Crystal Reports

Stored Procedure Support

Overview

This document outlines Crystal Reports support for SQL database stored procedures. In some cases, stored procedure support depends on whether the report is connecting to the database through the Crystal Reports native (direct) database drivers or through an ODBC connection.

You should read this document if you plan on reporting off stored procedures from a SQL database. This information applies to Crystal Reports versions 8 through 11.5.

Contents

Introduction

What is a Stored Procedure?

In database management systems (DBMSs), it is an operation that is stored within the database server. Typically, stored procedures are written in SQL. They're especially important for client-server database systems because storing the procedure on the server side means that it is available to all clients. And when the procedure is modified, all clients automatically get the new version.

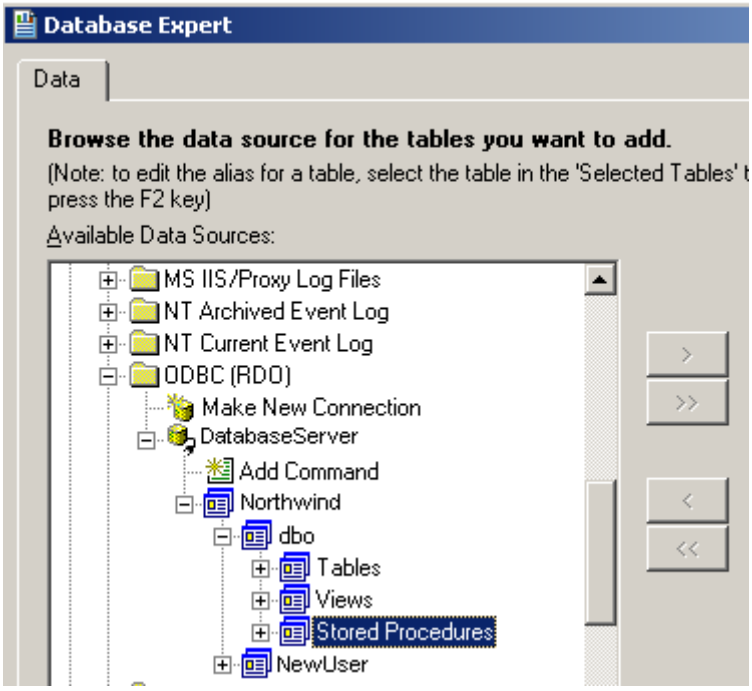
Before you attempt to create your report in the Crystal Reports designer, perform the following procedure:

1. From the **File** command, left-click **Options**.
2. Left-click the **Database** tab.
3. In the frame titled **Show**, ensure that the check box for **Stored Procedures** is selected.

NOTE	When this check box is selected, Crystal Reports will allow reporting on the result sets from stored procedures if you are using a database that supports stored procedures.

4. To create a report off of a stored procedure, connect to your database from within Crystal Reports and expand the Stored Procedures folder:

Figure 1 – Database Expert



5. Find your stored procedure, highlight it and click **Add**.

The rest of this document discusses general limitations and the SQL databases that Crystal Reports supports stored procedures from and if this feature is supported for use via a Native, ODBC, or OLE DB database driver connection.

General Limitations

Stored procedures are powerful objects in a SQL database. They can perform a wide variety of functions, even within one stored procedure. However, in order for Crystal Reports to be able to report off stored procedures, the following restrictions must be observed.

1. The stored procedure must produce only one outputted SELECT statement. Any subsequent recordsets from the stored procedure will be ignored.
2. If there is any output from the stored procedure before the outputted SELECT statement, Crystal Reports attempts to retrieve data from this output but the output does not match the fields that are in the report. For example, stored procedures designed to return any messages before the outputted SELECT statement will not display data in Crystal Reports. Crystal Reports will fail to display any data.
3. Output parameters cannot be used with the stored procedure.

DEFINITION	*Output parameters* are parameters designed to return single values back to the application that calls the stored procedure.

4. If any variables or functions are used in the outputted SELECT statement, they must be properly be assigned aliases as fields.

