



Embarcadero® PowerSQL™ 1.1 New Features Guide

Published: July 14, 2008

Copyright © 1994-2008 Embarcadero Technologies, Inc.

Embarcadero Technologies, Inc.
100 California Street, 12th Floor
San Francisco, CA 94111 U.S.A.
All rights reserved.

All brands and product names are trademarks or registered trademarks of their respective owners. This software/documentation contains proprietary information of Embarcadero Technologies, Inc.; it is provided under a license agreement containing restrictions on use and disclosure and is also protected by copyright law. Reverse engineering of the software is prohibited.

If this software/documentation is delivered to a U.S. Government Agency of the Department of Defense, then it is delivered with Restricted Rights and the following legend is applicable:

Restricted Rights Legend Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of DFARS 252.227-7013, Rights in Technical Data and Computer Software (October 1988).

If this software/documentation is delivered to a U.S. Government Agency not within the Department of Defense, then it is delivered with Restricted Rights, as defined in FAR 552.227-14, Rights in Data-General, including Alternate III (June 1987).

Information in this document is subject to change without notice. Revisions may be issued to advise of such changes and additions. Embarcadero Technologies, Inc. does not warrant that this documentation is error-free.

Contents

NEW FEATURES SUMMARY	4
Data Source Migration and Enterprise Management.....	4
SQL Code Development	4
SQL Execution	4
Object Caching.....	4
Eclipse Plug-In Integration	4
TOP NEW FEATURES	5
Data Source Migration and Enterprise Management.....	5
SQL Code Development	7
SQL Execution	9
Object Caching.....	10
Eclipse Plug-In Integration	12
ADDITIONAL RESOURCES.....	13
Licensing Your Embarcadero Technologies Product	13
Embarcadero Technologies Product Support.....	13
Embarcadero Technologies Technical Support.....	13
Embarcadero Technologies on the Web	13

New Features Summary

Embarcadero PowerSQL simplifies development for application developers with many features for improving productivity and reducing code errors. A rich SQL IDE with code completion, real-time error checking, code formatting, and sophisticated object validation tools helps streamline coding tasks. The PowerSQL user interface improves overall productivity with database object look up functionality and side-by-side views of application code and SQL code. PowerSQL offers native support for IBM® DB2® for LUW, Oracle®, Microsoft® SQL Server and Sybase® as well as JDBC support for other DBMS. PowerSQL is available as a stand-alone application or as an Eclipse plug-in.

Code Quality Checks

SQL Editor now provides code quality checks on statements written for Oracle-based data sources. The code quality check function provides markers and annotations within the editor that indicate ineffective and bad code, and offers suggestions that will fix or otherwise make your statements more efficient, overall.

Explain Plans

An explain plan outlines the steps in a given code statement. SQL Editor provides an explain plan command that is built into the interface and displays the explain plan of a selected and valid statement.

Support for Oracle 11g

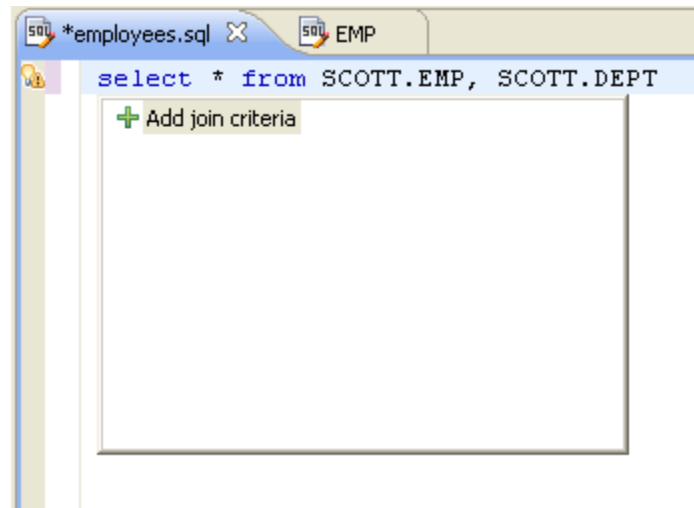
PowerSQL 1.1 fully supports Oracle 11g data sources.

Top New Features

Code Quality Checks

SQL Editor features code quality checking on Oracle-based development code. The code quality check function scans given SQL statements and suggests improvements in the form of annotations and markers in a window that appears beneath the selected code. When you select a suggested modification from the list, the statement is automatically updated to display the more efficient code in the editor.

This feature provides automatic correction to common coding mistakes and inefficiencies, and will result in stronger code and overall better performance when the statements are executed on the data source.



