Getting Started With the Oracle Database Plugin for Eclipse

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1. Introduction

Welcome to the first step towards supporting the Eclipse Data Tool Platform (DTP) by Oracle. This document provides a high-level tour through each of the Oracle Database Plugin features.

Note that screen shots and examples in this document use the HR schema that is installed by default with Oracle Database. You may download Oracle Database 10*g* Exp

2. Using the Tool

2.1. Database Explorer

The Database Explorer is the Datasource View provided by the DTP. It is used to create Database connections and to navigate the database.

2.1.1. Connecting to an Oracle Database

You can create a connection to a database using the Data Source Explorer view.

To open the Database Development perspective, click **Windows > Open Perspective > Other** from the Main menu, and then select **Database Development** from the **Open Perspective** dialog. This perspec

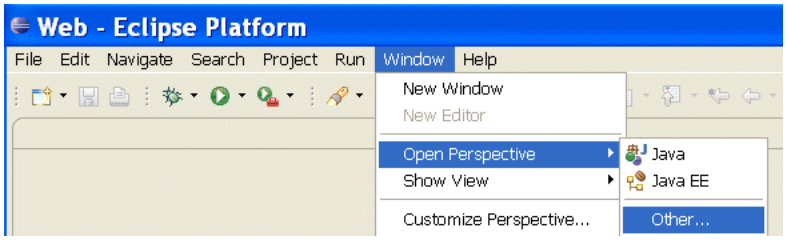

Figure 1. Opening Database Perspective

Right click on the **Databases** node in DSE and select **New...** to create a database connection, as *Figure 2* shows.

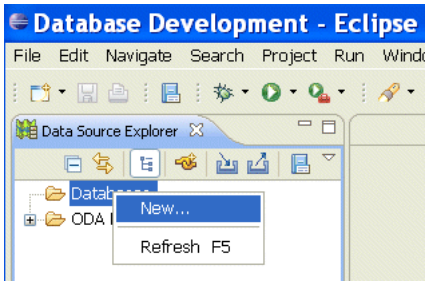

Figure 2. New Database Connection

This displays the **New Connection Profile** wizard, as *Figure 3* shows.

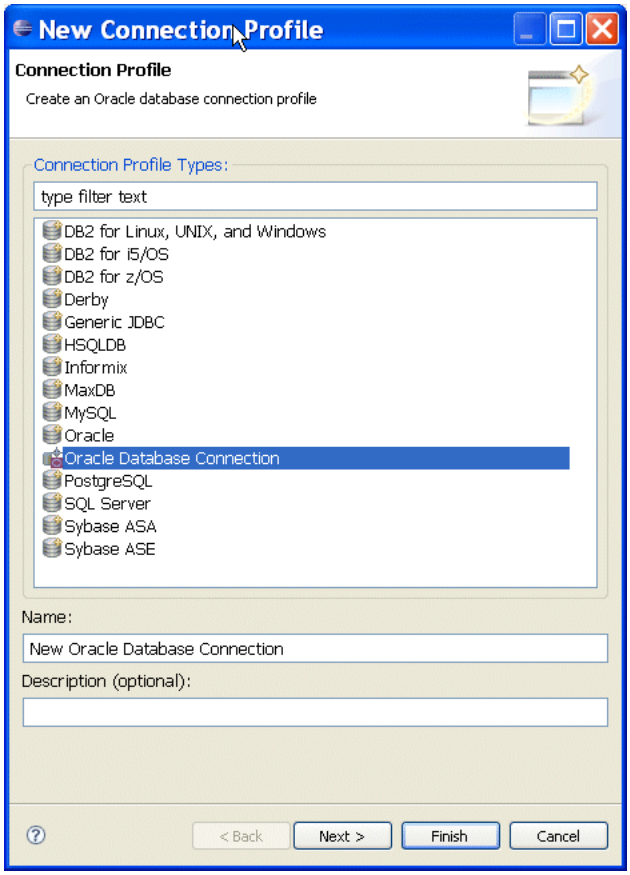

Figure 3. New Connection Profile Dialog

Select **Oracle Database Connection** from the list, and then click **Next**.
If "Oracle Database Connection" is not listed, restart Eclipse with **-clean** command option. Provide a name for the connection and proceed to the next step.

Complete the rest of the dialog as follows:

- Select **Oracle Database 10g Driver Default** from the drop-down list of drivers.
- Click **Edit Driver Definition** triangular button on the right, select the **Jar List** tab, then select the existing entry, and click **Edit JAR/Zip**. Browse to your `eclipse` directory, open the `plugins` folder, and `oracle.eclipse.tools.database.jdbc.driver*.jar` file.
  Note that you need to do this only once.
- If the defaults are not appropriate for your configuration, change the following information in the **URL** field:
  - replace **localhost** with the hostname or IP address of the Oracle Database server.
  - replace **1521** with the port number of the Oracle Database Listener service.
  - replace **xe** with the Service Name (or SID) of the Database Service.
- Provide the database user name and password for the connection.
- Use the following optional properties if required:
  1. **autocommit=**`false`
     By default, autocommit is set to `true`, which results in immediate commit of the operations from SQL Editor. When set to **false**, you need to execute the explicit `COMMIT` to commit the changes.
  2. **sysdba=**`true`
     Use this property to login with SYSDBA account.
  3. **sysoper=**`true`
     Use this property to login with SYSOPER account.
- Click **Test Connection** to test the connectivity.
- Select **Connect when the wizard completes** checkbox to enable the database connection.
- Select **Finish** to complete the wizard.

