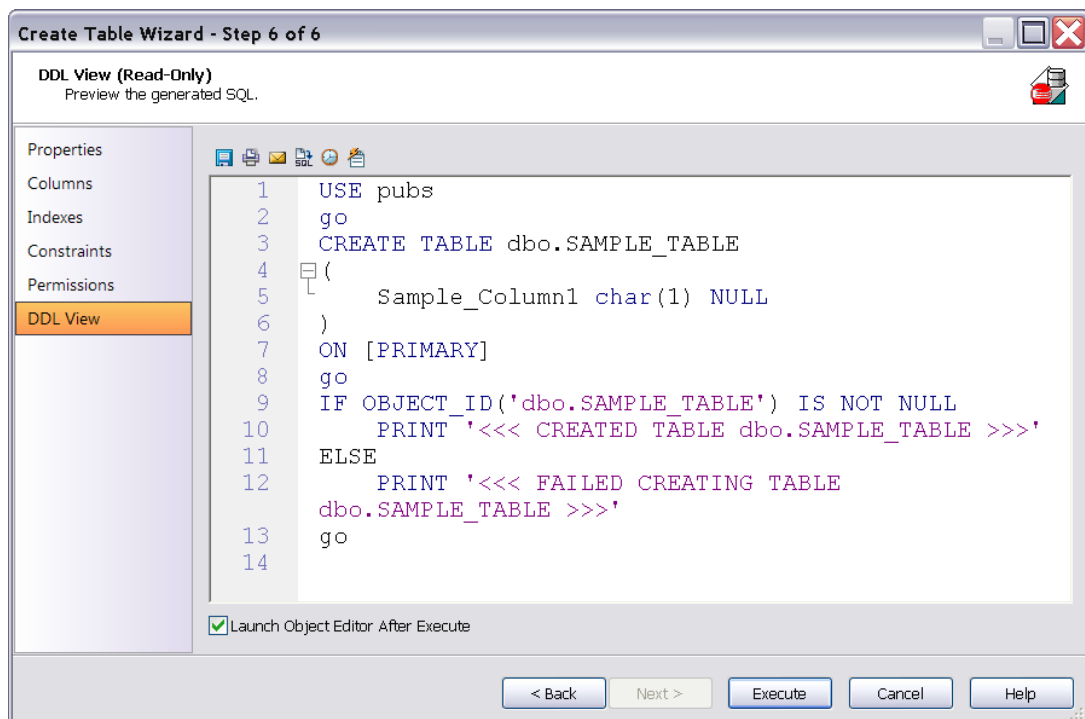
#### Creating an Object Using the Object Creation Wizard

From within the Database Explorer Tree you can create any database object using simple Object Creation Wizards. The following is an example of how to use the Table Object Creation Wizard. It is similar to the object creation wizards available within Rapid SQL for all database objects.

1. Right-click on the **Tables** node and select **New**. A **Create Table Wizard** opens.



2. Select a **Schema**, provide a **Name** of SAMPLE\_TABLE. Leave the remaining default settings and click **Next**.
3. Add a column, using a **Name** of Sample\_Column1 and select a **Type** of char(100). Experiment with the **Add Column** and **Delete** buttons, and with selecting a column and modifying its attributes.
4. Click **Finish**. The **DDL View** panel opens showing the DDL that will be used to create the new table.



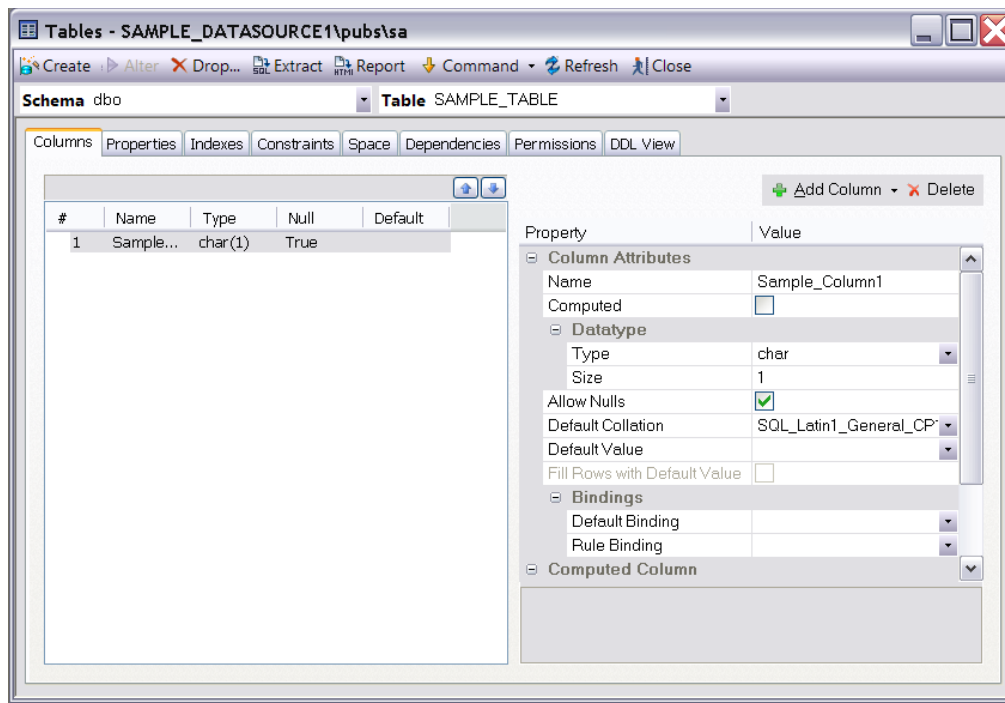
5. Deselect the **Launch Object Editor After Execute** and then click **Execute**.

Rapid SQL builds the platform-specific SQL code, syntactically-correct and ready to run the first time. There is no SQL coding required in any of the Rapid SQL creation wizards.

### Working With an Existing Object Using the Object Editor

While the wizard offered you the option to automatically open an editor on creating the table, you can also manually open an editor.

1. In the Database Explorer, right-click on your new table and select **Open**.



Object editor features are as follows:

- All Object Editors provide standardized, multi-tabbed windows for each database object type.
- All Object Editors provide fully-functional toolbars for easy object management
- Rapid SQL has full knowledge of the underlying DBMS system catalog, syntax and alteration rules, so the user can concentrate on what needs to be done, not how to do it.
- Drop-down boxes allow you to easily move between owners and objects.

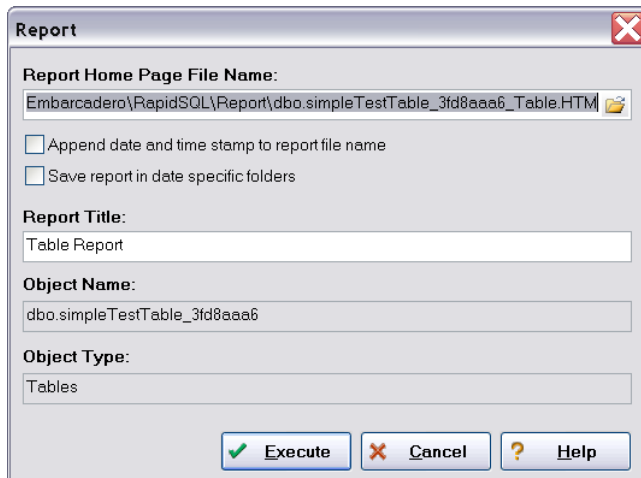
The Rapid SQL Object Editor easily performs operations that would normally require painstaking and error-prone scripting, such as deleting or inserting columns in a table while preserving data, dependencies and permissions. Rapid SQL analyzes the database catalog to determine its structure, and then automatically generates the SQL script required for the extended alteration. For instance, when a full table alteration is required, Rapid SQL automatically unloads and reloads the data, eliminating tedious work.

Close the object editor window.

### Object Documentation and Reporting

Rapid SQL provides rich, detailed HTML Reporting for all database objects. Building a browser-ready report for any object is any a few mouse-clicks away.

1. Expand the Tables node, right-click on any table and select **Report** from the menu. A **Report** dialog opens.



2. Enter a destination **Report Home Page File Name**. This can be a network web server directoryfile.
3. Enter a **Report Title** and click **Execute**.

