

SQL Debugger™ Evaluation Guide

Embarcadero Application Development Tools

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Introduction to Embarcadero's SQL Debugger

Embarcadero's SQL Debugger is a DBArtisan and Rapid SQL add-on module that allows you to quickly locate, diagnose and fix problematic stored procedure and trigger code on Oracle, SQL Server, Sybase and DB2 UDB.

Product Benefits by Audience

Database Developers/Administrators

From a functionality standpoint, the Embarcadero SQL Debugger offers several navigational options to allow you to interactively walk through function, procedure and trigger code as it executes on your database. For example, you can 'step into' nested stored procedures to unlimited levels as well as 'step out' of child objects thus resuming line-by-line, step-debugging in the parent object.

Using the SQL Debugger view windows you can define watch variables, set variable values as code is executed, examine execution dependencies, and set one or more breakpoints in the calling parent or subordinate child source code. Breakpoints can be temporarily disabled or enabled without having to add or remove them, allowing a predefined debugging session to be preserved.

Finally, the SQL Debugger is tightly integrated with the ease-to-use, intuitive DBArtisan and Rapid SQL graphical user interface (GUI), which allows you to begin using it immediately to pinpoint problematic code. This allows you to quickly enter the product, start a debug session, locate and correct the problem, and save your code to the database, all from within DBArtisan or Rapid SQL.

About this Evaluation Guide

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

After completion of this evaluation guide, you'll have the foundation you need to explore the many features of the SQL Debugger. You'll have learned how to initiate a SQL Debugger session, enter execution parameters, set and edit breakpoints, set debug profiling, step in, over, and around code, define and set watch variables, follow local variable values, and examine the call stack and dependencies windows.

This guide is divided into 6 sections. Do them all at once, or complete them individually as you have time.

Session 1: Getting Started

Session 2: Initiate a SQL Debugger Session

Session 3: Set and Edit Breakpoints

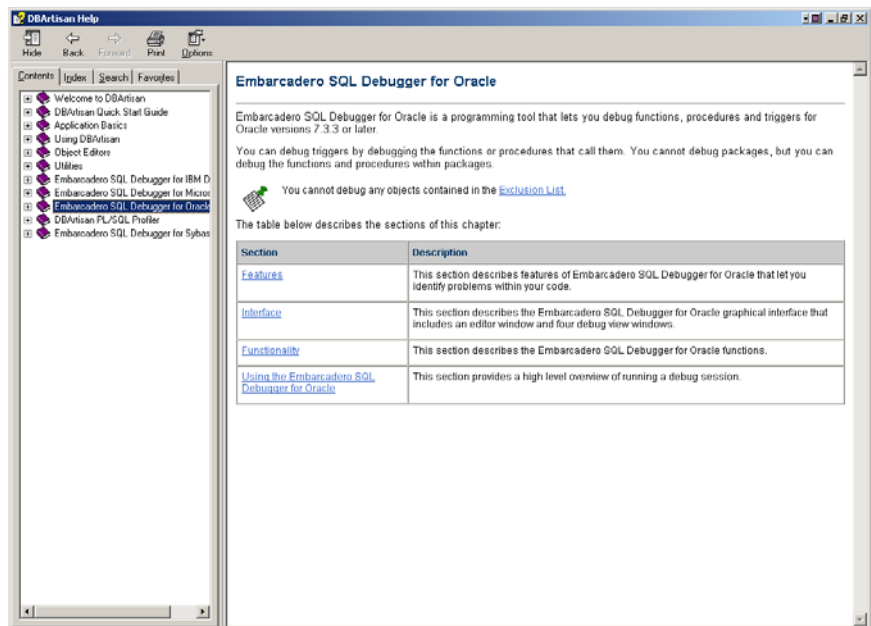
Session 4: Set Debug Profiling

Session 5: Step In, Out and Around Code

Session 6: Watch, Variables, Call Stack and Dependency Tree Windows

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

Once you've started, you can select **Help > Embarcadero SQL Debugger for <platform>** from the toolbar 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

Download and Install

You can obtain the latest version of the DBArtisan and Rapid SQL software with the SQL Debugger for Oracle, SQL Server, Sybase and DB2 UDB from the Embarcadero website at 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 DBArtisan or Rapid SQL, you can use the tool for 14 days. After that time, a permanent license is needed.

