Practices for Lesson 10: Validating Your Entity Relationship Diagram

Chapter 10

Practice 10-1: Develop and Validate Your ERD

Task

In this practice, you develop and validate an ERD in Oracle SQL Developer Data Modeler using the following information requirements:

The Midwest Oracle User's Group has grown to include over 200 members. This is a volunteer organization and its records are a mess. They need to automate their membership records. For each member, the following information must be kept: the member's name, title, mailing address, office phone number, type of membership (individual or corporate), and whether or not the member is current on dues. The dues are collected on a yearly basis, and everyone's dues are due in January.

The User's Group would also like to know what company a member works for. Keeping this information current is difficult because members are always changing companies; however, only the current employer of the member must be tracked. Members come from many different companies, including Coors, EG&G, and Storage Tech. A few members are unemployed. For each company, the following information must be kept: the company name, address, and type of business. There are a standard set of business code types. Only the main company address for each company is needed.

The User's Group holds various events during the year, and they want to track information about each event. Some of their annual events include the September Meeting, the November Meeting, the annual Training Day in January, and their April Meeting. They also hold special events each year. For example, they held a special Data Modeling day last May where an Oracle representative spoke about Data Modeling concepts. They hold their events at several locations around town, including at AT&T, at Redrocks Community college, and D.U. Bank. They want to track each event's date, an optional description of the event, number of attendees, where it was held, how much money they spent on it, and any comments on the event. They treat all comments as if they came from anonymous submitters. A set of comments is just a free form text statement of any length. They number each set of comments, and they frequently get multiple sets of comments for an event.

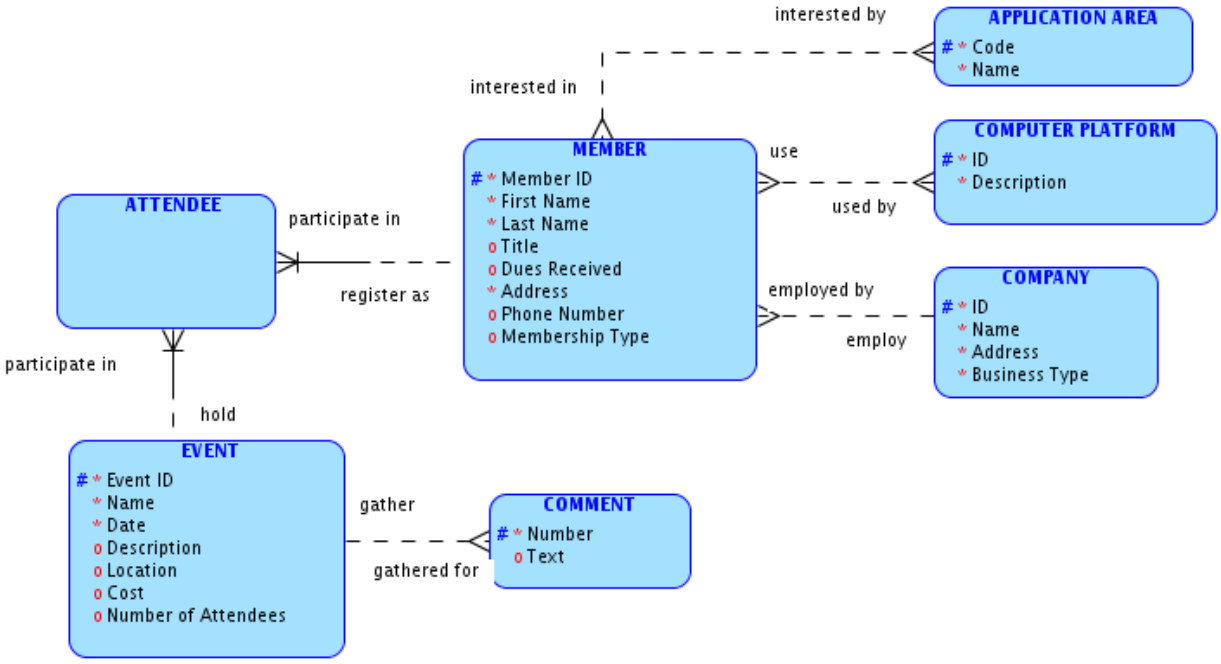
The User's Group tracks which members attended which events. Some members are very active, and others attend very infrequently or just enjoy receiving the newsletter.

In addition, the User's Group must track what type of computer platform each member uses. The User's Group has a unique, three-digit system identification for each type of platform (for example, 001 for XP, 002 for Vista, 003 for Linux, and 004 for UNIX).

The User's Group would also like to track which application areas each member is interested in (for example, accounting, human resources, oil and gas, pharmaceuticals, and health systems). The applications should be portable, so the User's Group does not need to know which platforms they run on.

Solution 10-1: Develop and Validate Your ERD

One possible solution to this practice is:



You should be able to create the diagram in Oracle SQL Developer Data Modeler based on the previous practice. The only task not discussed is how to designate an attribute as mandatory. This is done from the Entity properties window when the attribute is selected. There is a check box called Mandatory. This must be selected for all attributes that must have a value.

Practice 10-2: Working with SQL Developer Data Modeler Reporting Repository

Overview

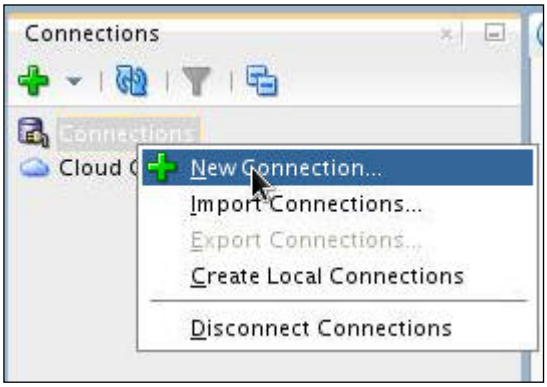
In this practice, you will review your Oracle SQL Developer Data Modeler designs by running a selection of reports in Oracle SQL Developer. The tasks you will perform are:

- Creating a Reporting Schema User
- Opening the HR Schema Relational Model
- Exporting Relational Design to Reporting Schema
- Reviewing the Report Results