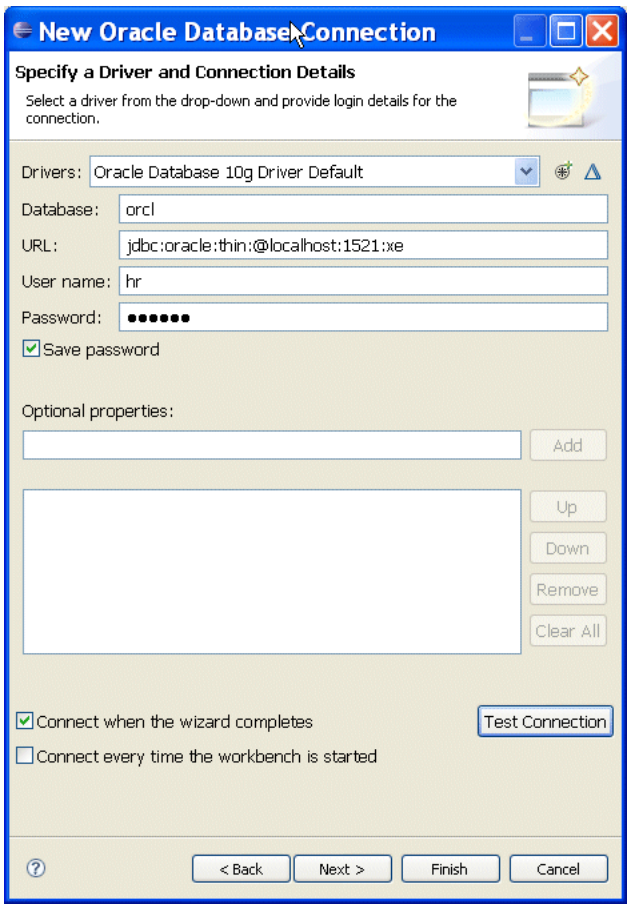

Figure 4. Database Connection Details

2.1.2. Exploring the Oracle Database

The open database connection allows you to navigate through the database objects.

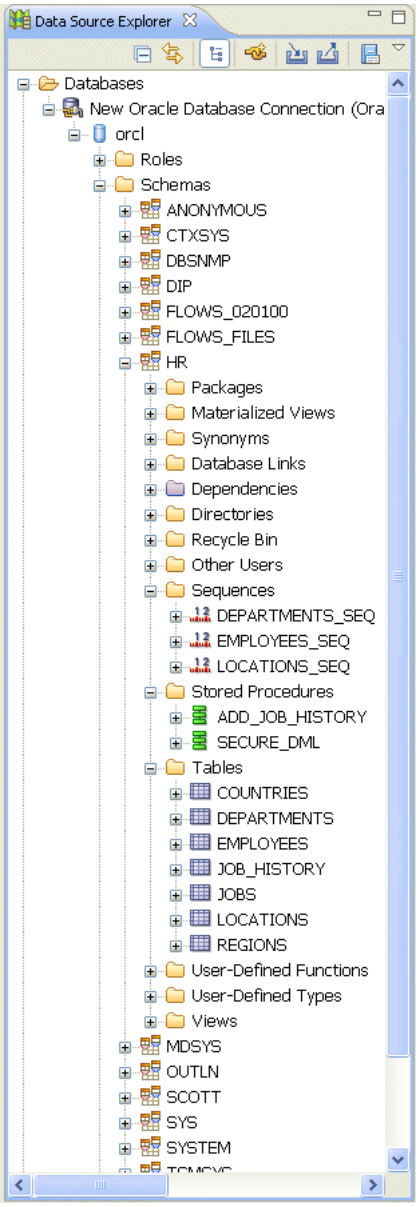

Figure 5. Exploring the Database

2.1.3. Editing Data from a Table

With the enabled database connection, you can edit the table data in the Data Source Explorer (DSE).

To do so, navigate to the table you want to edit in the DSE, then right-click the table, and select **Data > Edit**, as *Figure 7* shows.

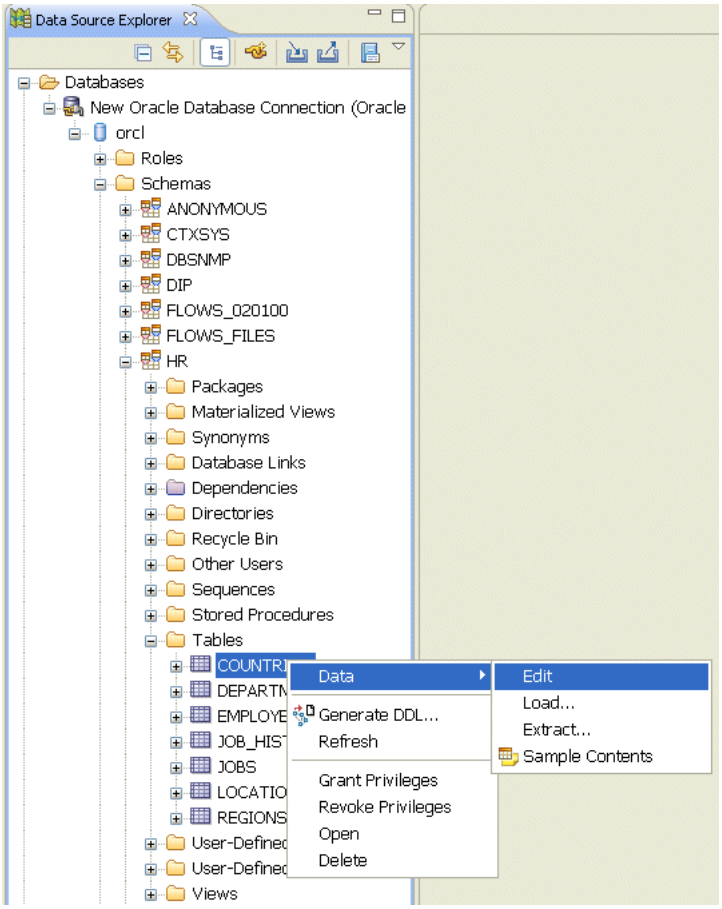

Figure 7. Editing Database Table

This opens the table data in the editor, as *Figure 8* shows. You can make changes to the table data by right-clicking on a table cell and using the popup menu. When you have finished editing, click **Save** to sa