NOTE	To find more information on assigning field aliases, please refer to the documentation that accompanies your specific database.

5. Ensure that you have sufficient privileges to execute the stored procedure. Insufficient privileges may result in the stored procedure to be missing from the list of available stored procedures to report off. If you are uncertain of whether or not you have sufficient privileges, contact your Database Administrator (DBA) for assistance.

NOTE	If you are uncertain of whether or not you have sufficient privileges, contact your Database Administrator (DBA) for assistance.

Supported SQL Databases

Microsoft SQL Server

Using the native Crystal Reports driver (P2ssql.dll), stored procedures from Microsoft SQL Server 7 and 2000 are supported in Crystal Reports versions 8.0 and 8.5. Crystal Reports 9 has dropped native connections to SQL Server. As Microsoft has not updated their native driver (ntwdblib.dll) since version 6.5 of SQL Server, native connections are not recommended to SQL Server.

Using the ODBC connection (MS SQL Server ODBC driver) to connect and retrieve data from stored procedures is supported in all versions of Crystal Reports.

Using either ODBC or OLE DB, stored procedures from SQL Server 7 and 2000 are supported in Crystal Reports versions 8 8.0, 8.5, 9.x, 10x and 11.x.

NOTE	It is good practice to include the code ***SET NOCOUNT ON*** at the beginning of the body of Microsoft SQL Server stored procedures that Crystal Reports will be reporting on. This will suppress record count outputs from the stored procedure, which Crystal Reports will see as the recordset.

Sybase

Using the native Crystal Reports drivers (P2ssyb10.dll or crdb_p2ssyb10.dll), stored procedures from Sybase are supported in Crystal Reports versions 8.0, 8.5, 9.x, 10x and 11.x.

Using ODBC drivers, stored procedures from Sybase are supported in Crystal Reports versions 8.0, 8.5, 9.x, 10x and 11.x.

Using OLE DB, stored procedures are NOT supported in Crystal Reports versions 8.0, 8.5, 9.x.

Oracle

Using the native Crystal Reports driver from Crystal Reports 8.0 and 8.5 (P2sora7.dll), stored procedures created in Oracle 7.x, 8.x, and 9.x are supported.

Using the native Crystal Reports driver from Crystal Reports 9.x and Crystal Reports 10.x (crdb_oracle.dll) stored procedures created in Oracle 8.0.6 to 9.2.x are supported.

Using the native Crystal Reports driver from Crystal Reports 11.x and Crystal Reports 11.5.x (crdb_oracle.dll) stored procedures created in Oracle 8.0.6 to 9.2.x are supported.

NOTE	With the 11.x and 11.5.x versions, the Oracle 9.2 client or higher will be required to make a native connection.

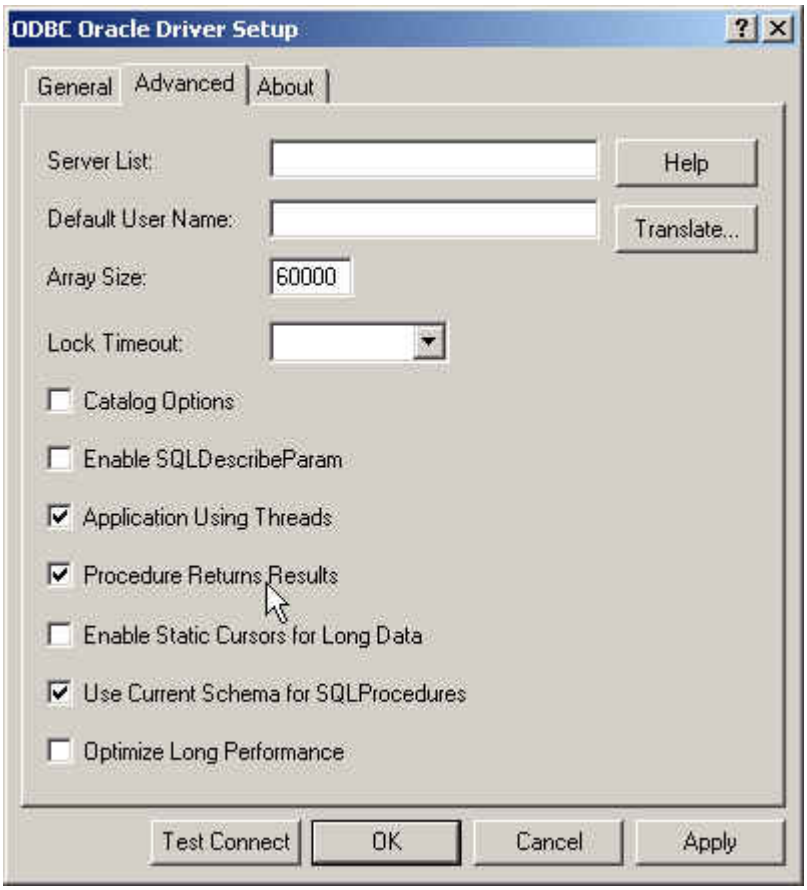
Using ODBC drivers (Crystal Reports Oracle v3.6, Crystal Reports Oracle ODBC Driver 4.10, or the Crystal Reports Oracle Wire Protocol ODBC Driver 4.10, Oracle's ODBC driver 'sqora32.dll'), stored procedures from Oracle are supported in Crystal Reports versions 8.0, 8.5, 9.x and 10.x.

