

Oracle® Identity Manager

Integration Guide for Crystal Reports

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This document explains how to use Crystal Reports Developer XI and Crystal Reports Server XI to create Crystal Report versions of Oracle Identity Manager reports. This document contains the following sections:

- [Configuring Crystal Reports Lookups for Oracle Identity Manager Input Parameters](#)
- [Files Required to Run Each Report](#)
- [Configuring Reports for Crystal Reports Developer and Crystal Reports Server](#)
- [Creating Users, Configuring Access, and Distributing Reports](#)
- [General Limitations](#)
- [Documentation Accessibility](#)

1 Configuring Crystal Reports Lookups for Oracle Identity Manager Input Parameters

"Lookup" is a term for a drop-down list that displays the available values for any given input parameter. You must configure Crystal Reports lookups for Oracle Identity Manager input parameters before configuring and running reports.

Perform the following steps to configure Crystal Reports lookups for Oracle Identity Manager input parameters using the Business View Manager:

1. Start the Business View Manager. From the Windows **Start** menu, select **Programs**, then select **Business Objects**, then select **Crystal Reports Server**, and then select **Business View Manager**. The Business View Manager opens. Log in as the Administrator with Enterprise Authentication.
2. Click the **Tools** menu on the Business View Manager and select **Import**. The Import dialog box appears.
3. Click the **Choose XML** button next to the **XML Filename** field on the Import dialog box.
4. Browse to the location where the LookUps.xml import file is located, select it, and click **Open**.

By default, the LookUps.xml import file is in the
\\installServer\xellerate\db\Oracle\CrystalReports\ directory for Oracle
deployments and in the
\\installServer\xellerate\db\SQLServer\CrystalReports\ directory for SQL
Server deployments. Click **OK** on the Import dialog box to import the file.

5. Click the **View** menu on the Business View Manager and select **Repository Explorer**. The Repository Explorer window appears in the Business View Manager.
6. Select the List of Values from the Repository Explorer that you want to change the connection for and click **Show referenced objects**. The Referenced Objects dialog box appears.
7. Expand the List of Values option in the Referenced Objects dialog box so you can see the connection level entry. Note the name of the connection and click **Close** on the Referenced Objects dialog box.
8. Double-click the name of the connection entry in the Repository Explorer. The settings for the connection appear in the Business View Manager main window.
9. Click the **View** menu on the Business View Manager and select **Object Explorer** and **Property Browser**. The Object Explorer window and Property Browser appears in the Business View Manager.
10. Click the **Connection** field in the Property Browser to set the value for the connection. You can click any of the fields listed in the Property Browser to set their value.

Note: You can verify the connection to the database by clicking the **Test Connectivity** icon on the toolbar.

2 Files Required to Run Each Report

[Table 1](#) lists the required files to run each report for both Oracle and SQL Server data sources.

Note: While the files to run each report for both Oracle and SQL Server data sources have the same file names, the content of the files are different for each data source.

For Oracle data sources, the files listed in [Table 1](#) are located on the Oracle Identity Manager installation CD in the following directories:

- \installServer\xellerate\db\Oracle\CrystalReports\SP_Wrappers\
- \installServer\xellerate\db\Oracle\CrystalReports\RPT\

For SQL Server data sources, the files listed in [Table 1](#) are located on the Oracle Identity Manager installation CD in the following directories:

- \installServer\xellerate\db\SQLServer\CrystalReports\SP_Wrappers\
- \installServer\xellerate\db\SQLServer\CrystalReports\RPT\

Each report has an input parameter named Xellerate User Login. For all reports, the default value of the Xellerate User Login parameter is `xelsysadm`. The Xellerate User Login parameter corresponds to the xellerate user and is based on the report that will run. The report follows the same security model as Oracle Identity Manager taking the xellerate user as the logged in user.

When reports run, the Xellerate User Login parameter is suppressed and users cannot edit the value for this parameter. The administrator or user that publishes

the report must set the value for the Xellerate User Login parameter according to the level of security needed.