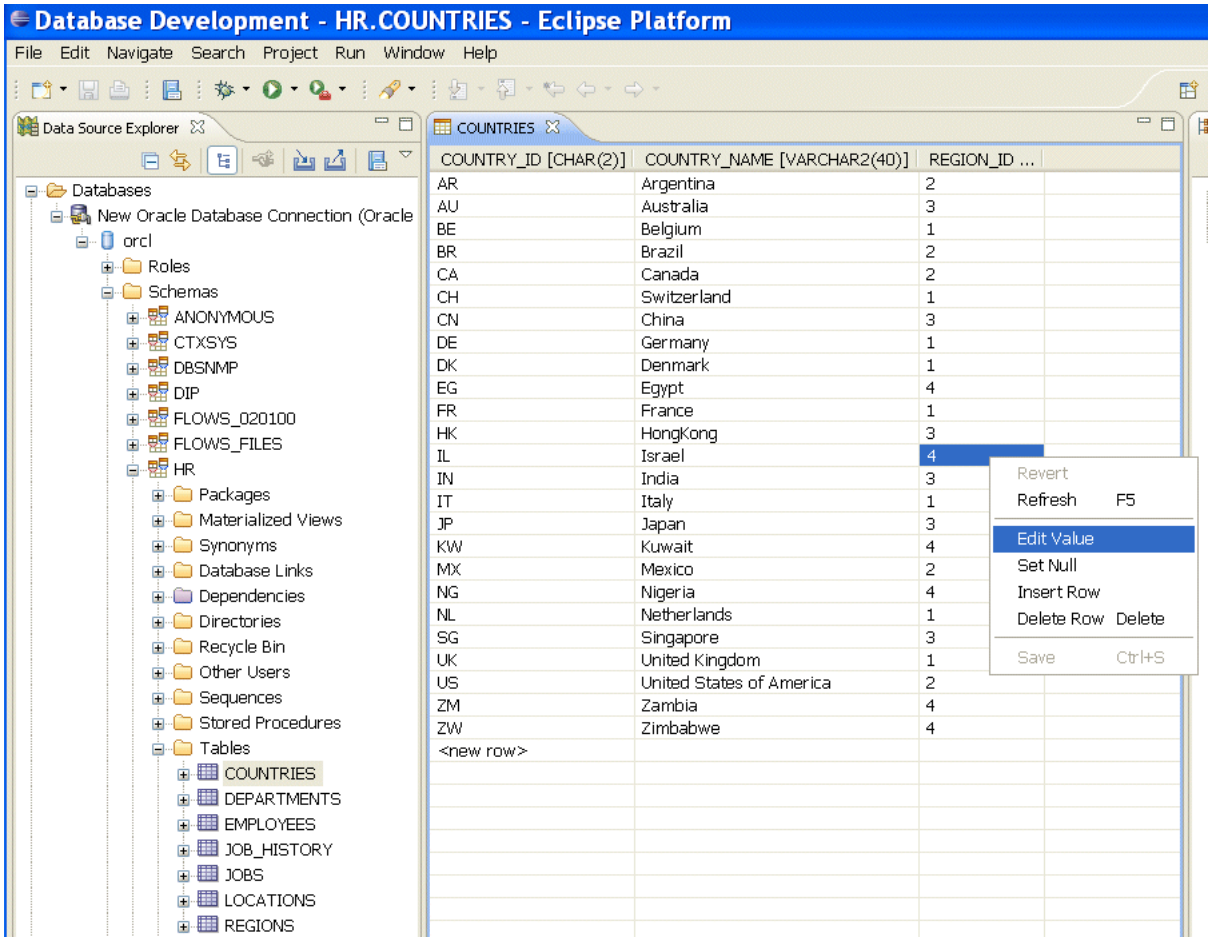

Figure 8. Database Table Editor

2.1.4. Loading Data into a Table

To load data into a table from a text file, in the DSE, navigate to the table into which you want to load data. Right-click the table, and select **Data > Load** from the drop-down menu, as *Figure 9* show.

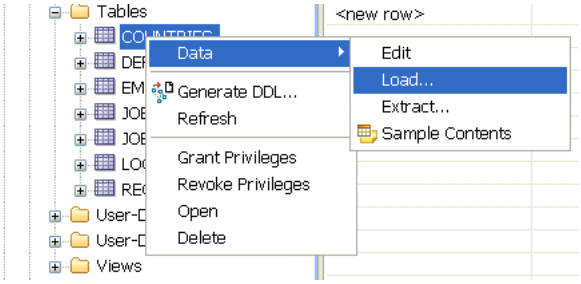

Figure 9. Loading Data

This opens the **Load Data** dialog, as *Figure 10* shows. Complete fields on the dialog, and then click **Finish**.

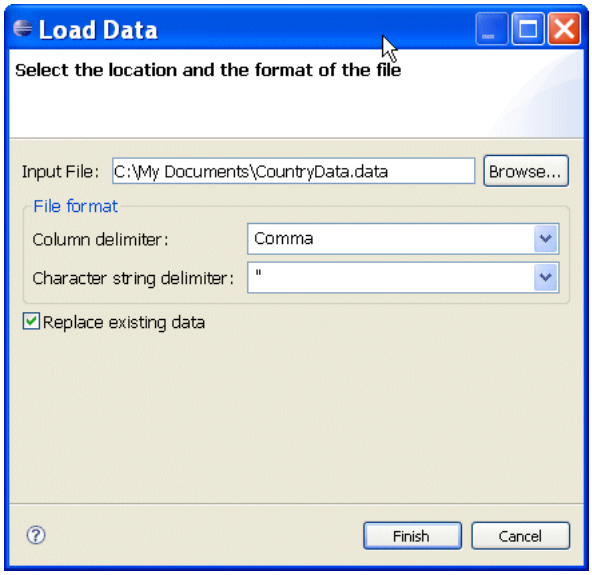

Figure 10. Load Data Dialog

Note that this may fail if there is a foreign key violation.