Session 2: Initiate a SQL Debugging Session

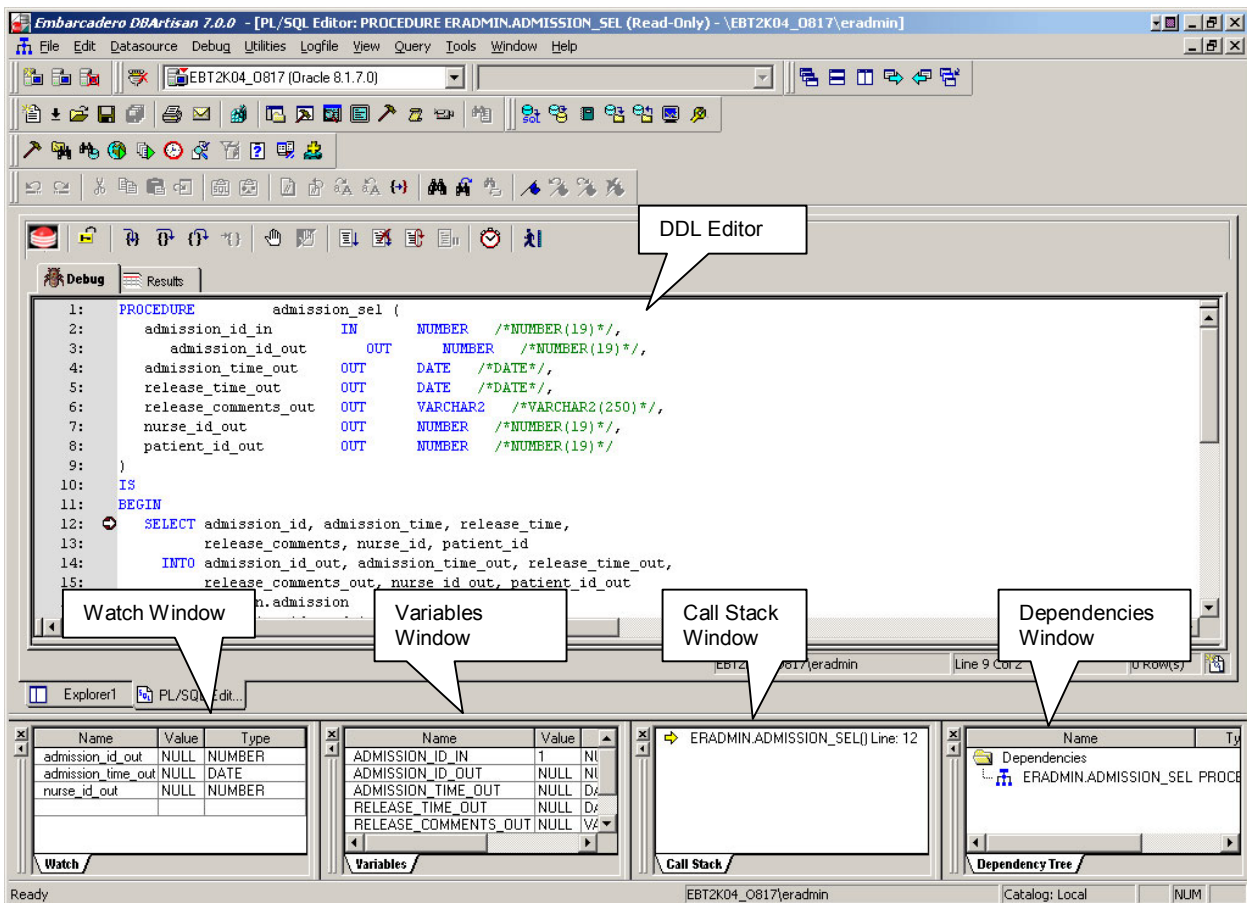
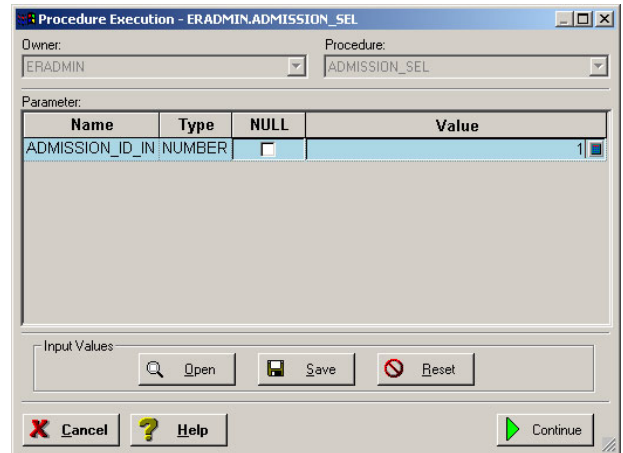
DBArtisan and Rapid SQL make it easy to initiate a SQL Debugging session.