Note: The files listed in [Table 1](#) remain on the Oracle Identity Manager installation CD and are not installed on a system when installing Oracle Identity Manager.

Table 1 Files Required to Run Each Report

| Report | Wrapper Stored Procedure (.sql) | RPT (.rpt) |
|---------------------------------|---|--------------------------|
| User Resource Access | XL_SP_UserResourceAccess_CR | UserResourceAccess |
| Resource Password Expiration | XL_SP_ResPassExp_CR | ResPassExp |
| OIM Password Expiration | XL_SP_OIMPassExp_CR | OIMPassExp |
| Group Membership Profile | XL_SP_GroupMembershipProfile_CR Note: For Oracle, the wrapper stored procedure is named: XL_SP_GrpMembershipProfile_CR | GroupMembershipProfile |
| Policy List | XL_SP_PolicyList_CR | PolicyList |
| Policy details | XL_SP_PolicyDetail_CR | PolicyDetail |
| Entitlement Summary | XL_SP_EntitlementSummary_CR | EntitlementSummary |
| Attestation request by Process | XL_SP_AttestReqByProc_CR | AttestReqByProc |
| Attestation Request Details | XL_SP_AttReqDetail_CR | AttReqDetail |
| Attestation Process List | XL_SP_AttestProcList_CR | AttestProcList |
| Attestation Request by Reviewer | XL_SP_AttestReqByRev_CR | AttestReqByRev |
| Resource Access List | XL_SP_ResourceAccessList_CR | ResourceAccessList |
| User Access History | XL_SP_UserAccessHistory_CR | UserAccessHistory |
| Resource Access List History | XL_SP_ResourceAccessLstHistory_CR | ResourcAccessListHistory |
| User Profile History | XL_SP_UserProfileHistory_CR | UserProfileHistory |
| User Membership History | XL_SP_UserMembershipHistory_CR | UserMembershipHistory |
| Group Membership History | XL_SP_GroupMembershipHistory_CR Note: For Oracle, the wrapper stored procedure is named: XL_SP_GrpMembershipHistory_CR | GroupMembershipHistory |

Table 1 (Cont.) Files Required to Run Each Report

| Report | Wrapper Stored Procedure (.sql) | RPT (.rpt) |
|------------------|---------------------------------|-----------------|
| Group Membership | XL_SP_GroupMembership_CR | GroupMembership |

3 Configuring Reports for Crystal Reports Developer and Crystal Reports Server

This section explains how to configure Crystal Report versions of Oracle Identity Manager reports for both Crystal Reports Developer and Crystal Reports Server. This section contains the following topics:

- [Configuring the Database for Crystal Report Versions of Oracle Identity Manager Reports](#)
- [Configuring Reports to Run Against Crystal Reports Developer](#)
- [Configuring Reports to Run Against Crystal Reports Server](#)

Note: The information in [Configuring the Database for Crystal Report Versions of Oracle Identity Manager Reports](#) is common to both Crystal Reports Developer and Crystal Reports Server.

3.1 Configuring the Database for Crystal Report Versions of Oracle Identity Manager Reports

Perform the steps in one of the following sections appropriate for your type of database to compile the wrapper stored procedure, which is the data source for the report.

Note: Each wrapper procedure calls the parent procedure. The sixth parameter in this call, named `intpagesize_in` in the parent procedure, indicates the number of records for the report to retrieve. By default, the value of `intpagesize_in` is set to 5000 in each wrapper procedure.

If needed, change the value of `intpagesize_in` and save the file before compiling the wrapper stored procedure.

3.1.1 Configuring Oracle Databases for Crystal Report Versions of Oracle Identity Manager Reports

To configure Oracle databases for Crystal Report versions of Oracle Identity Manager reports, execute the `\Oracle\Wrappers\XL_SP_<Report Name>_CR.sql` script on the database server using the database login for Oracle Identity Manager.