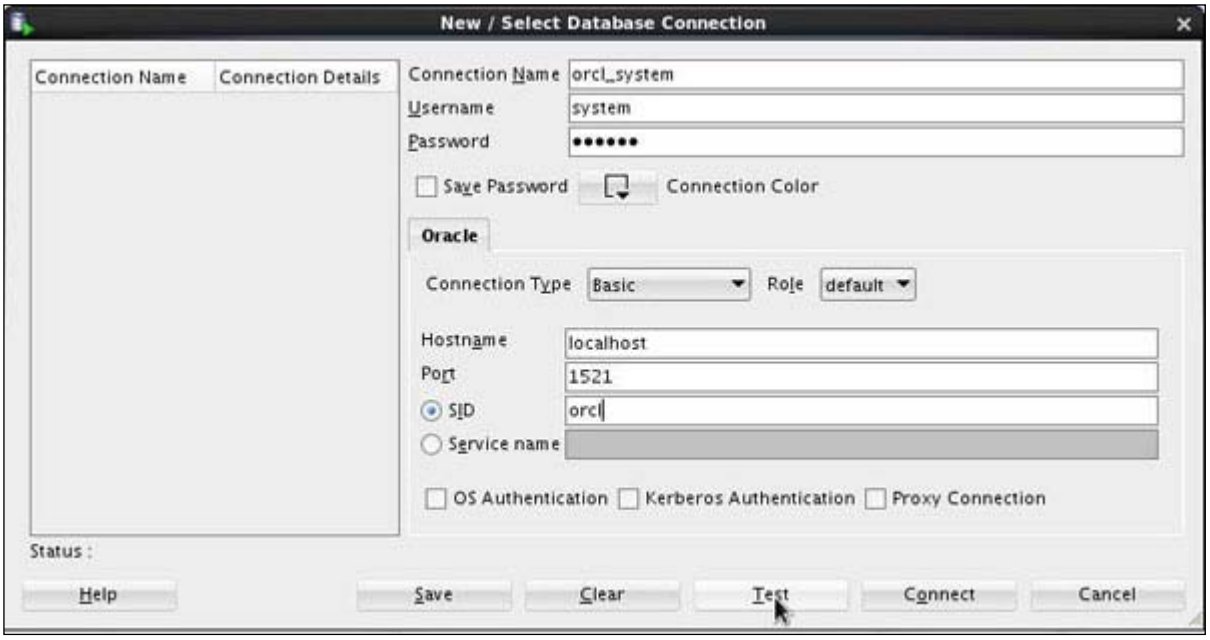
Tasks

Creating a Reporting Schema User

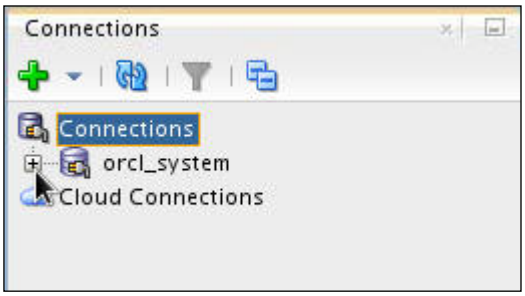
1. Open Oracle SQL Developer by double-clicking the Oracle SQL Developer 4.0 icon on the desktop.
2. You need to create a connection. Right-click **Connections** and select **New Connection**.



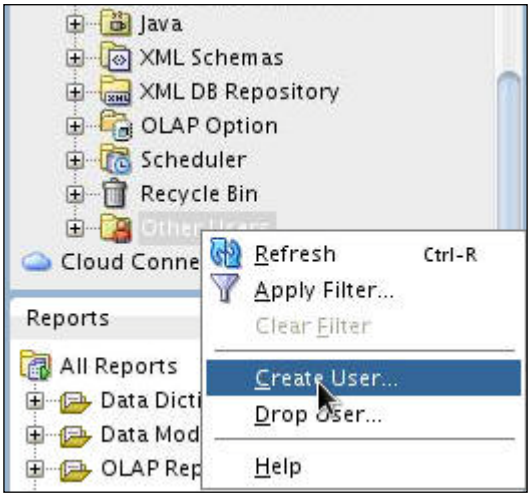
3. Enter the following and click **Test**.
   a. Connection Name: `orcl_system`
   b. Username: `system`
   c. Password: `oracle`
   d. Select the **Save Password** check box.
   e. Hostname: `localhost`
   f. SID: `orcl`



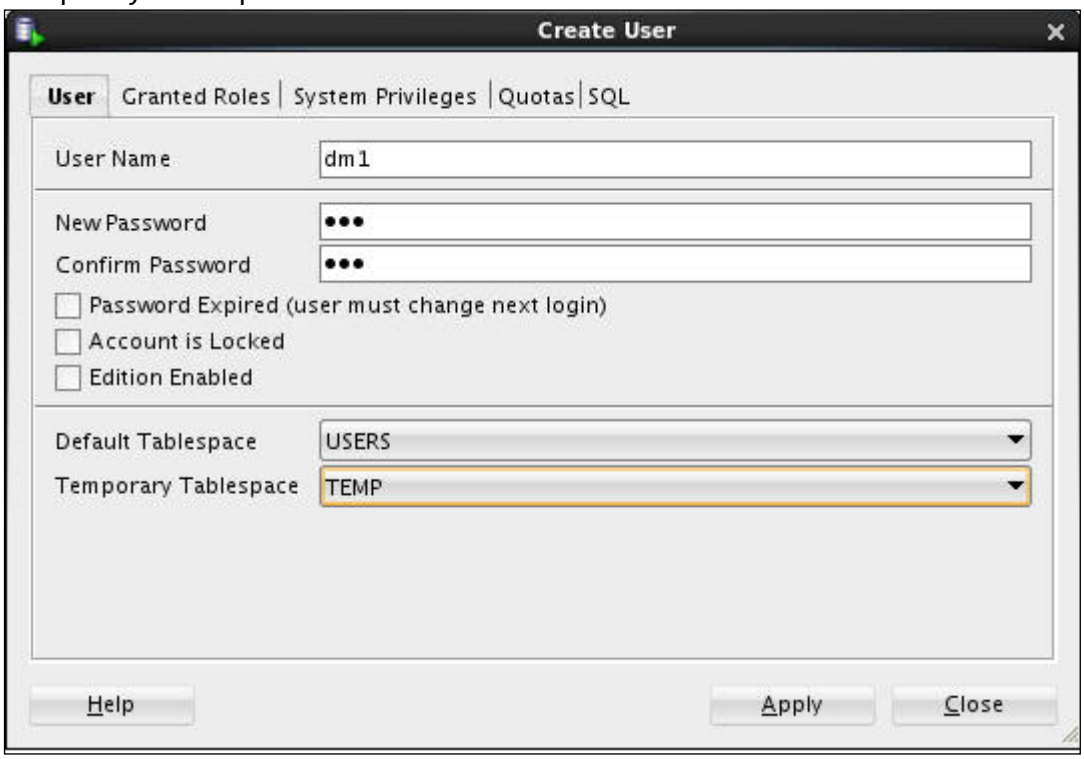
4. The connection is successfully created. Click **Connect**.
5. Expand `orcl_system`.