When using Crystal Reports 11.x or 11.5.x, the 9.2 version or higher version of the Oracle client should be installed and then the Oracle ODBC driver (SQORA32.DLL) would be supported for use against stored procedures. (The Crystal Reports Oracle 5.0 and 5.2 ODBC drivers can also be used to report off of Oracle stored procedures).

Using OLE DB, stored procedures are NOT supported in Crystal Reports versions 8.0, 8.5, and 9.x.

NOTE	When using one of the Crystal Reports Oracle ODBC drivers, you need to ensure that the option Procedure Returns Results is checked ON from the Advanced tab. If this option is unchecked, you will not be able to pull data from a stored procedure.

Figure 2 – ODBC Oracle Driver Setup



NOTE	Crystal Reports cannot report off Oracle stored procedures that execute other Oracle stored procedures. There is no way for Crystal Reports to suppress the ***ORA-00000: normal, successful completion*** message that occurs.

Informix

Using the native Crystal Reports driver (P2sifmx.dll or crdb_p2sifmx.dll), stored procedures are supported in Crystal Reports version 8.0, 8.5, 9.x, 10x and 11.x.

Using ODBC drivers (Crystal Reports Informix9, Crystal Reports Informix ODBC Driver 4.10, or Crystal Reports Informix Wire Protocol ODBC Driver 4.10), stored procedures from Informix are supported in Crystal Reports versions 8.0, 8.5, 9.x, 10x and 11.x.

Using OLE DB, stored procedures are NOT supported in Crystal Reports versions 8.0, 8.5, 9.x.

DB2

Using the native Crystal Reports driver (P2sdb2.dll or crdb_p2sdb2.dll), stored procedures are supported in Crystal Reports versions 8.0, 8.5, 9.x, 10x and 11.x.

NOTE	To connect to IBM DB2 through the native drivers, a Distributed Database Connectivity Service (DDCS) client is needed. DDCS does not ship with CR. Contact IBM in order to obtain DDCS.

Using the Crystal Reports DB2 ODBC driver (CRDB214.dll) does not support stored procedures from DB2.

Using the IBM DB2 ODBC Driver (DB2CLI.dll) and the Crystal Reports DB2 Wire Protocol ODBC Driver 4.10,4.20, 5.0, 5.1, stored procedures are supported in Crystal Reports versions 8.0, 8.5, 9.x, 10x and 11.x..

Using the IBM OLE DB Provider for DB2 Servers, stored procedures are supported in Crystal Reports versions 8.0, 8.5, 9.x, 10x and 11.x..

Finding More Information

For further information on Oracle stored procedure support read the white paper cr_oracle_stored_procedures.pdf available on our web site.

www.businessobjects.com