3.1.2 Configuring SQL Server Databases for Crystal Report Versions of Oracle Identity Manager Reports

Perform the following steps to configure SQL Server databases for Crystal Report versions of Oracle Identity Manager reports:

1. Edit the \SQLServer\XL_SP_<Report Name>_CR.sql script and replace every occurrence of the @sysuser string with the name of the SQL Server login for Oracle Identity Manager.
2. Execute the updated \SQLServer\XL_SP_<Report Name>_CR.sql script on the database server using the database login for Oracle Identity Manager.

3.2 Configuring Reports to Run Against Crystal Reports Developer

This section explains how to configure reports to run against Crystal Reports Developer using both Oracle and SQL Server data sources. By default, reports attempt to connect to the data source that was configured when the report was initially designed.

To change the location of the data source that the report connects to, perform the steps in the following sections specific to either Oracle or SQL Server data sources. This section contains the following topics:

- [Configuring Reports to Run Against Crystal Reports Developer Using Oracle Data Sources](#)
- [Configuring Reports to Run Against Crystal Reports Developer Using SQL Server Data Sources](#)

3.2.1 Configuring Reports to Run Against Crystal Reports Developer Using Oracle Data Sources

Perform the following steps to configure reports to run against Crystal Reports Developer using Oracle data sources:

1. Open Crystal Reports Developer and log in as the Administrator with Enterprise Authentication.
2. Open the \Oracle\RPT\<Report Name>.rpt file for the report you want to run.
3. Click the **Database** menu and select **Set Datasource Location**. The Set Datasource Location dialog box appears.
4. Expand the **Create New Connection** option in the **Replace With** field of the Set Datasource Location dialog box.
5. Select **Oracle Server**. The Oracle Server Connection dialog box appears.
6. Enter the name of the connection string defined in the TNSNAMES.ora configuration file in the **Service** field.
7. Enter the database User ID in the **User ID** field.
8. Enter the password in the **Password** field and click the **Finish** button.
9. Expand the entry for the user name/schema that compiled the wrapper stored procedure from the list of options for the **Oracle Server** entry in the **Replace With** field.
10. Select the wrapper stored procedure for the report.
11. Select the original datasource in the **Current Data Source** field of the Set Datasource Location dialog box and click the **Update** button. The Enter Values dialog box appears.
12. Enter the appropriate values for each parameter in the Enter Values dialog box and run the report.

3.2.2 Configuring Reports to Run Against Crystal Reports Developer Using SQL Server Data Sources

Perform the following steps to configure reports to run against Crystal Reports Developer using SQL Server data sources:

1. Open Crystal Reports Developer and open the \SQLServer\RPT*<Report Name>*.rpt file for the report you want to run.
2. Click the **Database** menu and select **Set Datasource Location**. The Set Datasource Location dialog box appears.
3. Expand the **Create New Connection** option in the **Replace With** field of the Set Datasource Location dialog box.
4. Select **OLE DB (ADO)**. The OLE DB (ADO) Provider dialog box appears.
5. Scroll through the list in the **Provider** box and select **Microsoft OLE DB Provider for SQL Server**. Click the **Next** button. The OLE DB (ADO) Connection Information dialog box appears.
6. Enter the SQL Server host name in the **Server** field.
7. Enter the database user ID in the **User ID** field.
8. Enter the password in the **Password** field.
9. Enter the name of the database in the **Database** field and click the **Next** button. The OLE DB (ADO) Advanced Information dialog box appears.
10. Click the **Finish** button on the OLE DB (ADO) Connection Information dialog box.
11. Expand the entry for the database name in the list of entries for **OLE DB (ADO)** in the **Replace With** field and select the user name that holds the wrapper stored procedure for the report.
12. Expand the **Stored Procedures** entry for the user name that holds the wrapper stored procedure for the report.
13. Select the wrapper stored procedure for the report.
14. Select the original datasource in the **Current Data Source** field of the Set Datasource Location dialog box and click the **Update** button. The Enter Values dialog box appears.
15. Enter the appropriate values for each parameter in the Enter Values dialog box and run the report.

Note: Click the refresh button to run the report with new parameter values.