2.1.5. Extracting Data from a Table

To extract data from a table to a text file, in the DSE, navigate to the table from which you want to extract data. Right-click the table and select **Data > Extract** from the drop-down menu, as *Figure 11* shows.

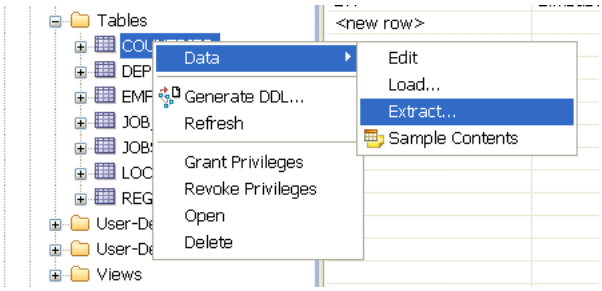

Figure 11. Extracting Data

This opens the **Extract Data** dialog, as *Figure 12* shows. Complete fields on the dialog, and then click **Finish**.

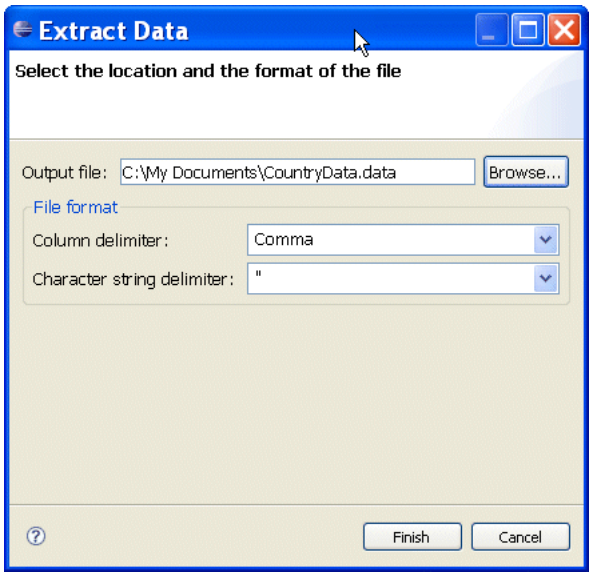

Figure 12. Extract Data Dialog

2.1.6. Generating DDL

You can use the Generate DDL option on most database objects to create or drop the object.

In the DSE, navigate to the object you want to create or drop, right-click the object, and select **Generate DDL** from the drop-down menu to create a DDL script, as *Figure 13* and *Figure 14* show.

Note that you need to create a project in order to save the generated DDL script. See Creating a project for more details.