The HTML report will automatically be displayed in the Rapid SQL application workspace. For example:

dbo.authors					
Object Type	Table				
Datasource	EBTR08 ( SQL Server 08.00.0760 )				
Login	sa				
Database	pubs				
Report Date	4/14/2003 16:54:45.847				

Columns					
Name	Datatype	Null	Default	Default Binding	Rule Binding
au_id	id	No			
au_lname	varchar(40)	No			
au_fname	varchar(20)	No			
phone	char(12)	No	'UNKNOWN'		

The HTML report can be saved to a new file or referenced in the file named above.

**NOTE:** All HTML reports are browser-ready and suitable for posting directly to the web.

## Working With Code, Files and Data

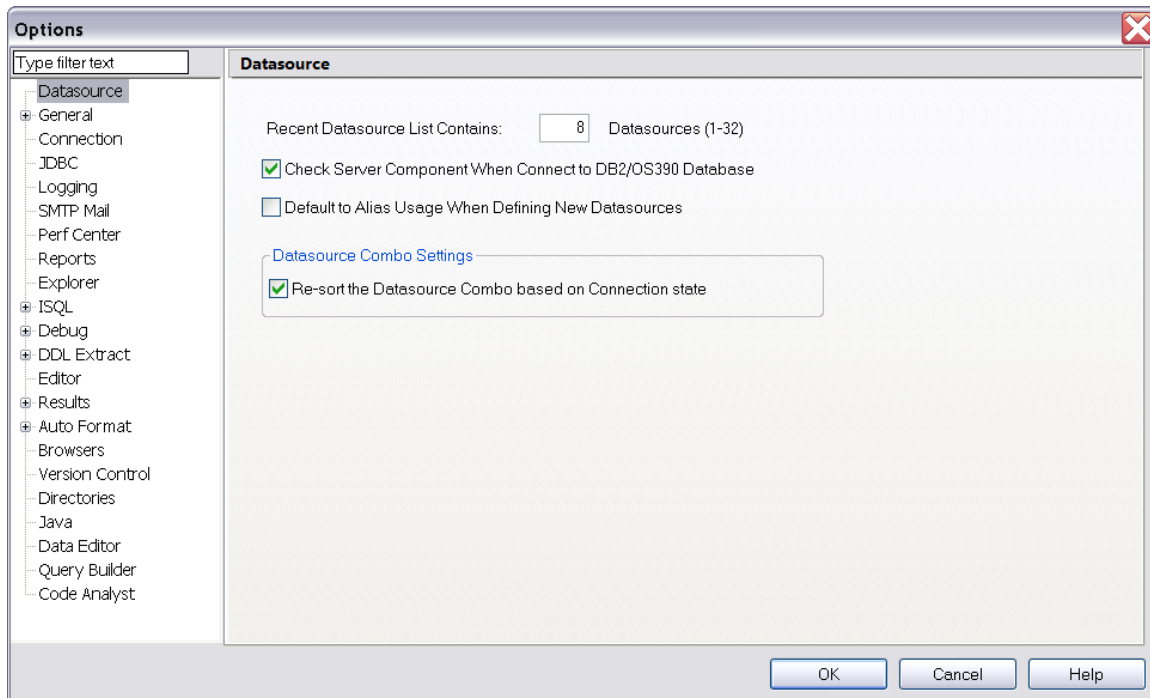
Rapid SQL provides many features and powerful development tools for creating and executing SQL code and working with data.

**Note:** For purposes of this Evaluation Guide, we are only covering high-level functionality of the major features and tools within Rapid SQL.

## Setting Environment Options

The Options Editor allows you to set the Rapid SQL development environment to meet your needs.

1. Select **File > Options** from the menu. The **Options** dialog opens.



The Options dialog has one page per option category. You select an option category in the left-hand pane and can subsequently set options on that page. Options are applied when you click **OK**.

### Favorites Tab

The **Favorites Tab** provides a drag-and-drop library interface of all supported DBMS syntax, SQL syntax, built-in functions, optimizer hints, and SQL-conditional syntax. Additionally, it provides the ability to create custom folders to store commonly-used code for quick and efficient access, as needed.

#### **To open the Favorites Explorer:**

1. At the bottom of the **Explorer** pane, click **Favorites**. The **Favorites Explorer** appears.
2. Expand the **Microsoft** node and then expand the **Schema** subnode.
3. Right-click the **Procedures** node and select **Open**. The selected code opens in the SQL Editor window and is ready for execution.

#### **To add a custom folder to the Favorites Explorer**

1. Open the **Favorites Explorer** and right-click the **Favorites** folder.
2. Select **New Folder** from the menu. A new folder is added to the bottom of the tree view.

#### **To add an existing script to the Favorites Tab**

1. Select **New>SQL**, create a two or three-line script in the SQL editor, and then save your script.
2. After saving the script, right-click anywhere on the workspace and select **Add to Favorites**. The **Favorite Properties** dialog box opens.
3. Enter the appropriate information in the fields provided. The script is added to the **Favorites Explorer**.

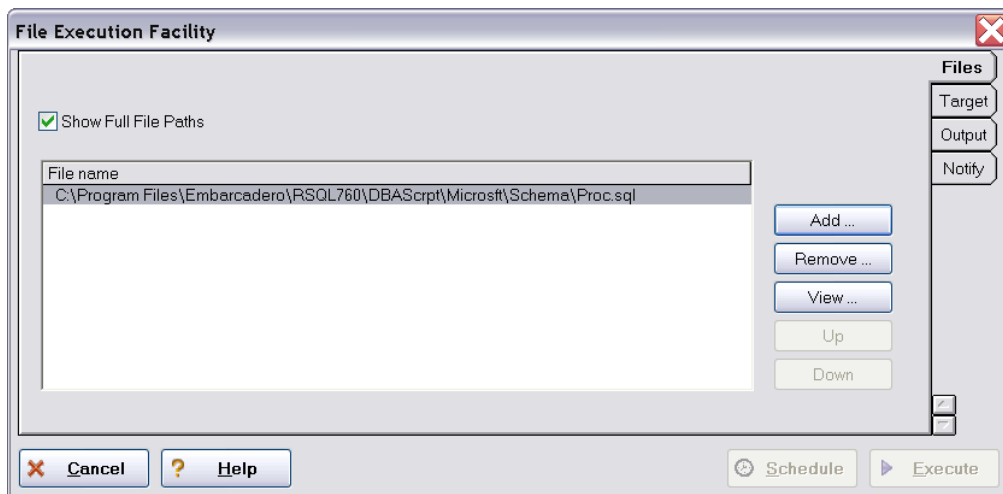
**NOTE:** Code from the **Paste SQL**, **Paste SQL Syntax**, and **Favorites Tab** are available from any SQL or DDL Editing window.

### Working with Scripts and Files

Rapid SQL extends the auto-generation of SQL code by allowing you to run your scripts across multiple databases at the same time. In addition, there is the option to execute the code immediately or schedule it to run later via the Windows NT Event Scheduler or the Embarcadero Job Scheduler.

### Script Execution Facility

1. On the **Favorites Explorer**, navigate to the **Microsoft SQL Server** node and select the **Schema** subnode.
2. Right-click the **Procedures** node and select **Script Execution Facility**. The **Script Execution Facility** dialog box appears.



3. Click the **Target Tab** and select the datasources against which the script will run.
4. Click the **Output Tab** and select a type of output format. For the purposes of this example, select **Graphical Output**.
5. If you want to send a notification message indicating that the script has executed, click the **Notify Tab** and enter the appropriate information in the fields provided.
6. Click **Execute**. Rapid SQL runs the script against the datasources specified on the **Target Tab**.

**NOTE:** Separate script output windows are created for each selected datasource.

### File Execution Facility

Similar to the Script Execution Facility, files containing SQL scripts can be added to the File Execution Facility and executed immediately or scheduled to run later. Other than the origin of the code, all supporting functionality is the same.

1. On the **Tools** toolbar, click **File Execution Facility**. Rapid SQL opens the File Execution Facility dialog box.
2. To locate the file you want to execute, click **Add**. Use the **Select Files** dialog box to locate and select a file.

3. On the **Target Tab**, select the datasources to run the script against.
4. On the **Output Tab**, select the desired output option. For the purposes of this example, select **Graphical Output**.
5. To enable the scheduling function for the script, you must select the **File Output option**.
6. If you want to send notification that the script has executed, on the **Notify Tab**, complete the target information.
7. Click **Execute**.

Rapid SQL runs the script against the target datasources.

**NOTE:** Separate script output windows are created for each selected datasource.

## Viewing Data

Rapid SQL provides several options for browsing data. In addition, it gives you the ability to construct even the most complex SQL statements with point-and-click ease.