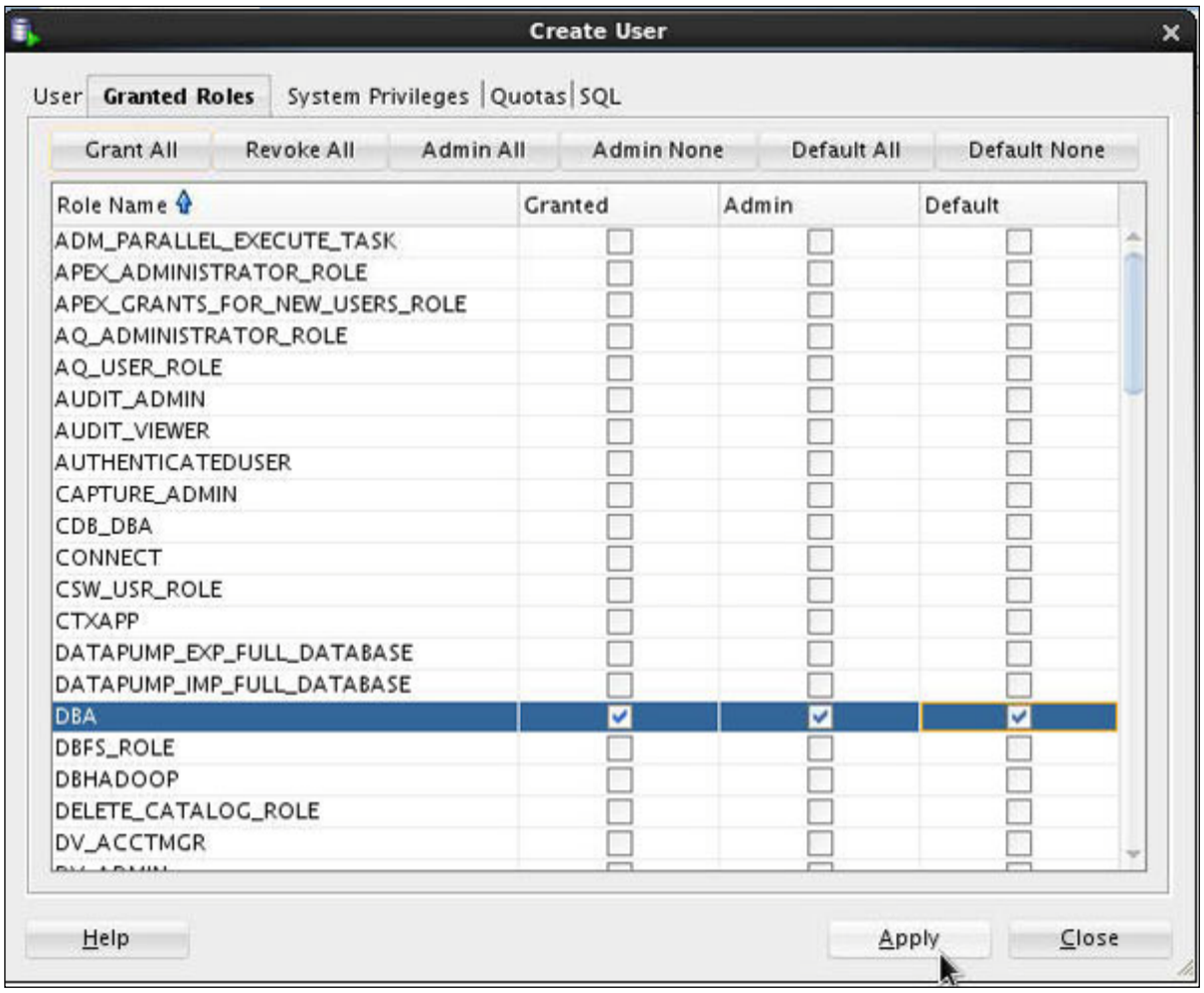
6. Right-click **Other Users** and select **Create User**.



7. Enter the following and click the **Granted Roles** tab.
   a. User Name: `dm1`
   b. New Password: `dm1`
   c. Confirm Password: `dm1`
   d. Default Tablespace: **USERS**
   e. Temporary Tablespace: **TEMP**