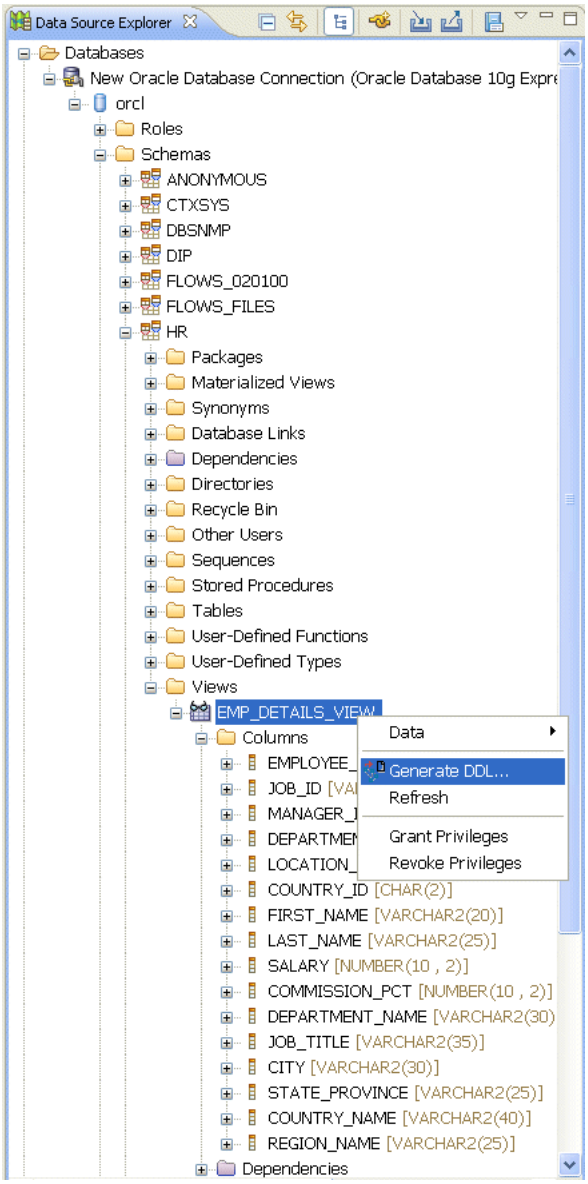

Figure 13. Generate DDL

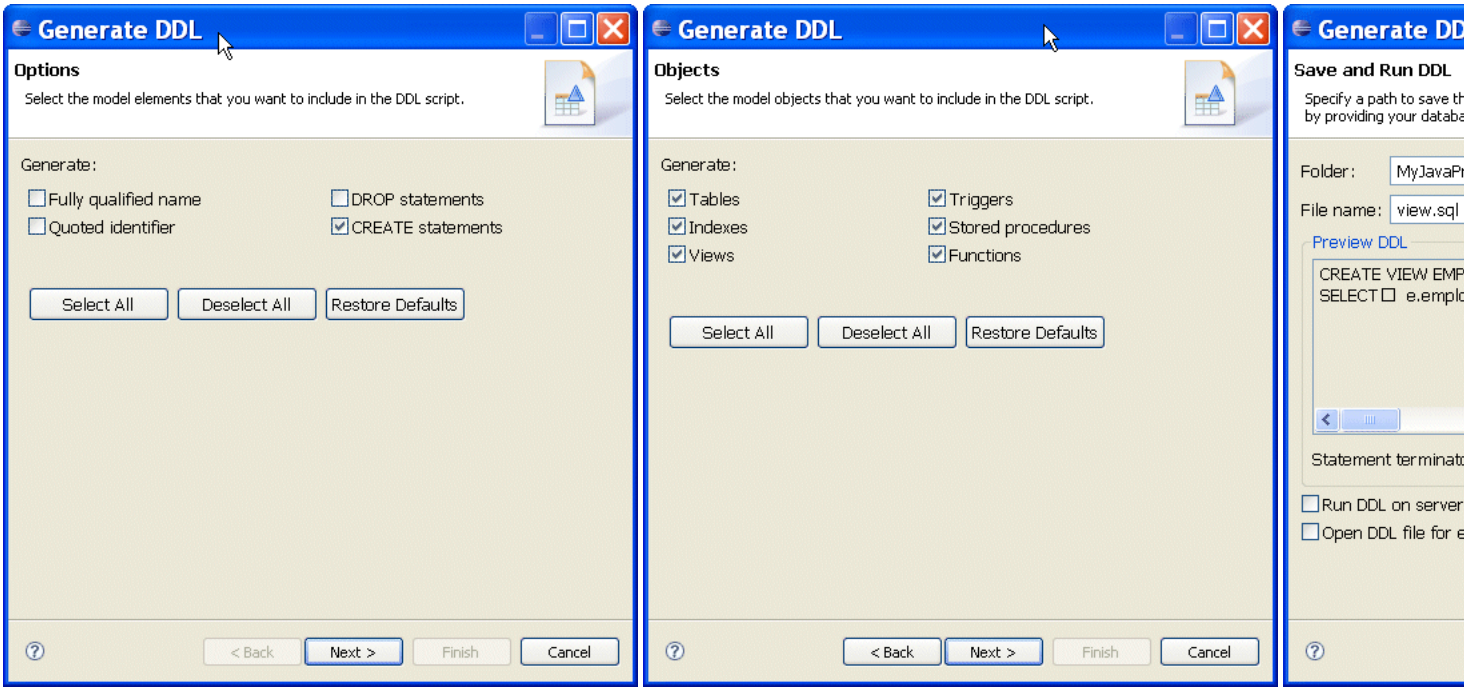

Figure 14. Generating DDL

The preceding steps generate the following statements:

```
CREATE VIEW EMP_DETAILS_VIEW
  (EMPLOYEE_ID, JOB_ID, MANAGER_ID,
  DEPARTMENT_ID, LOCATION_ID, COUNTRY_ID, FIRST_NAME, LAST_NAME,
  SALARY, COMMISSION_PCT, DEPARTMENT_NAME, JOB_TITLE, CITY,
  STATE_PROVINCE, COUNTRY_NAME, REGION_NAME)
AS
SELECT
  e.employee_id,
  e.job_id,
  e.manager_id,
  e.department_id,
  d.location_id,
  l.country_id,
  e.first_name,
  e.last_name,
  e.salary,
  e.commission_pct,
  d.department_name,
  j.job_title,
  l.city,
  l.state_province,
  c.country_name,
  r.region_name
FROM
  employees e,
  departments d,
  jobs j,
  locations l,
  countries c,
  regions r
WHERE e.department_id = d.department_id
  AND d.location_id = l.location_id
  AND l.country_id = c.country_id
  AND c.region_id = r.region_id
  AND j.job_id = e.job_id
WITH READ ONLY;
```

2.2. SQL Tools

SQL Tools enable you to edit and run stored procedures and functions, as well as execute the so-called explain plans in either graphic or text mode.

2.2.1. Using SQL Editor

To use an SQL Editor, do the following:

- In the DSE, navigate to the procedure or function you want to edit.
- Right-click the procedure or function and select **Edit** from the drop-down menu, as *Figure 15* shows.

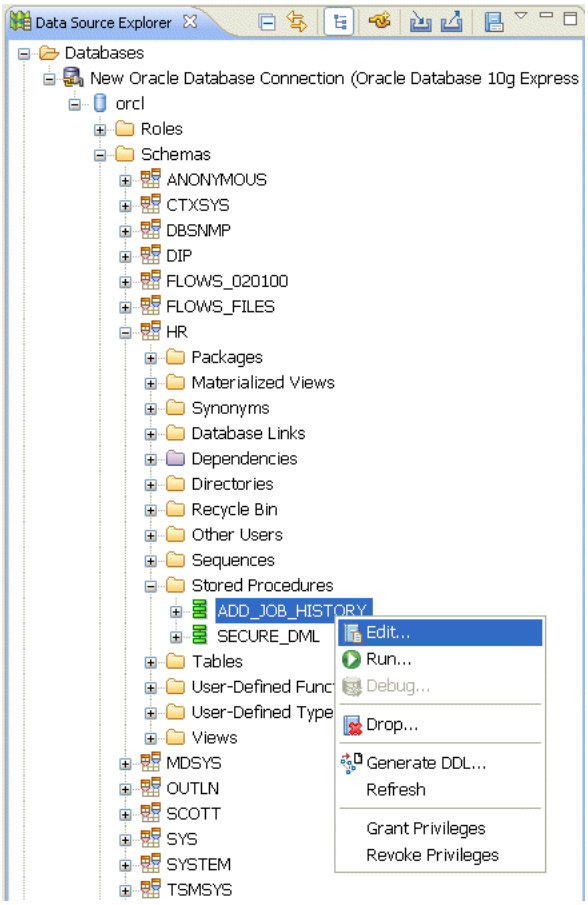

Figure 15. Editing Stored Procedure

The procedure or function opens in the **SQL Editor**, as *Figure 16* shows.