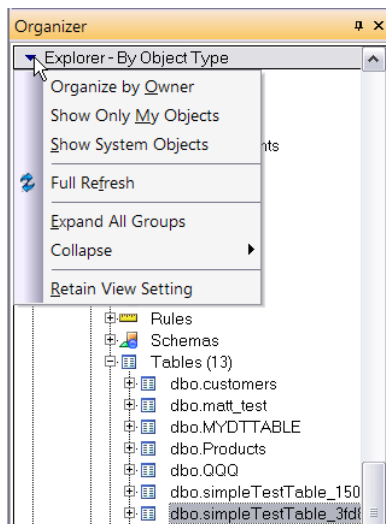
### Select \* Browsing

1. On the **Database Explorer** ensure that the **Explorer** tab is displayed and then expand the **MS SQL server** node.
2. Expand any database you know has table data, expand the **Tables** node, right-click a table, and then click **SELECT \* FROM**.

All columns and rows from the table are displayed in the active workspace.

## Retaining Datasource Explorer View Settings

1. Click on expandable settings at the top of the Explorer pane.



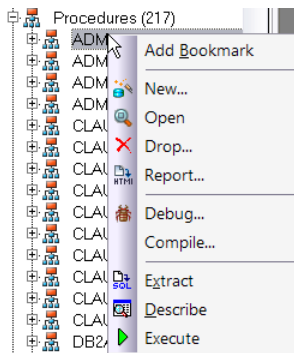
2. Select **Retain View Settings**.

The Explorer will open the next time just as you left it. All connections that were present when you closed DBArtisan will be re-established.

## Datasource Explorer Bookmarks

Rapid SQL allows you to set bookmarks for frequently visited database objects.

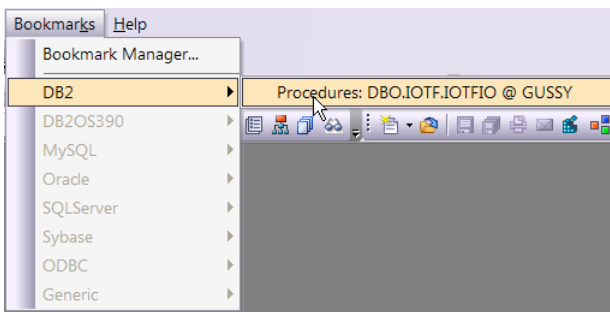
1. Right-click on any node in the Datasource Explorer Tree.



2. Select "Add Bookmark".

You may wish to modify the bookmark name.

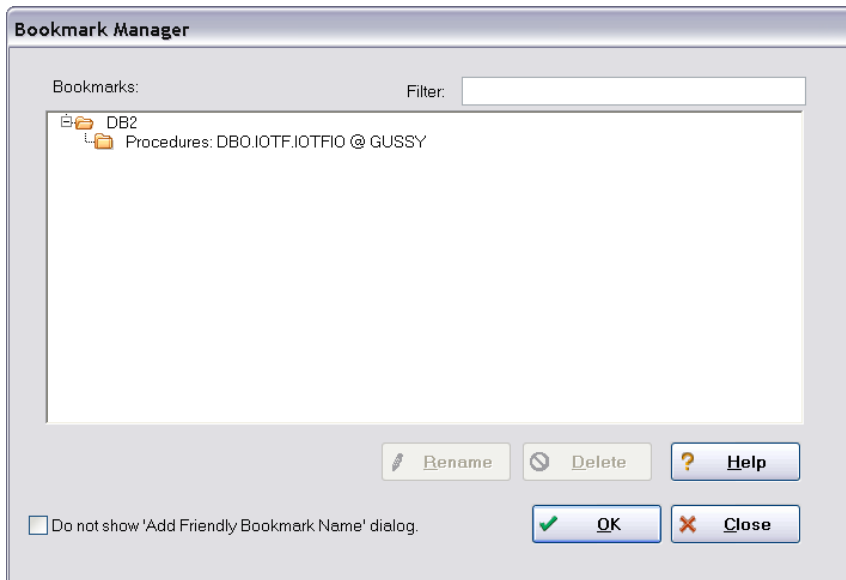
After Bookmarks are defined you can use them to easily navigate to commonly used datasource resources via the main menu "Bookmarks" item.



The Bookmark Manager handles maintenance of Bookmarks.

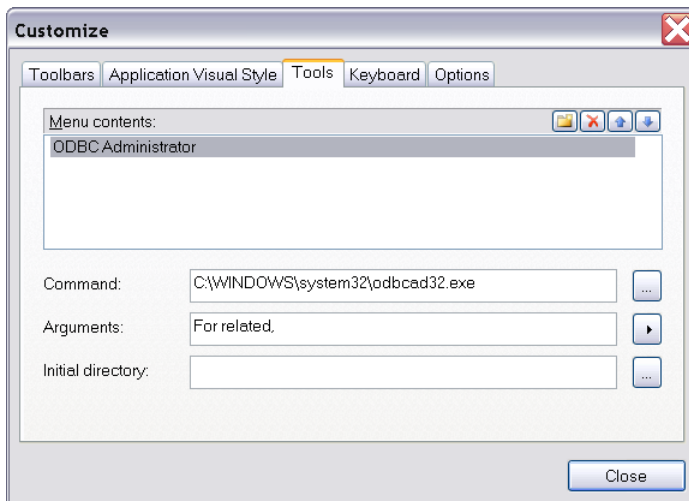
1. Select Bookmarks from the menu bar.
2. Select Bookmark Manager.





## Setting Keyboard Shortcuts and Hotkeys

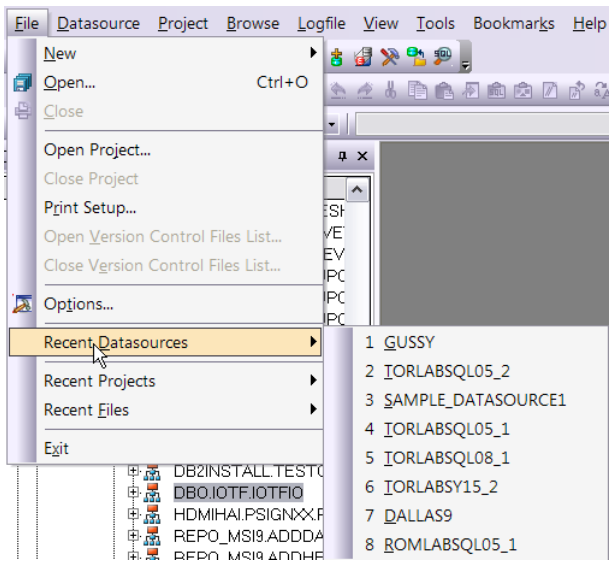
1. On the **Tools** menu, select **Customize**.



2. In the Customize dialog go to the Keyboard tab.
3. The Keyboard tab can be used to set Keyboard shortcut hotkeys for all areas of DBArtisan functionality.

## Referencing Most Recently Used Datasources

1. Select **File > Recent Datasources** and then select a datasource.



This will automatically place you on the datasource within the Explorer, ready to work with active connection.

## Session 3: Scripting


### Generating Code

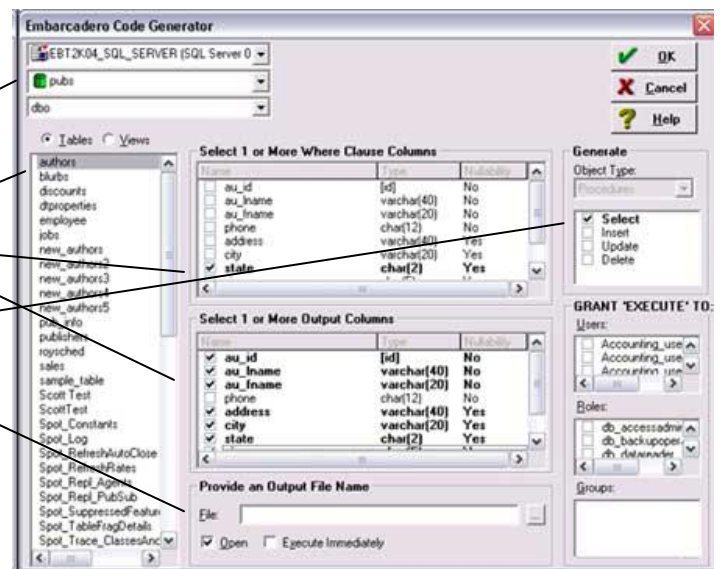
By providing several code generation and assistance options, Rapid SQL makes cross-platform development easy for developers of all experience levels.