1. On the **Explorer** tab, right-click any Oracle, SQL Server, Sybase or DB2 UDB stored procedure.

The application extracts the DDL for the procedure into a DDL Editor and opens the Input Parameters dialog box (if applicable).



2. From this dialog you can enter new parameters or retrieve parameters saved during a previous stored procedure execution or debugging session.
3. Click “Continue” to close this dialog and proceed with the debugging session.

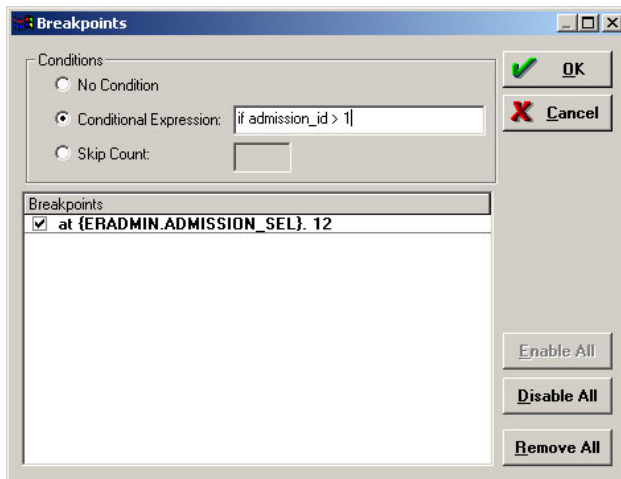
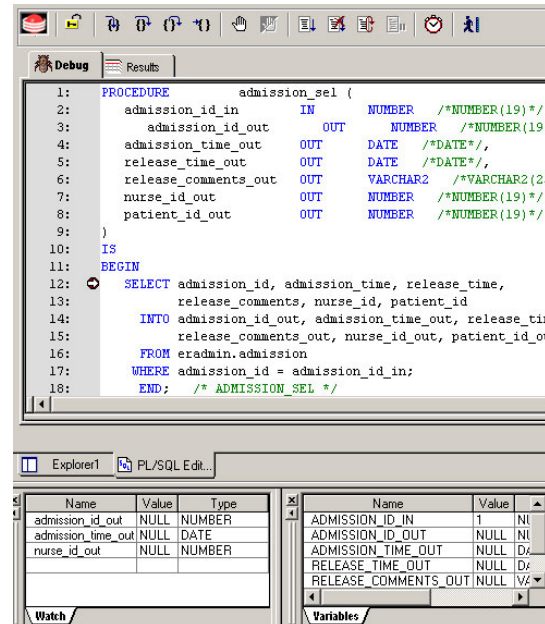
The application opens the SQL Debugger Interface (shown below).