8. Select the Granted, Admin, and Default check boxes for **DBA** and click **Apply**.

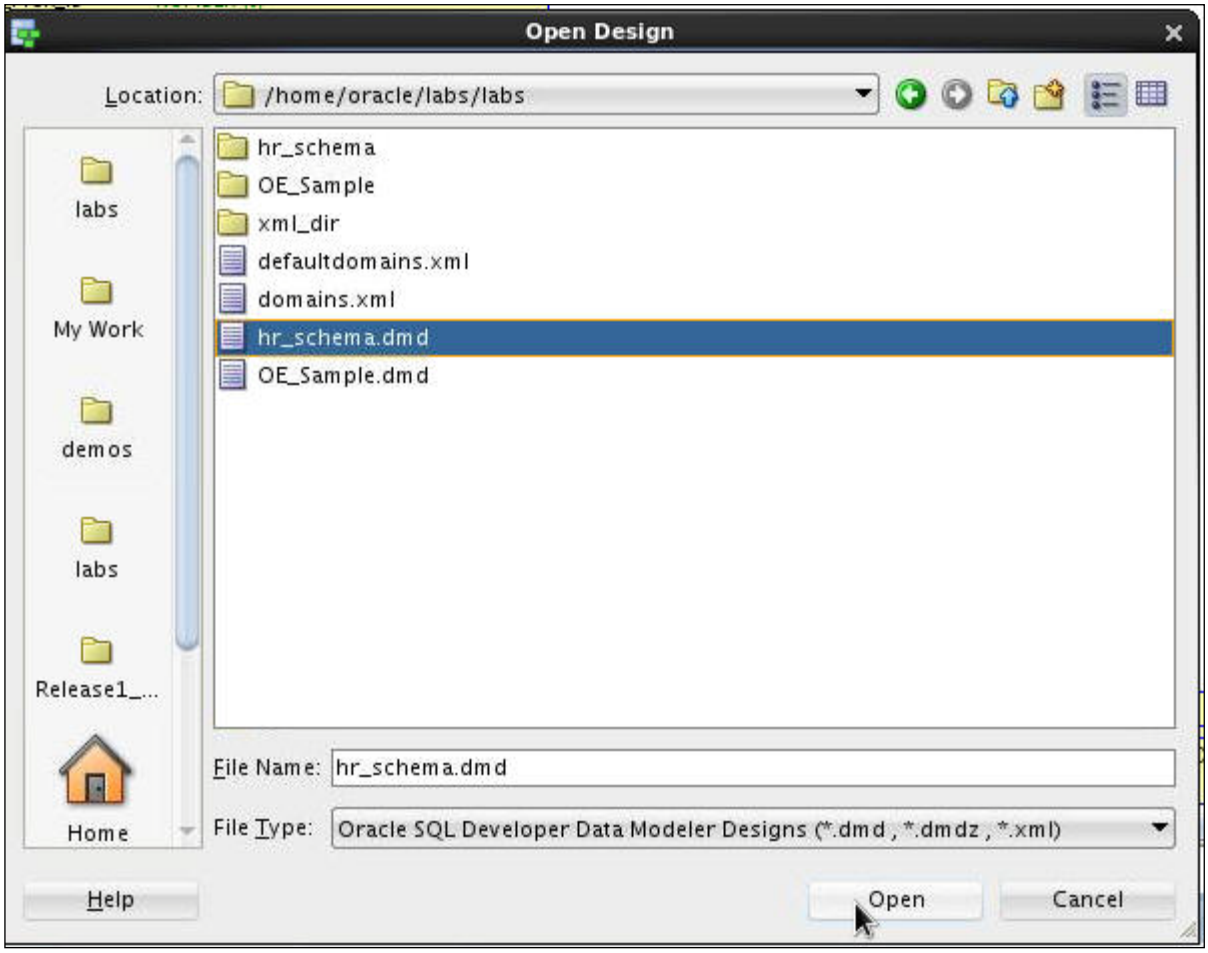


9. The DM1 user and the grant statements were executed successfully. Click **Close**.

Opening the HR Schema Relational Model

10. Open **Oracle SQL Developer Data Modeler** from the icon on your desktop.
11. Select File > Open.

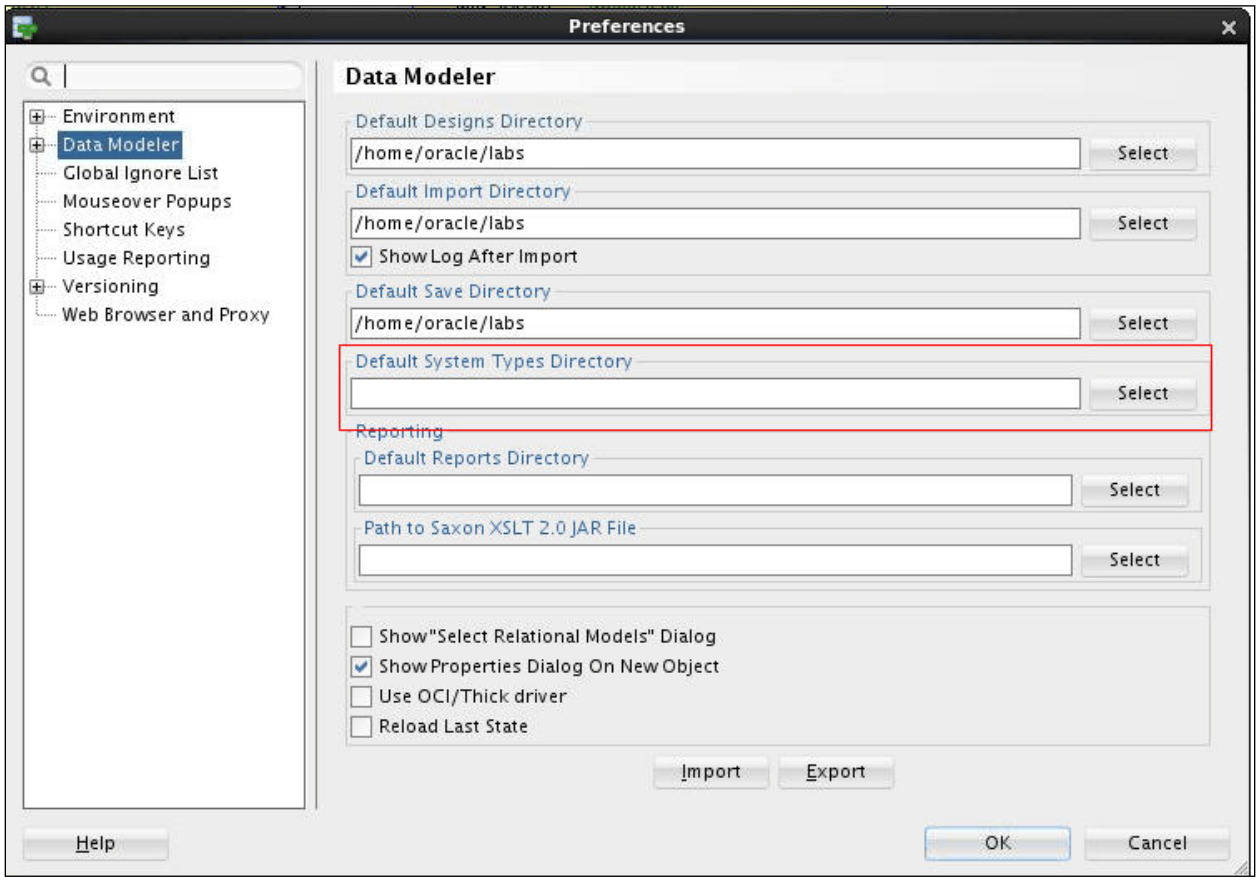
12. Select the **`hr_schema.dmd`** file from the **`/home/oracle/labs/labs`** folder and click **Open**.