**Note:** The following examples build on the SQL Server 2000 SAMPLE\_DATASOURCE registered earlier in this Evaluation Guide. These examples can be applied to any registered datasource for any of the supported platforms.

### Code Generation Facility

The **Code Generation Facility** can be used to create complete procedures, functions or packages revolving around views or tables.

1. From the menu, open **Tools > Code Generation Facility**.
2. Select the SAMPLE\_DATASOURCE datasource and the “pubs” database from the drop-down listboxes.
3. Select the “authors” table, “state” as the input column and all columns for output.
4. Select “select” as the code option.
5. Select a file to save the generated script and check “Open”.
6. Click “OK” and the DDL to create the procedure will be generated and displayed in an editable window, called the DDL Editor. You can edit the name of the new procedure and any of the generated code at this time. Name the new procedure “sample\_select\_authors”.
7. Click on the  (execute or step execute) button to submit the DDL and create the procedure.
8. The indicated file will be saved on the selected directory.

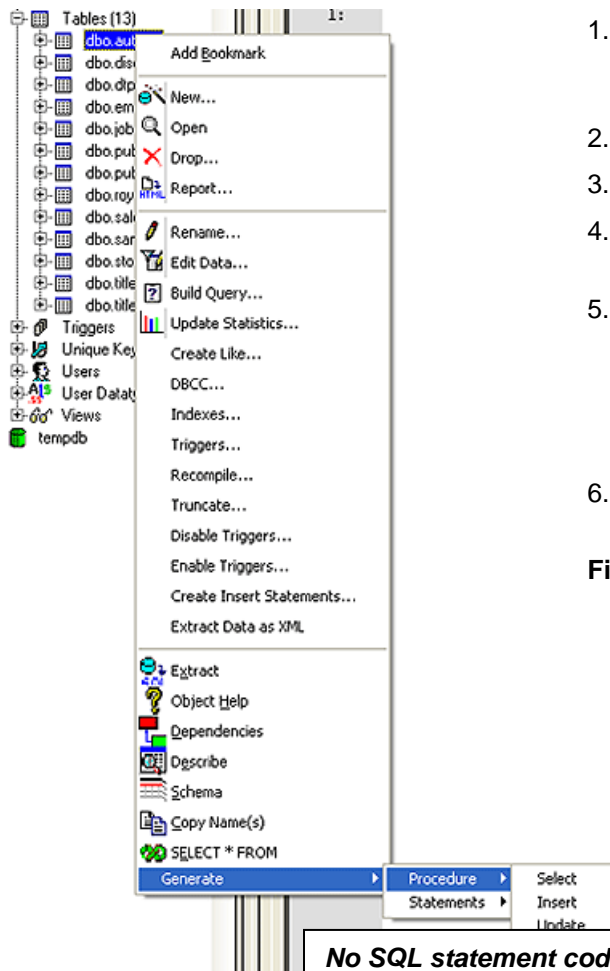



**No SQL statement coding is required to generate complete stored procedures and packages.** If applicable, Rapid SQL allows all generated code to be previewed and edited to fit any development need.

**Finished!**

## Right-click feature

Similar to the Code Generation Facility, the “right-click” code generation feature can be used to create complete procedures, functions or packages revolving around views or tables.



1. From the Database Explorer Tree, expand the **SAMPLE\_DATASOURCE > pubs > Tables** sub node.
2. Right-click on the “authors” table.
3. Select **Generate > Procedure > Select**.
4. Select “state” as the input column, and leave all output columns selected.
5. Click “OK” and the DDL to create the procedure will be generated and displayed in an editable window, called the DDL Editor. You can edit the name of the new procedure and any of the generated code. Name the new procedure “sample\_select\_authors”.
6. Click on the  (execute or step execute) button to submit the DDL and create the procedure.


**Finished!**

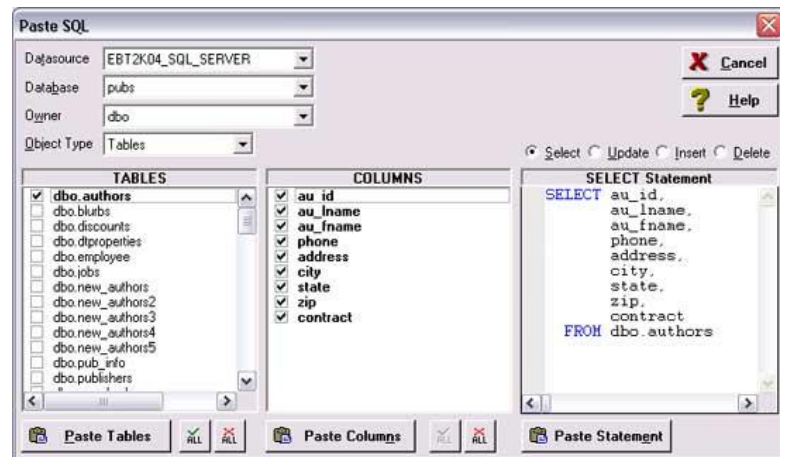
***No SQL statement coding is required to generate complete stored procedures and packages. If applicable, Rapid SQL allows all generated code to be previewed and edited to fit any development need.***

## Code Assistance


Rapid SQL provides extensive, easy-to-use code assistance features for all of the supported DBMS platforms, throughout the application. Assistance is provided in the form of ready-to-use code templates and blocks of syntactically correct code.

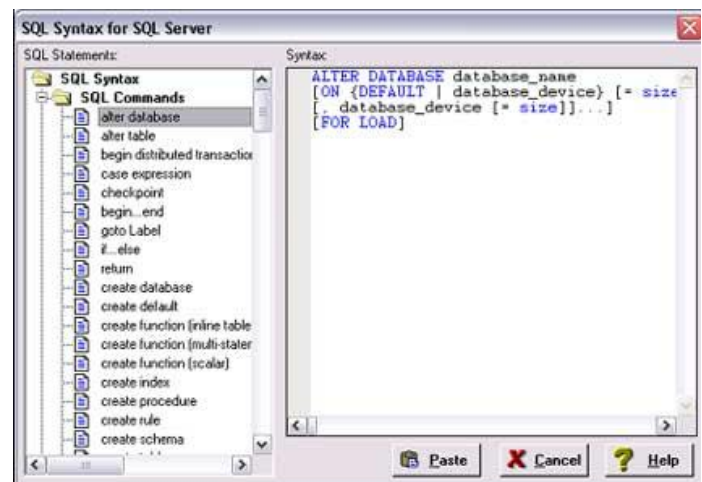
## Paste SQL

1. From the Database Explorer Tree, expand the **SAMPLE\_DATASOURCE > pubs sub node**.
2. Open a SQL Editor window. From the menu, open **File > New > SQL (Ctrl+N)**.
3. Select the  toolbar menu item to open the Paste SQL window, at right.
4. Select the “authors” table, all columns and “select” for the generation options.
5. Click “Paste Statement” to copy the generated code to the SQL Editor window.
6. You can use the statement as is, or modify the code as needed.



## Paste SQL Syntax

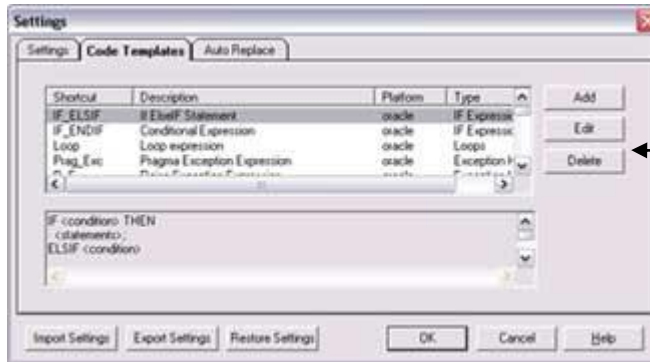
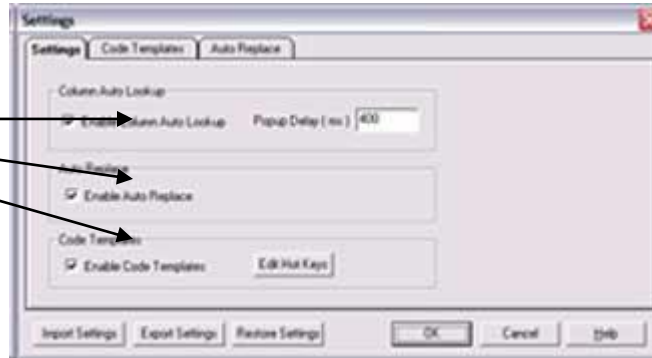
1. From the Database Explorer Tree, expand the **SAMPLE\_DATASOURCE > pubs sub node**.
2. Open a SQL Editor window. From the menu, open **File > New > SQL (Ctrl+N)**.
3. Select the  toolbar menu item to open the Paste SQL Syntax window, at right.
4. Select a template and click on “Paste” to copy the code template into the SQL Editor window.
5. Add your own code to complete the needed operation.