Session 3: Set and Edit Breakpoints

During a SQL Debugging session you can set one or more breakpoints in the currently executing program or in any programs identified in the program call stack. Breakpoints can be temporarily disabled or enabled without having to add or remove them.

1. Position the cursor on the line that you want to insert a breakpoint.
2. Click on the  icon to set a breakpoint.
3. Click on the  icon to toggle the breakpoint between active and inactive.
4. You can also edit the conditions by which your breakpoints are recognized by using the Edit Breakpoints Dialog (shown below).

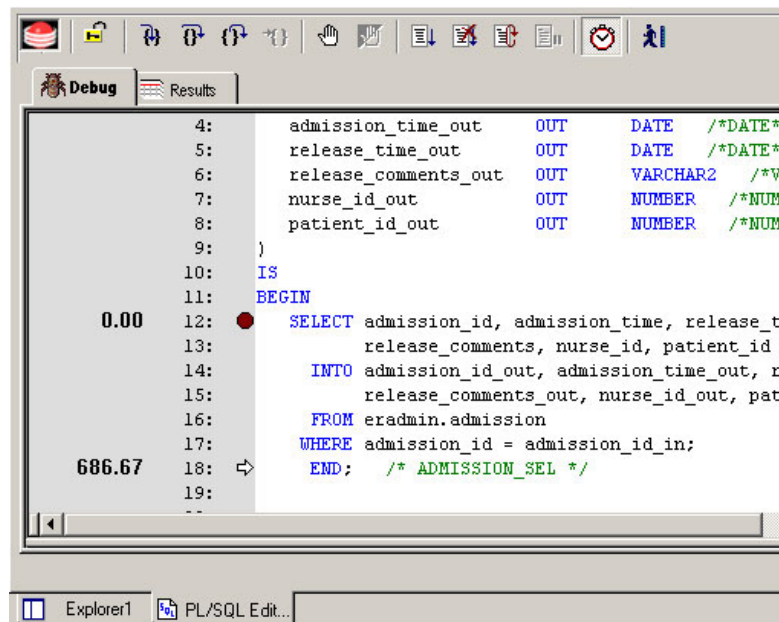
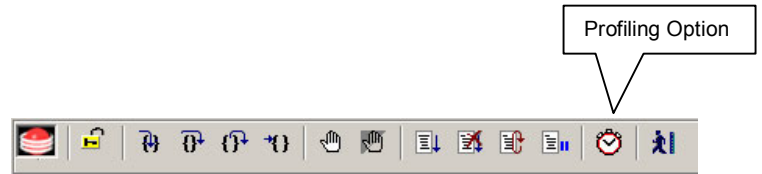


To make you more productive, the SQL Debugger remembers all breakpoints set in the code and any nested programs from one debugging session to the next.

Session 4: Set Debug Profiling

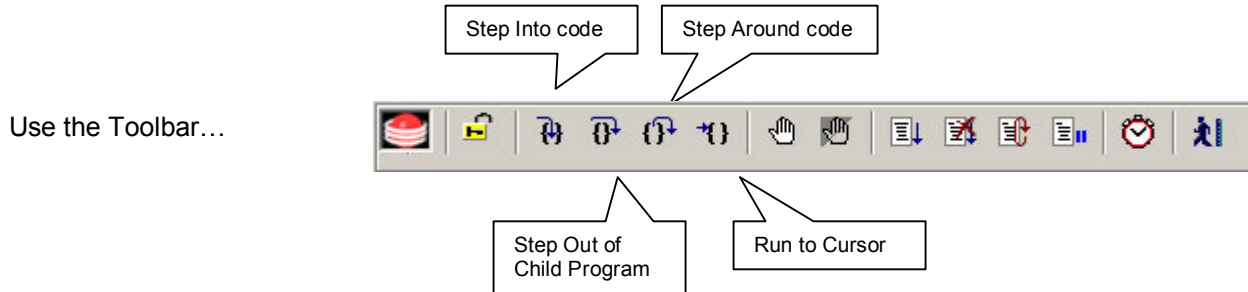
The SQL Debugger allows you to return statement execution times from your database server. This information is useful in quickly pinpointing code bottlenecks in your stored programs.