3.3 Configuring Reports to Run Against Crystal Reports Server

This section explains how to configure reports to run against Crystal Reports Server. The process for configuring reports to run against Crystal Reports Server includes the following steps documented in this section:

1. [Publishing Reports Using the Publishing Wizard](#)
2. [Configuring Published Reports](#)

3.3.1 Publishing Reports Using the Publishing Wizard

The first step in configuring reports to run against Crystal Reports Server is to publish the reports to the Crystal Reports Server. Perform the following steps using the Publishing Wizard to publish reports to the Crystal Reports Server:

1. Start the Publishing Wizard. From the Windows **Start** menu, select **Programs**, then select **Business Objects**, then select **Crystal Reports Server**, and then select **Publishing Wizard**. The Welcome to the Publishing Wizard dialog box appears.
2. Click **Next** on the Welcome to the Publishing Wizard dialog box. The Please Log On dialog box appears.
3. Enter the following information in the fields on the Please Log On dialog box:
 - Enter the host name of the system where Crystal Reports Server is running in the **System** field.
 - Enter your Crystal Reports Server user name in the **User Name** field.
 - Enter your password in the **Password** field.
 - Be sure the **Authentication** field is set to **Enterprise** and click **Next**.
The Select Files dialog box appears.
4. Click the **Add Files** button on the Select Files dialog box. Browse to the location of the RPT file you want to publish, select the file, and click **Open**.
5. Click the **Next** button on the Select Files dialog box after the RPT file you selected appears in the list of files to be published. The Specify Location dialog box appears.
6. Browse to the location where you want the report to appear and click the **Next** button until the Change Default Values dialog box appears.
7. Select the **Publish without modifying properties** option on the Change Default Values dialog box and click **Next**. A Publishing Wizard dialog box appears and lists the objects/reports you selected to publish.
8. Click **Next** to publish the report. After publishing the report, click **Finish**.

3.3.2 Configuring Published Reports

After publishing reports to the Crystal Reports Server, you must configure the published reports so that can users to access them.

Note: Be aware that you cannot configure and publish a report designed for Oracle against an SQL Server data source, and you cannot configure and publish a report designed for SQL Server against an Oracle data source.

Step 10 in the following procedure will differ for Oracle and SQL Server data sources. Perform only the steps that are appropriate for your data source.

Perform the following steps to configure the reports you published using the Publishing Wizard:

1. Start the Java Administration Launchpad. From the Windows **Start** menu, select **Programs**, then select **Business Objects**, then select **Crystal Reports Server**, and then select **Java Administration Launchpad**. A browser opens and the Welcome to the Administration Launchpad page appears.
2. Click **Launch the Central Management Console**. The Central Management Console Log On page appears.
3. Enter the following in the fields on the Central Management Console Log On page:
 - Enter the host name of the system where Crystal Reports Server is running in the **System** field.
 - Enter your user name in the **User Name** field. The user name must be the Administrator or a user with Administrator privileges.
 - Enter your password in the **Password** field.
 - Be sure the **Authentication Type** field is set to **Enterprise** and click **Log On**.

The Central Management Console page appears.

4. Click **Folders**. The Top Level Folders page appears.
5. Select the folder where the report was published. The contents of the folder appears.
6. Click the report. The report details appear.
7. Enter the following information in the fields for the report details:
 - Enter a title for the report in the **Report Title** field.
 - Enter a description for the report in the **Report Description** field.
8. Click the **Process** tab. Click **Database**. The configured database information appears.
9. Select the **Use custom database logon information specified here** option.
10. This step depends on whether you are using an Oracle or SQL Server data source. Perform the steps appropriate to your data source as follows:

Oracle

- a. Select the **Select a database driver** option and select **Oracle** from the list.
- b. Enter the name of the connection string defined in the TNSNAMES.ora configuration file in the **Server** field.
- c. Enter your user name in the **User Name** field. The user name must be the Administrator or a user with Administrator privileges.
- d. Enter your password in the **Password** field.
- e. Select the **Specify a custom table prefix** option.