Note: You may be prompted with warning message stating "The design is in old format. You should use Save As from the File menu to upgrade it to the new version". Click Ok to proceed.

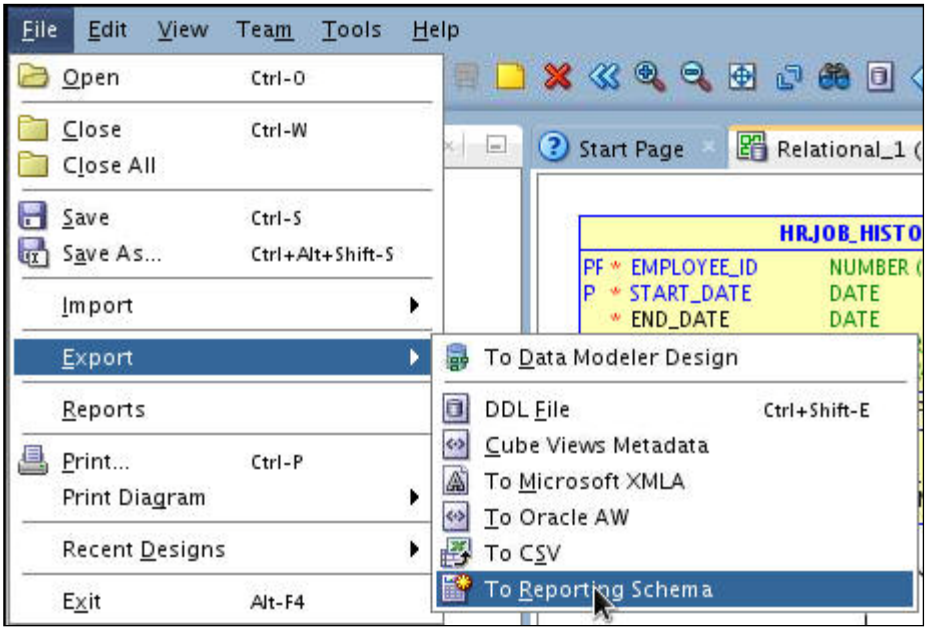
13. The relational model is opened successfully.

Note: Before you export your file to the Reporting Schema, make sure that the Default System Type Directory path is set to nothing. To do this, go to Tools > Preferences > Data Modeler and remove the default path setting.

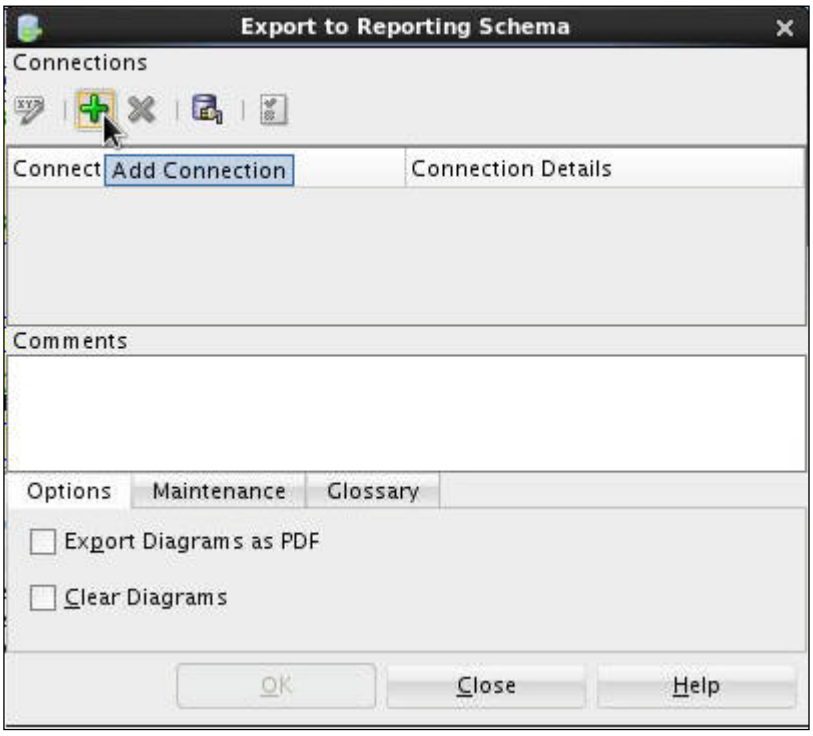


Exporting Relational Design to Reporting Schema

14. Select **File > Export > To Reporting Schema**.



15. You need to create a connection. Click the '+' plus icon.

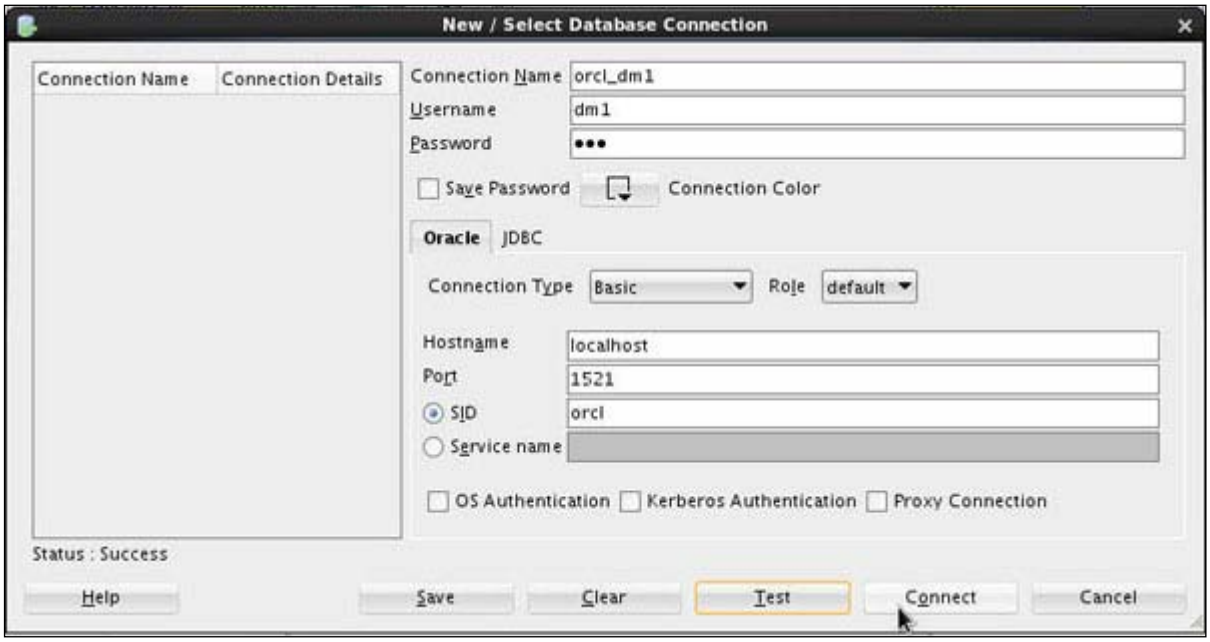


16. Enter the following details and click **Connect**:
    a. Name: `orcl_dm1`
    b. Username: `dm1`
    c. Password: `dm1`