### Session 4: Working with Code Workbench

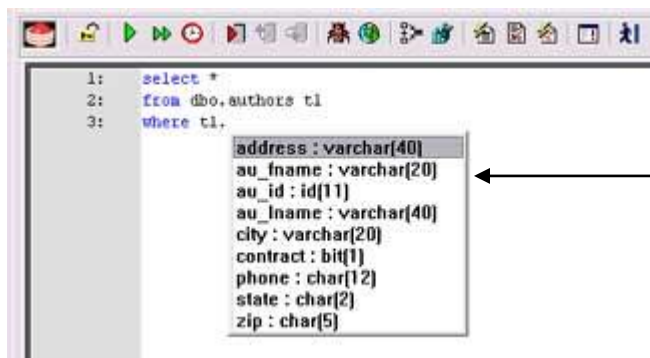
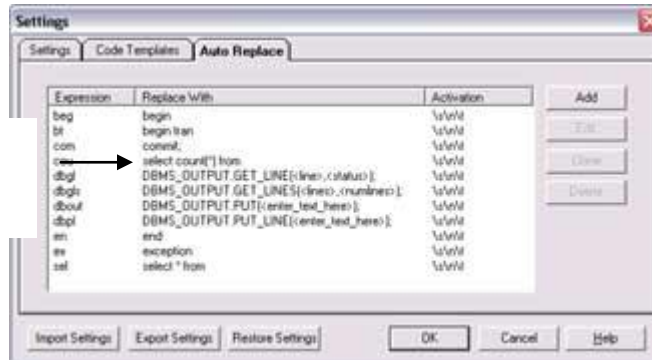
Rapid SQL now empowers the developer with the ability to create his own personal toolbox of coding accessories. The Code Workbench consists of Auto Column Lookup, Auto Replace, and Code Templates. To invoke the Code Workbench settings, select **Tools > Code Workbench**. From this panel, you can configure the Code Workbench to fit your needs.

Select the specific options within Code Workbench that you'd like to enable.



Work with the Code Templates facility by modifying the code templates that are shipped with Rapid SQL or adding your own.

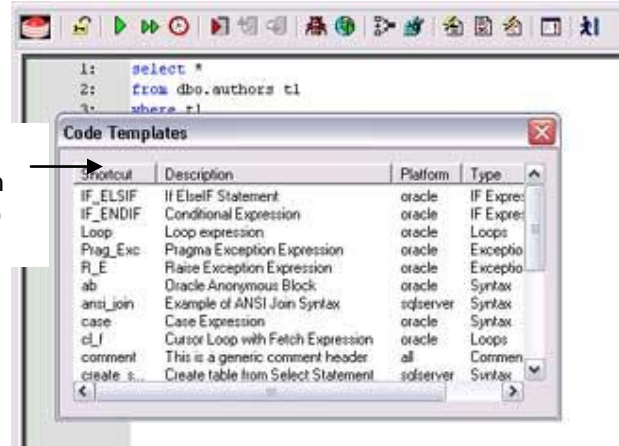
Rapid SQL ships with a set of Auto Replace entries.



When Column Auto Lookup is enabled, the list of columns for the specific table is listed. You can use the arrow keys or the mouse to select the column.

Note: The table must be aliased or fully qualified.

Invoke the Code Templates by pressing the defined hot key. Then select the desired code template to be inserted into the ISQL window.



## Session 5: Building a Database Project

### Creating a new Rapid SQL Project

Rapid SQL provides an excellent team development environment by allowing you to Reverse Engineer live database objects into off-line SQL source code files that can then be easily added to a Version Control System (VCS). Rapid SQL's seamless VCS integration offers all version control operations, such as get, check-out, check-in, history and diff. This example will Reverse Engineer the table objects from the Microsoft SQL Server pubs database into a Rapid SQL project and then will add the project to version control under Microsoft Visual Source Safe.

1. Select **File > New > Project** to open the wizard.
2. Enter "sample\_project" as the name, and browse and select a directory that contains a VSS database. Enter a description (optional). Select "From Database" and click "OK".
3. Select "SAMPLE\_DATASOURCE" and click "Next".
4. Select "pubs" and click "Next".
5. Select "dbo" as the owner. Right-click in the object type selection window and "unselect" all of the options. Select only "Tables". Under Extract Scope select "Selected Objects Only". Click "Next".
6. Select only the authors, discounts and employees tables.
7. Uncheck all selected "Options for tables". Click "Next".
8. Select Retain. Click "Next".
9. Preview the last panel (shown at right) and click "Execute".

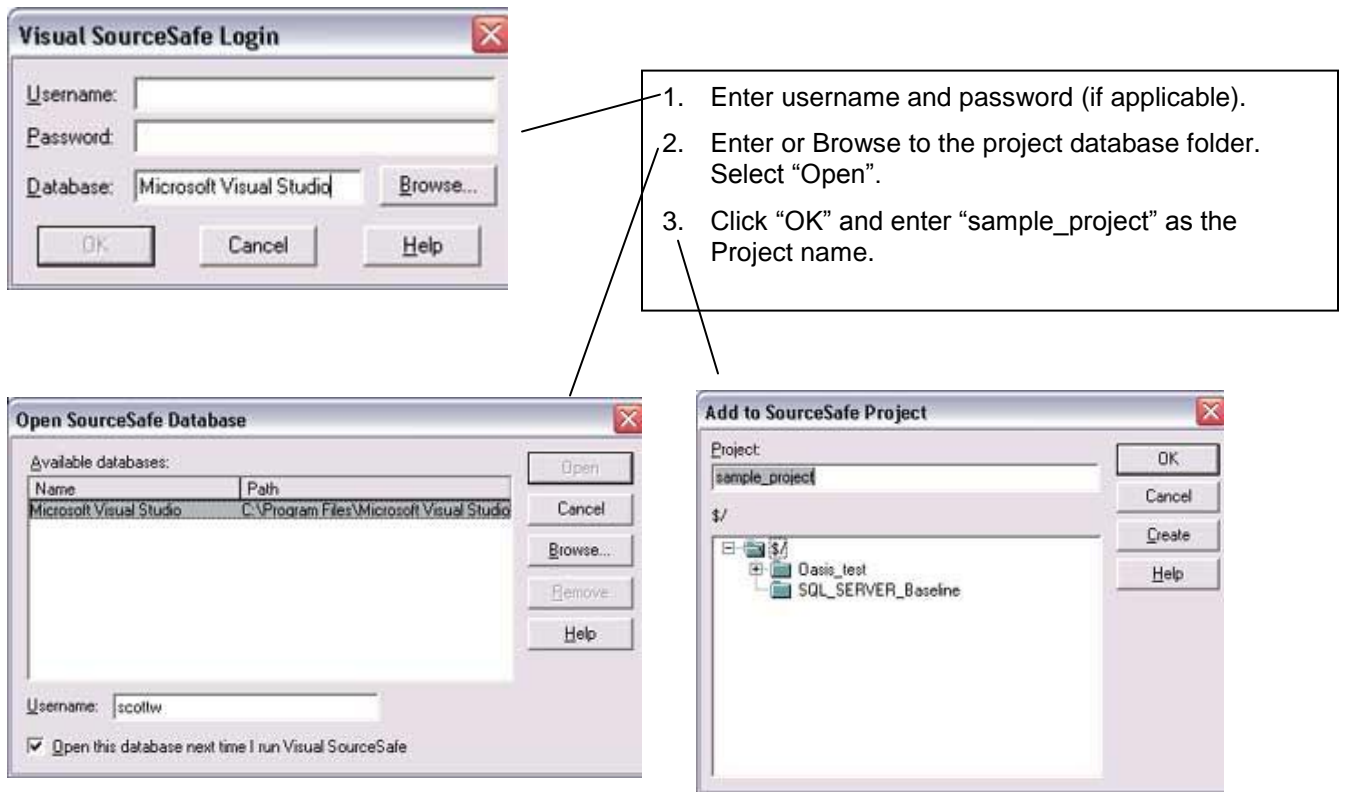


**Finished!** You have now successfully created a working database project. At this point, the project is available to be added to Version Control. This can be done by clicking "yes" when prompted and following the dialog, or by right clicking on the project within Project Explorer tree. Select "yes" for the purpose of this guide.