The following common coding errors are detected by code quality checks, along with the typical behavior of the feature in solving or suggesting stronger execution results:

Code Quality Type	Definition
Statement is missing valid JOIN criteria	<p>If a SELECT statement contains missing join criteria, when it is executed, it can produce a Cartesian product between the rows in the referenced tables. This can be problematic because the statement will return a large number of rows without returning the proper results.</p> <p>The code quality check detects missing join criteria between tables in a statement and suggests join conditions based on existing foreign keys, indexes, and column name/type compatibility.</p>
Invalid or missing outer join operator	<p>When an invalid outer join operator exists in a SELECT statement, (or the outer join operator is missing altogether), the statement can return incorrect results.</p> <p>The code quality check detects invalid or missing</p>

	<p>join operators in the code and suggests fixes with regards to using the the proper join operators.</p>
Transitivity issues	<p>The performance of statements can sometimes be improved by adding join criteria, even if a join is fully defined. If this alternate join criteria is missing in a statement, it can restrict the selection of an index in Oracle's optimizer and cause performance problems.</p> <p>The code quality check detects possible join conditions by analyzing the existing conditions in a statement and calculating the missing, alternative join criteria.</p>
Nested query in WHERE clause	<p>It is considered bad format to place sub-queries in the WHERE clause of a statement, and such clauses can typically be corrected by moving the sub-query to the FROM clause instead, which preserves the meaning of the statement while providing more efficient code.</p> <p>The code quality check fixes the placement of sub-queries in a statement, which can affect performance. It detects the possibility of moving sub-queries from the FROM clause of the statement.</p>
Wrong place for conditions in a HAVING clause	<p>When utilizing the HAVING clause in a statement</p> <p>It is recommended to include as few conditions as possible while utilizing the HAVING clause in a statement. PowerSQL detects all conditions in a given HAVING statement and suggests equivalent expressions that can benefit from existing indexes.</p>
Index suppressed by a function or an arithmetic operator	<p>In a SELECT statement, if an arithmetic operator is used on an indexed column in the WHERE clause, the operator can suppress the index and result in a FULL TABLE SCAN that can hinder performance.</p> <p>The code quality check detects these conditions and suggests equivalent expressions that benefit from existing indexes.</p>
Mismatched or incomplete column types	<p>When the data types of join or parameter declaration columns are mismatched, the optimizer is limited in its ability to consider all indexes. This can cause a query to be less efficient as the system might select the wrong index or perform a table scan, which affects performance.</p> <p>The code quality check flags mismatched or</p>

	incompatible column types and warns that it is not valid code.
Null column comparison	<p>When comparing a column with NULL, the <code>!=NULL</code> condition may return a result that is different from the intended command, because <code>col=NULL</code> will always return a result of FALSE. Instead, the NULL/IS NOT NULL operators should be used in its place.</p> <p>The code quality check flags occurrences of the <code>!=NULL</code> condition and replaces them with the IS NULL operator.</p>

To activate a code quality check:

1. In SQL Editor, select an appropriate Oracle statement and click the light bulb icon in the margin or press **CTRL + I** on your keyboard. If the code quality check function detects any common code deficiencies as outlined in the table above, it will return annotations that suggest alternative statement design in the window beneath the statement.
2. Click a suggestion. The statement updates automatically to include the selected code fix.

Additional Resources

Licensing Your Embarcadero Technologies Product

All Embarcadero Technologies products include a 14-day trial period. To continue using the product without interruption, we recommend that you license it as soon as possible. To license your product, use the License Request Wizard found in the Help menu of your respective product. If you have not yet purchased your Embarcadero Technologies product, contact sales@embarcadero.com, or uk.sales@embarcadero.com for sales in the EMEA region.

Embarcadero Technologies Product Support

The Embarcadero Technologies Web site is an excellent source for additional product information, including white papers, articles, FAQs, discussion groups, and the Embarcadero Knowledge Base. Go to www.embarcadero.com/resources, or click any of the links below, to find:

- [Documentation](#)
- [Online Demos](#)
- [Technical Papers](#)
- [Discussion Groups](#)
- [Knowledge Base](#)

Embarcadero Technologies Technical Support

If you have a valid maintenance contract with Embarcadero Technologies, the Embarcadero Technical Support team is available to assist you with any problems you have with our applications. Our maintenance contract also entitles registered users of Embarcadero Technologies products to download free software upgrades during the active contract period. Evaluators receive free technical support for the term of their evaluation (14 days).

We encourage you to open technical support cases via the [Technical Support request form](#) at the [Embarcadero Technologies Web site](#). For additional information about Embarcadero Technologies Technical Support, go to the Support page on our Web site.

Embarcadero Technologies on the Web

To download evaluations of other Embarcadero Technologies products or to learn more about our company and our products visit us at www.embarcadero.com.