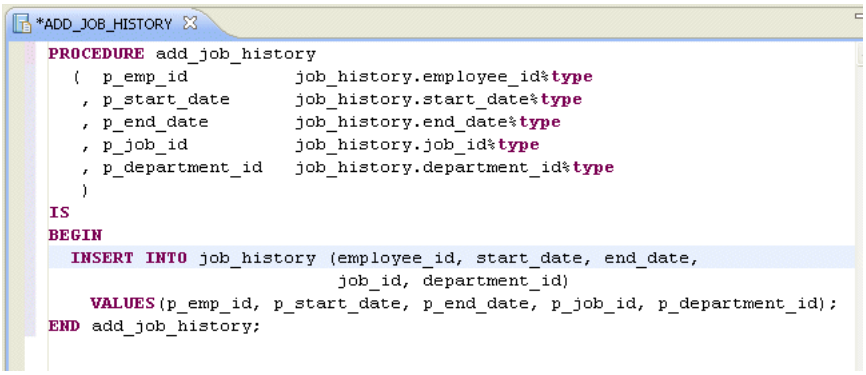

Figure 16. SQL Editor

The SQL Editor enables standard text-based editing of SQL statements, provides syntax color, and multiple statement support.

2.2.2. Executing a Stored Procedure or Function

To execute a stored procedure or function, do the following:

- In the DSE, navigate to the procedure or function you want to run.
- Right-click the procedure or function and select **Run** from the drop-down menu.

The **Save and Launch** dialog appears, as *Figure 17* shows. Click **OK** to save the procedure or function.

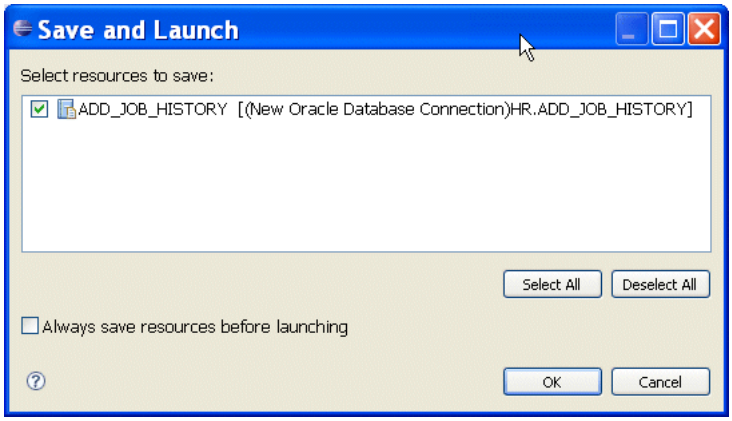

Figure 17. Save and Launch Procedure or Function Dialog

If the procedure or function has any input parameters, the **Configure Parameters** dialog appears, as *Figure 18* shows. Enter input values and click **OK** to run the procedure or function.

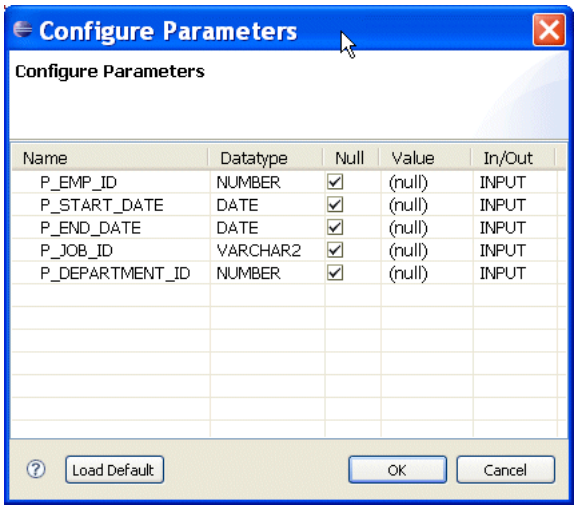

Figure 18. Configure Parameters Dialog

2.2.3. Executing Explain Plans

To execute the explain plan, do the following:

- In the **Navigator** or **DSE**, navigate to the script containing the SQL statement for which you want to execute an explain plan.
- Highlight the script.
- Right-click on the selection and select either **Execute Text Explain Plan** or **Execute Graphic Explain Plan** from the drop-down menu, as *Figure 19* shows.