### Adding a Project to Version Control (Sample - Microsoft Visual Source Safe)

When a project is created Rapid SQL will automatically prompt you to add the project files to the selected VCS solution (see “Setting Environment Options” below). The following dialog will be displayed:




**Finished!** The following message indicates that the project was successfully placed under version control.

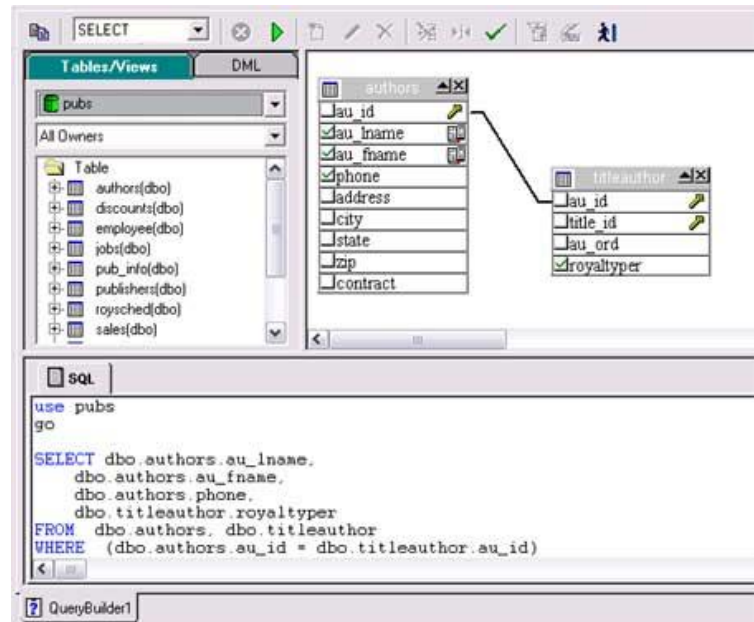


## Section 6: Visual Query Builder and Data Editor

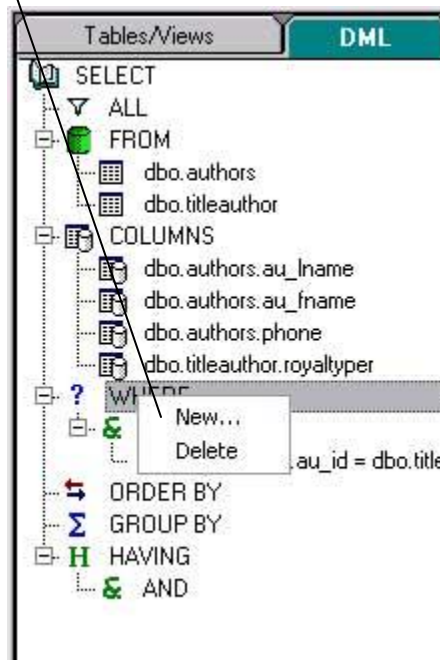
### Visual Query Builder

Rapid SQL gives you the ability to construct complex SQL statements with point-and-click ease using the Visual Query Builder.

1. From the Database Explorer Tree, right-click on the “authors” table and select “Build Query”. The “authors” table will be automatically added to the Query Builder workspace.
2. On the Tables/Views tab, right-click on the “titleauthor” table and select “Add”. Note that the tables are automatically identified as being joined by any columns with the same name and datatype.
3. Click on the “DML” tab to expose the visual query building clauses and options. Right-click on any clause to easily add the code to the query.
4. Select the **au\_lname**, **au\_fname**, and **phone** check boxes in the authors table.
5. Click the  icon to execute the query. The results will display in the lower window.

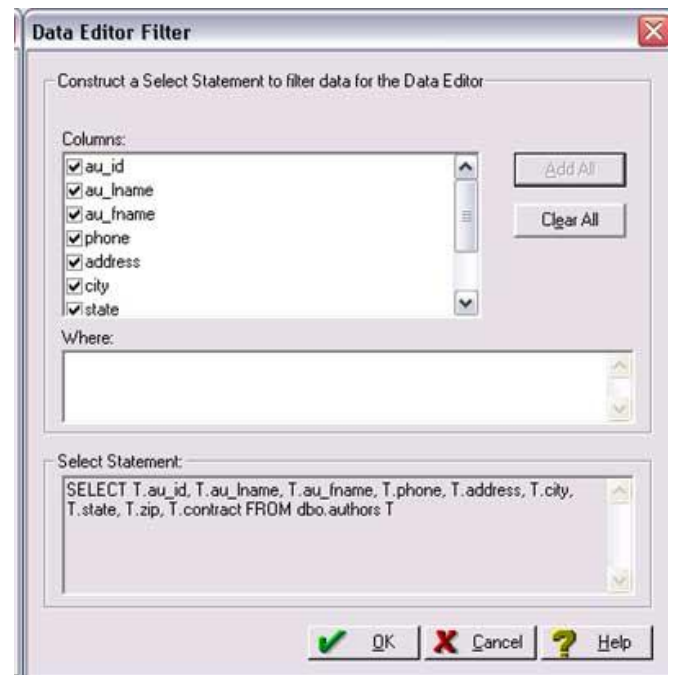


Any visual query builder session can easily be saved to a file for later use.



## Live Data Editor

1. From the Database Explorer Tree, right-click on the “authors” table and select “Edit Data”.
2. Add all columns to editing session. At this point, you can add a WHERE clause that will filter for only the desired data. Note that Rapid SQL builds the SQL to retrieve the data to be edited in the window below.
3. Note that the editing window has LIVE and BATCH modes.
  - LIVE mode commits your changes each time you move to a new row.
  - BATCH mode will allow you to move within the window and commit your changes when ready.
4. Changes made in BATCH mode can be cancelled by selecting the “Reload Data” icon.
5. At any time during the session, you can change the filter parameters by selecting the “Filter Data Dialog” icon.



	au_id	au_lname	au_fname	phone	address	city	state	zip	co
1	172-32-1176	White	Johnson	408 496-7223	10932 Bigge Rd.	Menlo Park	CA	94025	
2	213-46-8915	Green	Marjorie	415 986-7020	309 63rd St. #411	Oakland	CA	94618	
3	238-95-7768	Carson	Cheryl	415 548-7723	589 Darwin Ln.	Berkeley	CA	94705	
4	267-41-2394	O'Leary	Michael	408 286-2428	22 Cleveland Av. #14	San Jose	CA	95128	

### Section 7: Code Analyst

The Code Analyst allows you to capture run-time statistics on executable database objects, including stored procedures and functions. Not only can you capture runs for single objects, but you can group more than one object.