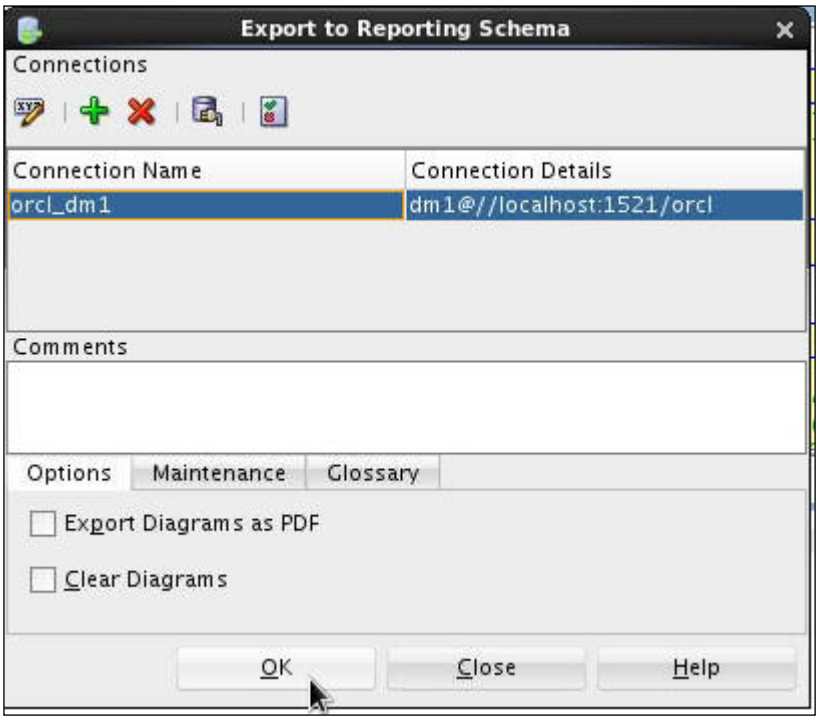
d. Select the **Save Password** check box.