1. Select the Profiling option from the toolbar.
2. Statement execution times will be displayed in milliseconds in the left gutter of the SQL Debugger interface (shown below).



Session 5: Step In, Out and Around Code

The SQL Debugger enables you to interactively walk through your stored program code as it executes on the database using several navigational functions. You can 'step into' nested stored procedures to unlimited levels as well 'step out' of child objects thus resuming line-by-line, step-debugging in the parent object.



...or the Right-click menu (activated from anywhere within the SQL Debugger window) to navigate your code.

	Step Into	F11
	Step Over	F10
	Step Out	Shift+F11
	Run to Cursor	Ctrl+F10
	Describe from cursor	Ctrl+D
	Breakpoint	F9
	Enable/Disable Breakpoint	Ctrl+F9
	Go	F5
	Stop Debugging	Shift+F5
	Restart	Ctrl+Shift+F5
	Break	
	Profiler	
	Edit Breakpoints...	Alt+F9
	Close	

Session 5: Watch, Variables, Call Stack and Dependency Windows

After a SQL Debugging session is initialized and all input parameters have been entered, you are presented with Watch, Variables, Call Stack and Dependency Tree windows to help analyze your code.

Name	Value	Type
admission_id_out	NULL	NUMBER
admission_time_out	NULL	DATE
nurse_id_out	NULL	NUMBER

Watch

Watch Window: Here you can specify variables to evaluate or modify during a debug session. Just highlight (double-click) a variable in the SQL Debugger window and drag it to the watch window! If you wish to change the variable value during program execution, just double-click on it here in the Watch Window. The SQL Debugger also remembers all watch variables between debugging sessions.

Name	Value	Type
ADMISSION_ID_IN	1	NUMBER
ADMISSION_ID_OUT	NULL	NUMBER
ADMISSION_TIME_OUT	NULL	DATE
RELEASE_TIME_OUT	NULL	DATE
RELEASE_COMMENTS_OUT	NULL	VARCHAR2

Variables

Variables Window: Contains a list of local variable names, types and values for the currently executing program. Here you can observe variable values change as you step line-by-line through your code.

ERADMIN.ADMISSION_SEL() Line: 12

Call Stack

Call Stack Window: Displays the entire chain of nested stored objects as you step through the debugging process. You can use the Call Stack window to display the source code for any object in the chain and set breakpoints.

Name	Type
Dependencies	
ERADMIN.ADMISSION_SEL PROCEDURE	

Dependency Tree

Dependency Tree Window: Displays any database objects that the program accesses in a hierarchical tree. You can double-click on an entry in the tree to display the source code for a dependent object.

Additional Evaluation Resources

Embarcadero Technologies provides a variety of resources to help support your evaluation and selection of a development tool for your organization.

Web site

Visit our Web site for current product and company information, educational materials and supporting information. Visit www.embarcadero.com

Electronic Documentation

Detailed reference documentation is available on the DBArtisan or Rapid SQL Evaluation CD or online at www.embarcadero.com/support

Online FAQ

The DBArtisan and Rapid SQL online FAQs provide answers to commonly asked questions regarding licensing, installation and other helpful topics.

Email Support

You can contact DBArtisan and Rapid SQL support engineers, consultants and engineers directly by sending inquiries to support@embarcadero.com

Telephone Support

We encourage you to call us anytime you would like help or have questions during your evaluation. Please call 415.834.3131 ext. 2, Monday to Friday, 6:00am - 6:00pm PST, Saturday and Sunday, 8:00am - 5:00 PST.