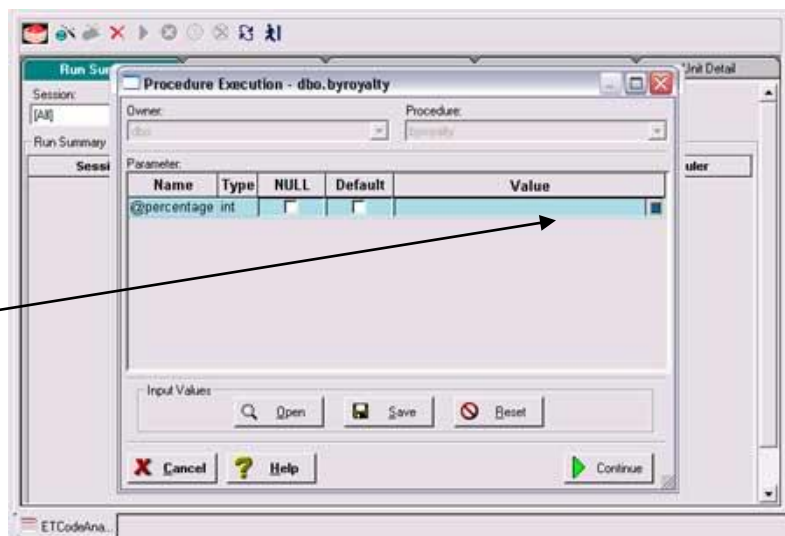
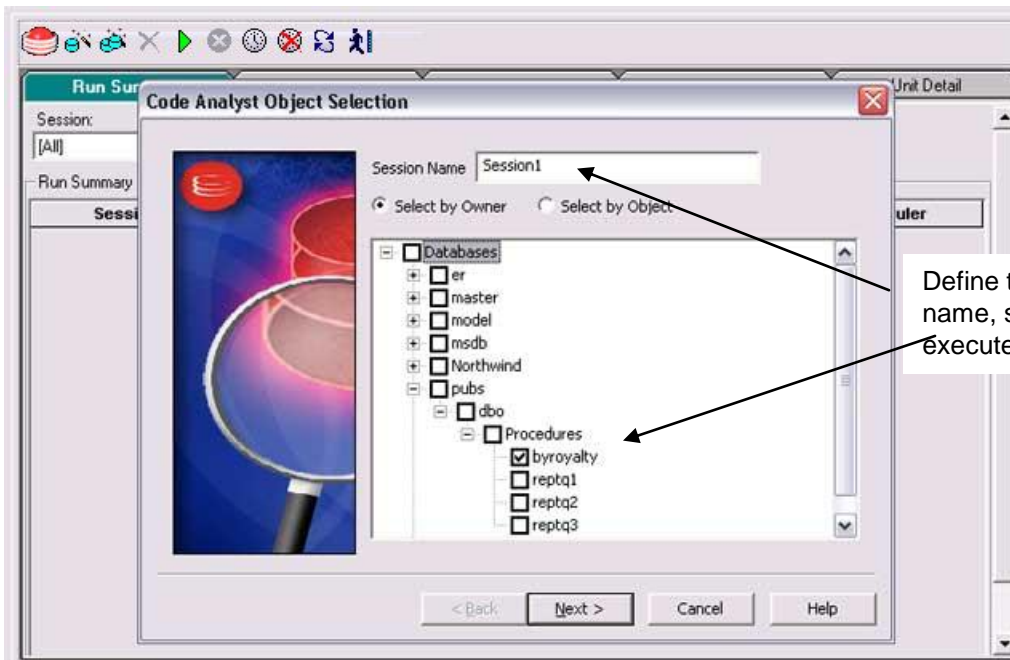
To get started, select **Tools > Code Analyst**

**Note:** In order for Code Analyst to run, 5 repository tables will be created on the database.

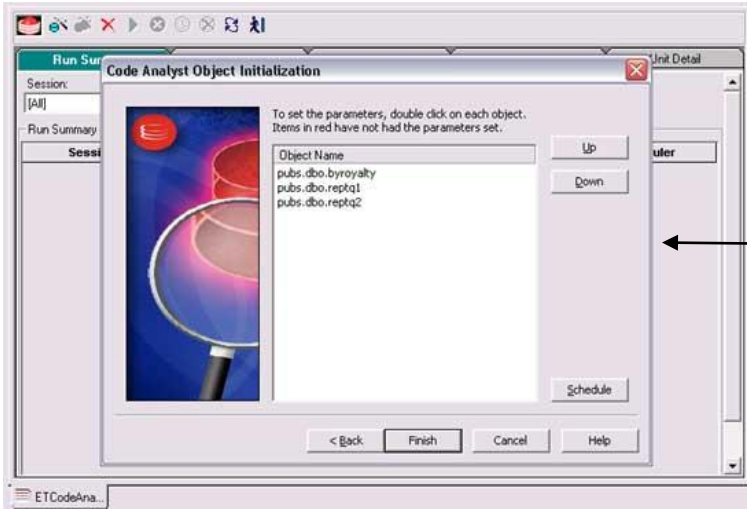
Select the database you would like the tables to be installed on and press OK.

Once the tables are installed, you're ready to start defining a session.

1. On the Code Analyst toolbar, click the Create New Collection button.



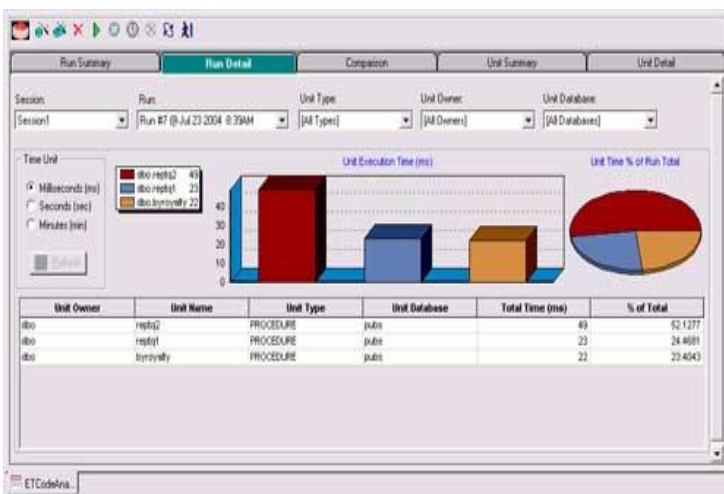
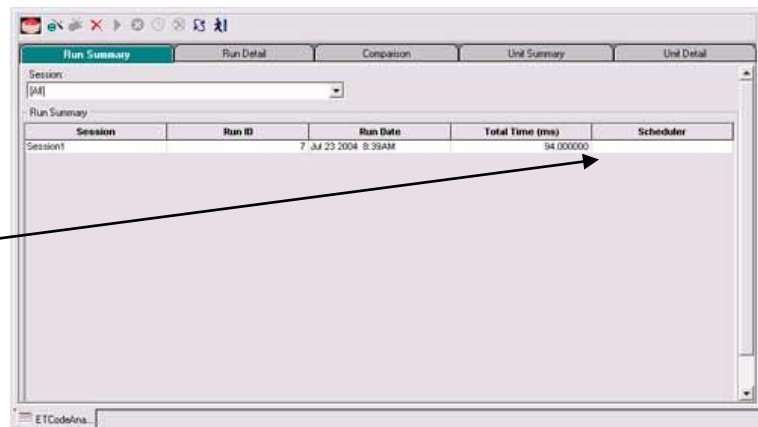
If the objects require parameters, Code Analyst prompts you to enter the parameters.



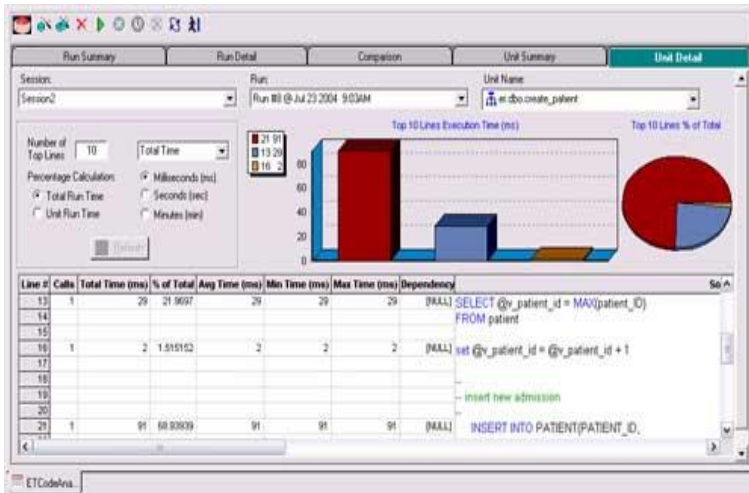
After defining input variables, if you selected multiple objects, the sequence of execution can be set by moving the object up or down in the list.

Code Analyst provides lets you schedule the session to run unattended during off-peak hours.

Once the session has been run, the total time for the run is displayed in the Run Summary tab.



The Run Detail tab shows a breakdown of the different objects that make up the session.



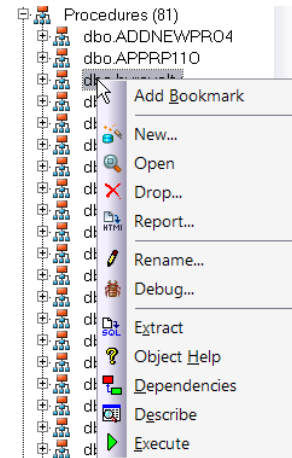
The Unit Detail contains the specific time measurements for individual SQL statements.