Enter `<user_name>.` in the **Specify a custom table prefix** field, where `user_name` represents the database user. For example:

`oracledb1user.`

SQL Server

- a. Select the **Specify a custom driver** option and enter `crdb_ado` in the field.
- b. Enter the host name of the SQL Server in the **Server** field.
- c. Enter the name of the database in the **Database** field.
- d. Enter your user name in the **User Name** field. The user name must be the Administrator or a user with Administrator privileges.
- e. Enter your password in the **Password** field.
- f. Select the **Specify a custom table prefix** option.

Enter `<database_name>.<user_name>` in the **Specify a custom table prefix** field, where `database_name` represents the name of the database and `user_name` represents the database user. For example:

`sqlldb1.sqlldb1user.`

Note: Be sure to include a period following the user name.

11. Select the **Use same database logon as when report is run** option and click **Update**.
12. Click **Parameters**. The screen to set the default parameters for the report appears.
13. Click any parameter to set a default value and to configure whether users should be prompted for new values for the parameter when viewing.

Note: The Administrator should set the value for the Xellerate User Login parameter by entering a valid Oracle Identity Manager user ID. The Xellerate User Login parameter should not be set as a prompted parameter. If an incorrect user ID is entered, the user may get an error message such as `Error in database connector`.

After setting the default values for any parameter, click **Update**.

14. Verify the appropriate servers are running using the Central Configuration Manager before running the report. From the Windows **Start** menu, select **Programs**, then select **Business Objects**, then select **Crystal Reports Server**, and then select **Central Configuration Manager**. The Central Configuration Manager opens.
15. Verify the appropriate servers are running by checking the Status column for each server.
16. Click the **Properties** tab on the Central Management Console.
17. Click the **Preview** button to run the report and enter the appropriate information when prompted. The report results appear in a Crystal Reports Viewer browser window.

4 Creating Users, Configuring Access, and Distributing Reports

After configuring the published reports, you must create the users that will access the reports and you must create the appropriate level of access permissions before distributing the reports.

Perform the following steps:

1. Create users and the appropriate access permissions. Refer to your Crystal Reports documentation for more information.
2. Distribute the Central Management Console's URL for the InfoView Web site to the users.

The URL takes users to the login page where they can log in with the user ID and password provided to them by the administrator. The users can then navigate to the folder containing the report, select the appropriate input parameters for the report using the lookup lists, and run the report.

5 General Limitations

The following is a list of general limitations of using Crystal Reports Developer and Crystal Reports Server to create Crystal Report versions of Oracle Identity Manager reports:

- In order for users to be prompted for parameters, the user or administrator responsible for publishing a report must enable the **Prompt the user while viewing** property.
- For reports with date type input parameters, users must provide a value or select the **Set to NULL** option before they can run the report.
- For reports with lookup based input parameters, users must either provide a value or select the **Set to NULL** option before running the report.
- The date format of the date picker will always default to the following:

`mm:dd:yyyy hh:mi:ss`

The date format will not change according to the user language settings on the client computer or browser settings.

- Exporting reports using the Microsoft Word RTF Editable option causes the column titles for the report to be displayed in page header.
- Crystal Report versions of Oracle Identity Manager reports display encoded values that are stored in the database, not values that appear in the Oracle Identity Manager report. An example of this limitation is in columns based on lookups. For the Employee Type column in the User Resource Access report, the Encoded value, Full-Time, appears in the Crystal Report version of the report instead of the decoded value, Full-Time Employee, that appears in the Oracle Identity Manager version of the same report.
- The number of records per page cannot be configured. Crystal Reports attempts to accommodate records based on the data and the space available on each page.
- Links, as used in Oracle Identity Manager reports, are not available in Crystal Report versions of Oracle Identity Manager reports.

- The width of columns is determined when the report is designed. If the data cannot fit into the width allocated for the column, the data wraps and prints on the next line.
 - The Oracle Identity Manager security model that dictates which values are visible from a particular lookup is not enforced while selecting data from a lookup field. Occasionally a report may return no data for a particular lookup value.
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