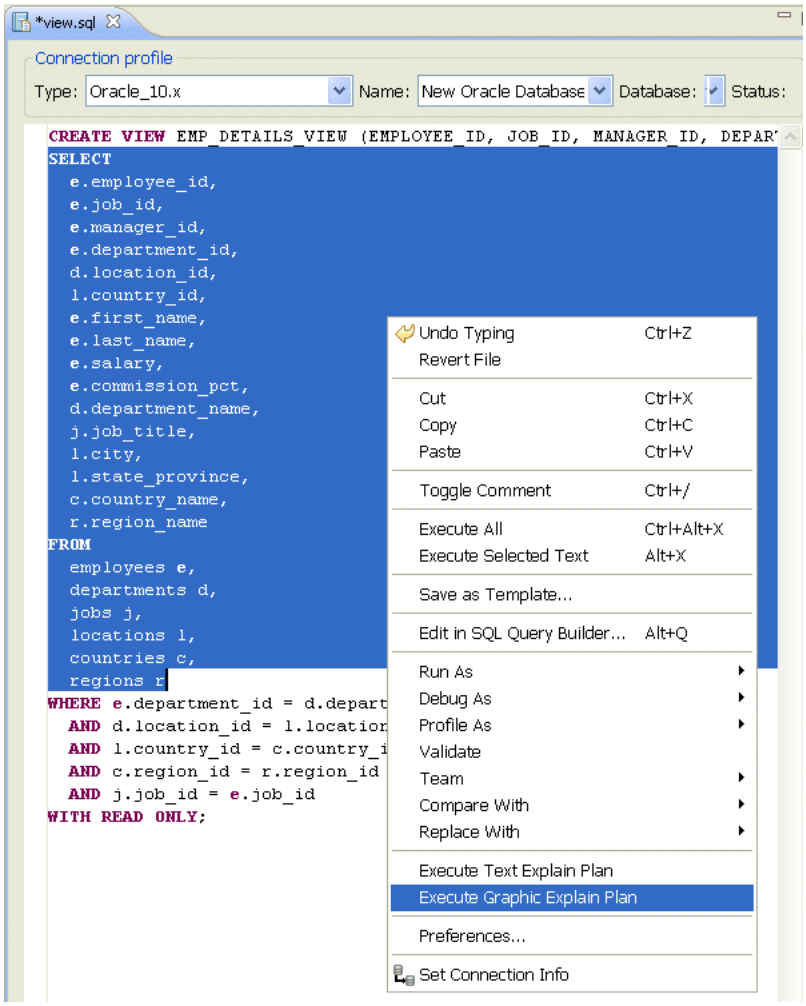

Figure 19. Execution Plan - Graphic Mode

For example, open the `views.sql` file that you created in the Generating DDL section. Highlight the `SELECT` statement block, as shown in *Figure 19*. Right-click and select **Execute Graphic Explain Plan** fron mode in the Execution Plan view.

Alternatively, if you select **Execute Text Explain Plan** from the drop-down menu, it will result in a text version of the execution plan, as *Figure 20* demonstrates.

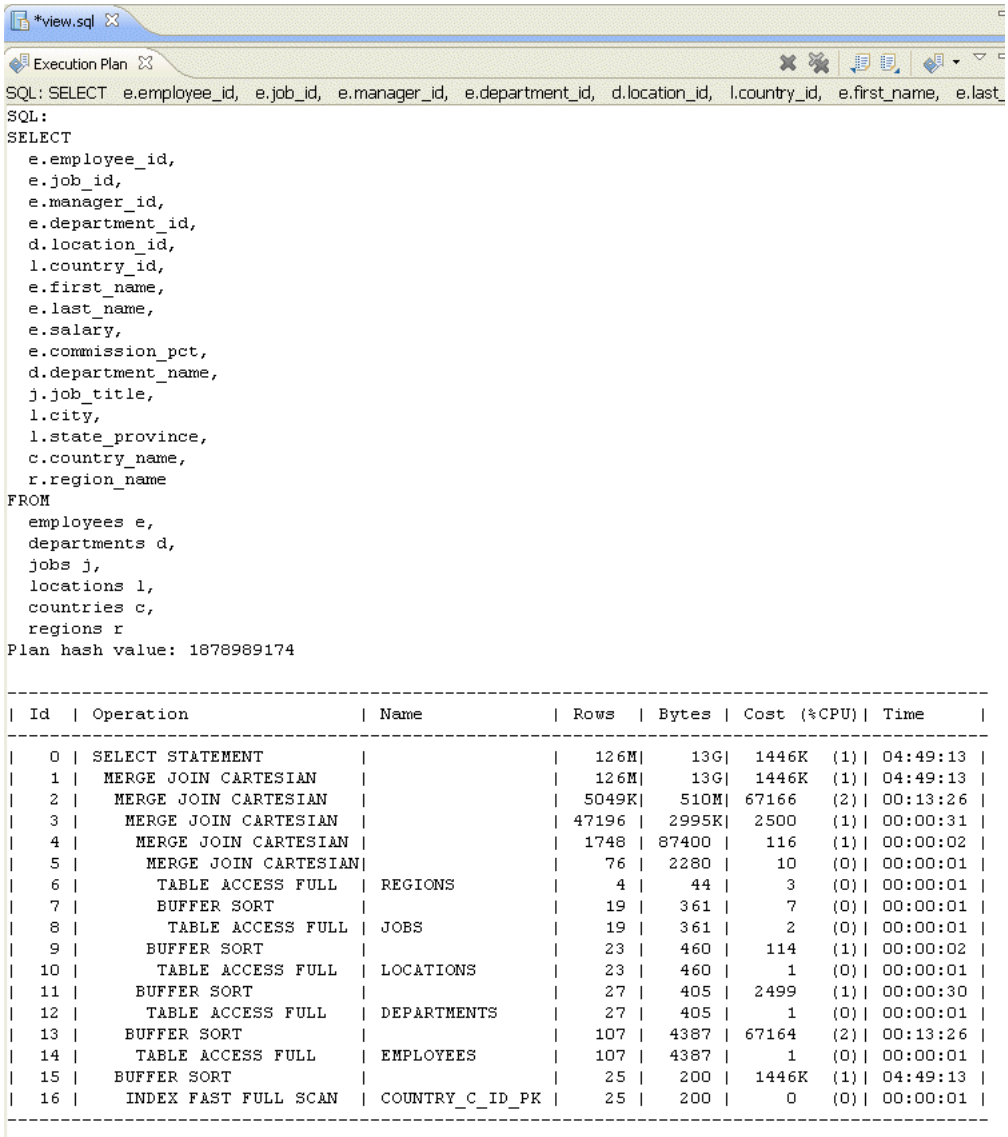

Figure 20. Execution Plan - Text Mode

2.3 Additional Features

There is a number of other features that you can explore using the tool.

2.3.1. Granting Privileges

To grant specific database privileges to a specific user, do the following:

- In the DSE, navigate to the element (such as a table, for example) for which you want the user to have certain privileges.
- Right-click the element and select **Grant Privileges** from the drop-down menu, as *Figure 21* shows.