## Section 8: SQL Debugging and Profiling

### SQL Debugging

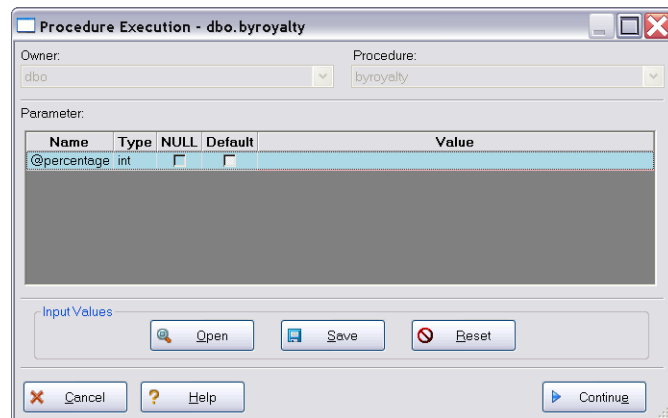
The DBArtisan SQL Debugger is another database productivity tool that lets you debug SQL Server, Oracle, Sybase or DB2 UDB stored procedures as well as Oracle functions. SQL Debugger simplifies the task of finding coding errors.

1. From the Datasource Explorer browser, select the procedure/function object group under your database.
2. From the detail window at right, select a procedure/function, which you would like to debug.
3. Right-click the object to open the pull-down menu.
4. Select Debug to invoke the SQL Debugger.



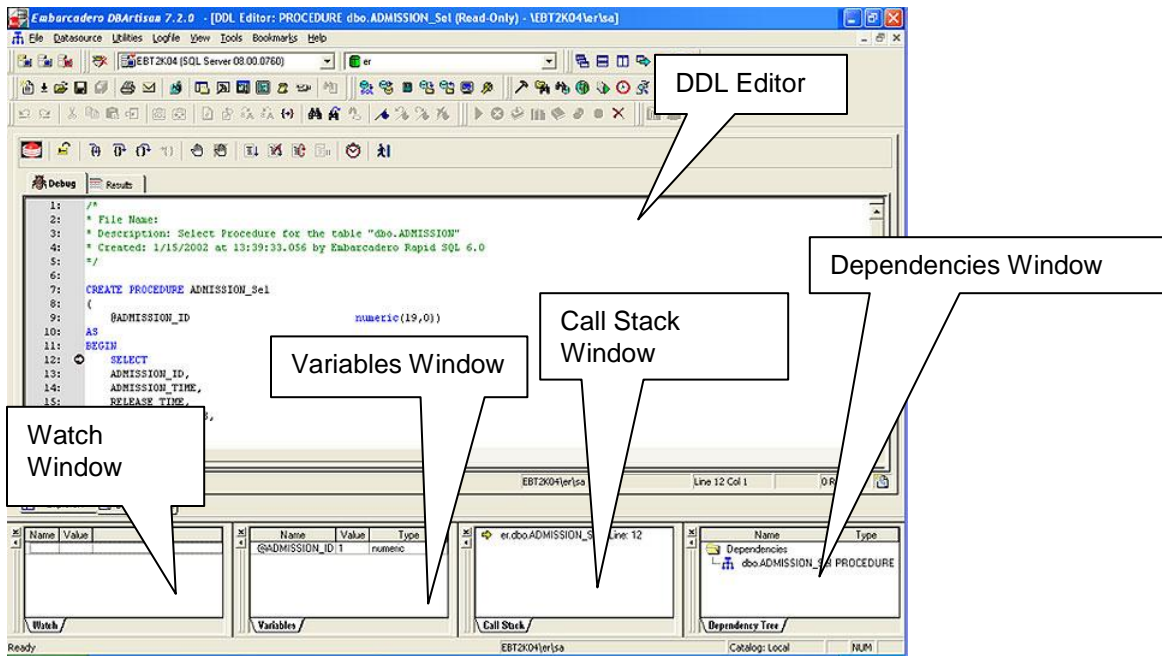
*Note: pressing the Debug button or selecting Debug from the Command dropdown menu can also invoke The SQL Debugger.*

5. If the procedure/function contains input variables, the Procedure Execution window prompts for entry of these values.
6. Enter the value(s) for the input variable(s) and press Continue.



*Tip: DBArtisan allows the user to save the input variable values to a file for later use. This is very helpful for procedures/functions with many input variables that need to be run repeatedly.*

The application opens the SQL Debugger Interface (show below).



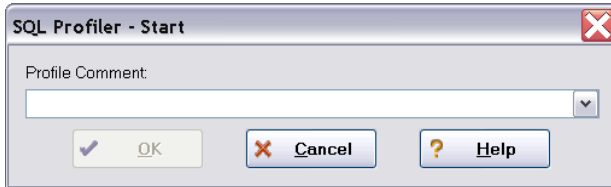
The Debugger features basic execution, line-by-line execution, breakpoint support, and other common debugging features. For details, refer to the online Help.



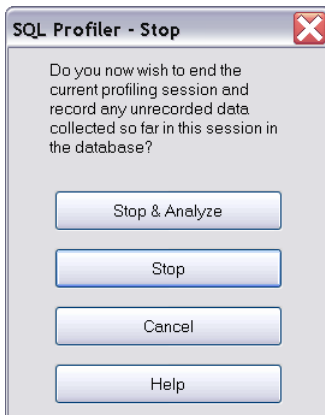
### SQL Profiling- Oracle Only

The SQL Profiler within Rapid SQL provides the ability to capture the metrics of various PL/SQL programmable objects as they are executed in the database. It quickly identifies performance bottlenecks by first calculating the overall runtimes of objects like Oracle packages, and then computing the amount of time each line of PL/SQL code spends executing. Information is presented in an easily viewed, drill-down format.

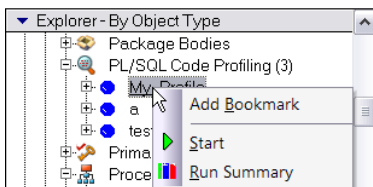
1. To start a profiling session, use the Tools menu option and select SQL Profiler, Start.
2. Enter a name for the profiling session or select an existing name from the dropdown. Press OK. The Profile session is now active.



3. Execute the programmable object (i.e. Stored Procedure) you wish to capture metrics on.
4. When finished, select **Tools > SQL Profiler > Stop**. The SQL Profiler – Stop dialog window prompts you to select an option.



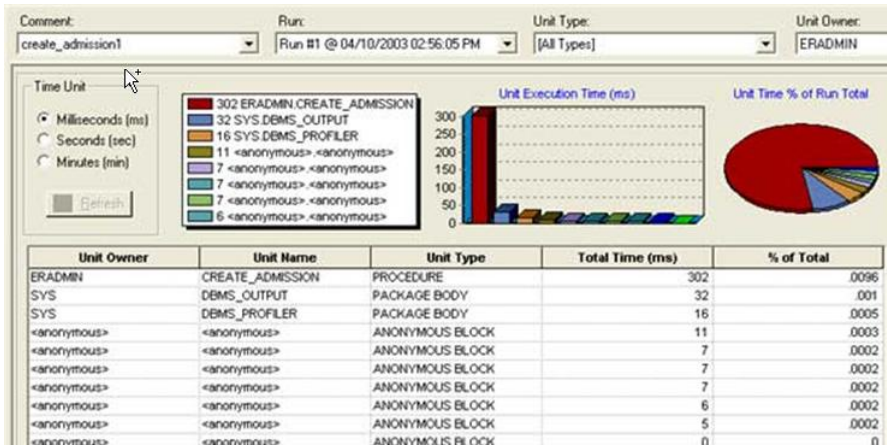
5. Press Stop.
6. Under the Database Explorer, expand the PL/SQL Code Profiling section.



7. Right-click on the profile session and select Run Summary. The Run Summary window will appear.

Run Summary			
Comment	Run ID	Run Date	Total Time (ms)
My_Profile	60	01/09/2009 12:00:43 PM	47261
My_Profile	61	01/09/2009 12:01:52 PM	5484

- Select a session and select Run Detail from the right-click menu. The Run Detail screen appears allowing you to view the metrics for this run in both a graphical and text format.



- To drill down further into the data, highlight a unit and select Unit Detail from the Right-Click Menu. Scroll through the Source window to view the times for each statement.
- To compare 2 cases, select the 2 cases you wish to compare (shift-click to select the second case) from the Run Summary screen and select Compare from the right-click menu. The SQL Profiler Run Comparison screen appears.

## Additional Resources

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