e. Host: `localhost`

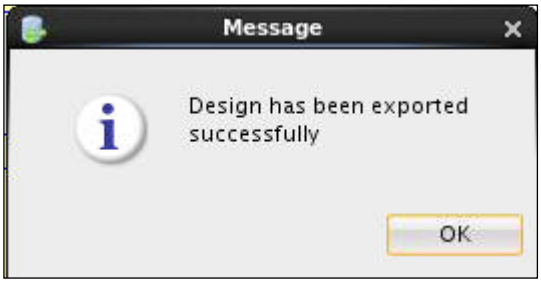
f. SID: `orcl`



17. From the list, select the connection that you just created, and click **OK**.

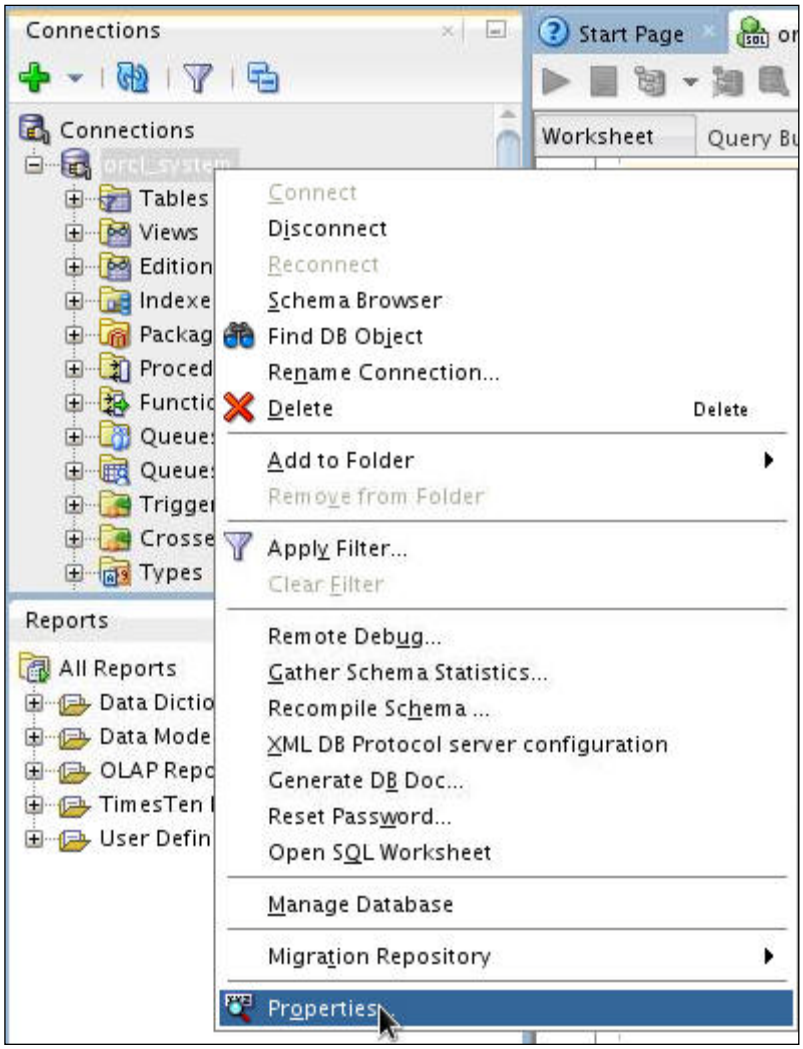


18. Your model is being exported to the reporting schema. When it is complete, the progress window disappears.

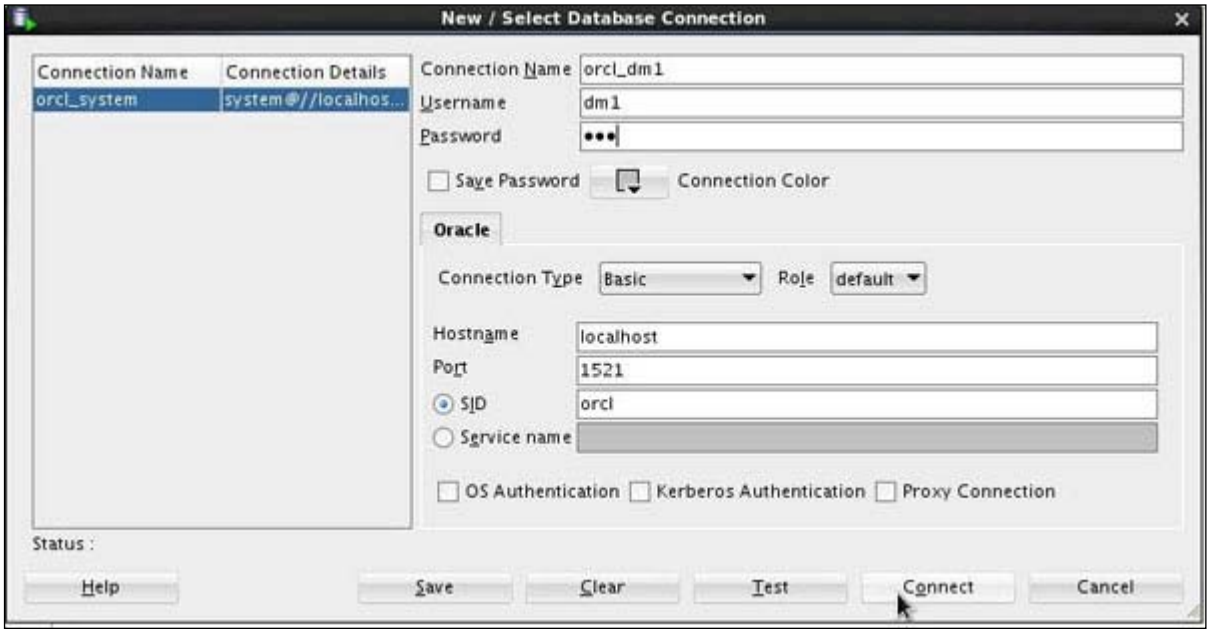


Reviewing the Report Results

19. Switch to SQL Developer. You must first create a connection for the DM1 user. Right-click the **orcl_system** user and select **Properties**.

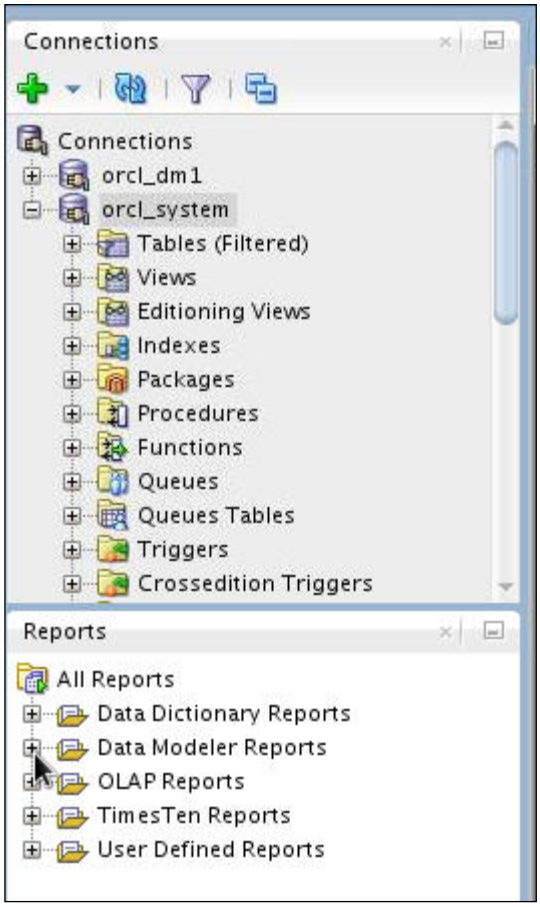


20. Enter the following and click **Connect**:
    a. Connection Name: `orcl_dm1`
    b. Username: `dm1`
    c. Password: `dm1`
    d. Select **Save Password**.
    e. Hostname: `localhost`
    f. SID: `orcl`