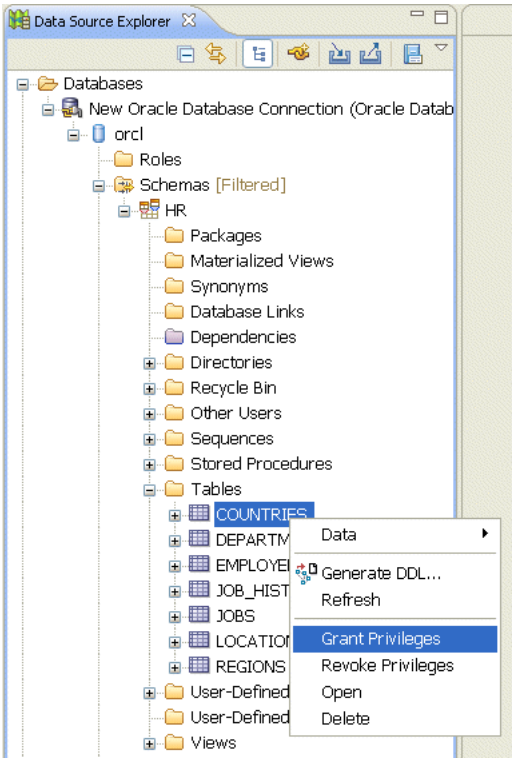

Figure 21. Granting Privileges

This will open the **Grant Privileges** dialog, as *Figure 22* shows.

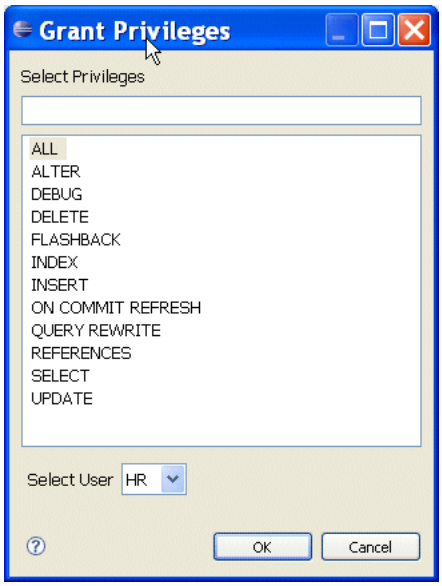

Figure 22. Grant Privileges Dialog

Select one of the privileges from the list and click **OK**.

To revoke specific database privileges from a specific user, do the following:

- In the DSE, navigate to the element (such as a table, for example) for which you want to revoke the user privileges.
- Right-click the element and select **Revoke Privileges** from the drop-down menu, as *Figure 23* shows.

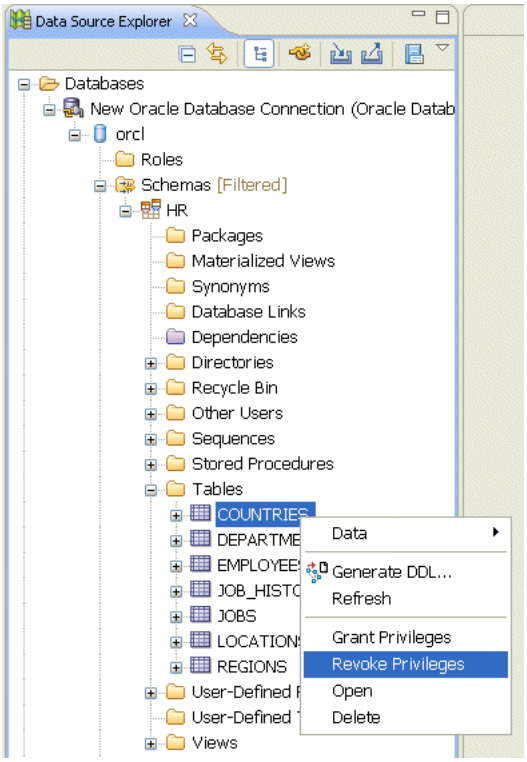

Figure 23. Revoking Privileges

This will open the **Revoke Privileges** dialog, as *Figure 24* shows.

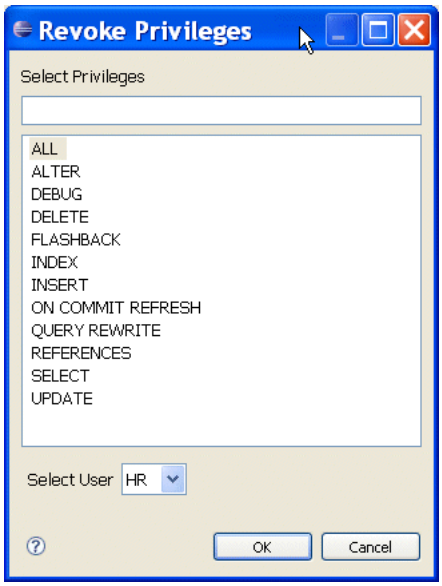

Figure 24. Revoke Privileges Dialog

Select one of the privileges from the list and click **OK**.

3. Known Issues

1. Unable to sort folders.

   This issue results in an inability to sort the nodes on Data Source Explorer (DSE) in an order that is consistent with how it is displayed in Oracle SQL Developer.

2. Schema content appear incomplete at different levels on DSE.

   This issue results in certain nodes being not displayed when the schema is drilled down from the "Other Users" node.

3. Generate DDL action from higher levels on DSE causes Eclipse to freeze, occasionally.

   When you right-clicks on a DSE node at higher level and select the **Generate DDL** option, the plugin tries to generate the DDL for the underlying database objects recursively. This can sometimes free recommendation is to generate the DDL from a Schema level or lower.

4. Further Resources

- Eclipse Data Tools Project
- Oracle Database 10*g* Express Edition Tutorial
- Oracle Database 10*g* Express Edition
- Eclipse Callisto Project Profile: Data Tools Platform