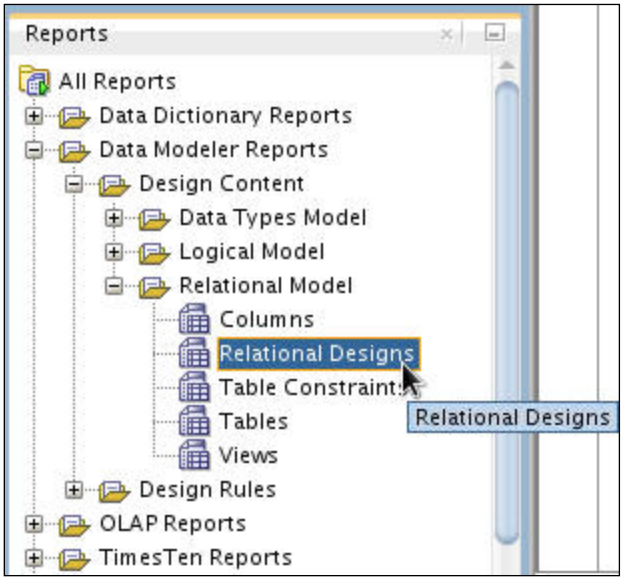


21. Your connection was created.

22. On the **Reports** tab, expand **Data Modeler Reports**.



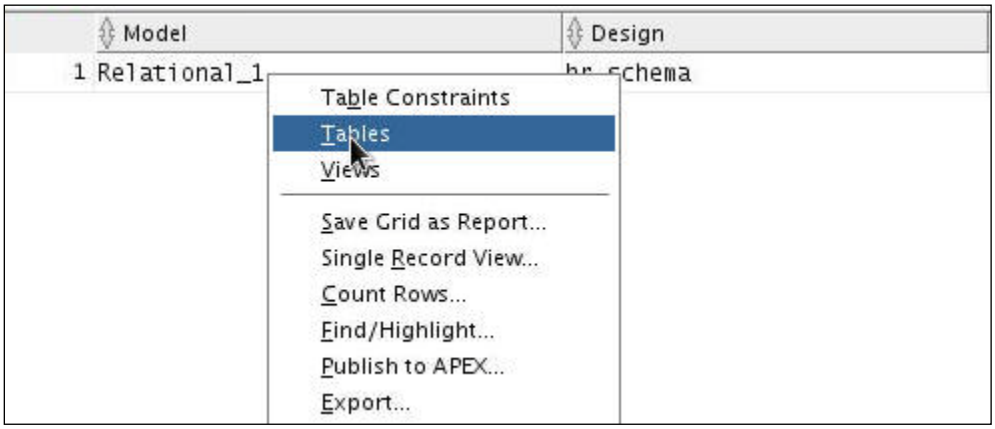
23. Expand **Design Content > Relational Model**. A list of the reports that you can run appears. Select **Relational Designs**.



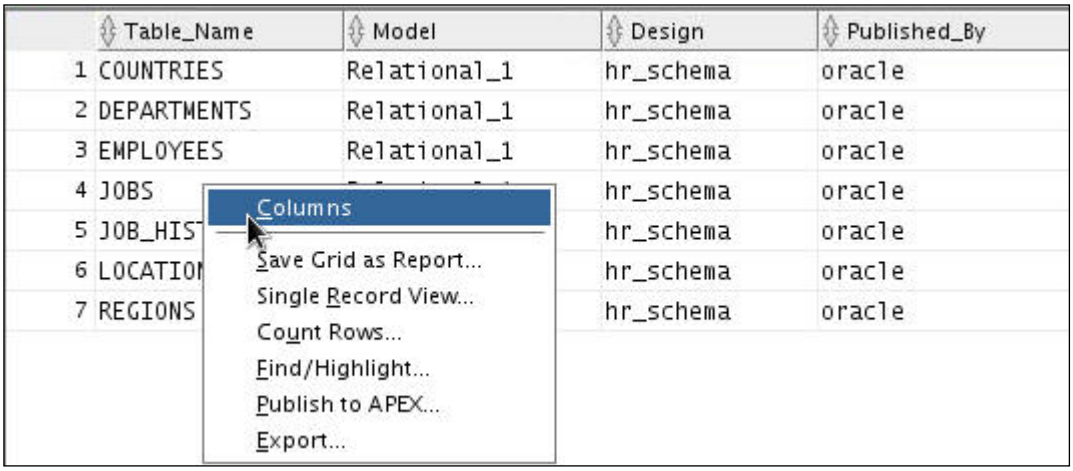
24. Select your connection (**orcl_dm1**) from the list of connections and click **OK**.

25. You can specify bind values to change the results displayed. In this case, you want to use the defaults. Click **Apply**.

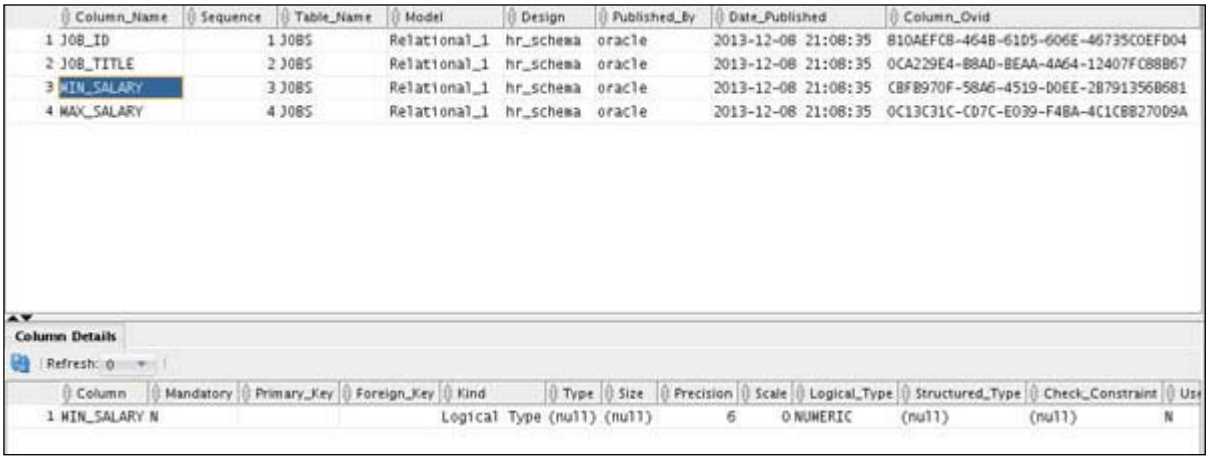
26. A list of the Models appears. Right-click **Relational_1** in the Model column and select **Tables**.



27. Review the list of tables. To see a list of the columns within a table, you can drill down to that report. Right-click the **JOBS** table and select **Columns**.



28. Review the list of columns in the JOBS table.



	Column_Name	Sequence	Table_Name	Model	Design	Published_By	Date_Published	Column_Ovid
1	JOB_ID	1	JOBS	Relational_1	hr_schema	oracle	2013-12-08 21:08:35	810AEFC8-464B-61D5-606E-46735C0EFD04
2	JOB_TITLE	2	JOBS	Relational_1	hr_schema	oracle	2013-12-08 21:08:35	0CA229E4-88AD-BEAA-4A64-12407FC88B67
3	MIN_SALARY	3	JOBS	Relational_1	hr_schema	oracle	2013-12-08 21:08:35	CBFB970F-58A6-4519-D0EE-2B791356B681
4	MAX_SALARY	4	JOBS	Relational_1	hr_schema	oracle	2013-12-08 21:08:35	0C13C31C-CD7C-E039-F4BA-4C1CB8270D9A

Column Details

Refresh: 0

	Column	Mandatory	Primary_Key	Foreign_Key	Kind	Type	Size	Precision	Scale	Logical_Type	Structured_Type	Check_Constraint	Us
1	MIN_SALARY	N			Logical	Type (null)	(null)	6	0	NUMERIC	(null)	(null)	N