A COMPLETE GUIDE TO ORACLE BI DISCOVERER END USER LAYER (EUL)

Author:
    Jayashree Satapathy
    Krishna Mohan

END USER LAYER (EUL)

INTRODUCTION

The End User Layer (EUL) insulates Discoverer end users from the complexity and physical structure of the database. The EUL provides an intuitive, business-focused view of the database that you can tailor to suit each Discoverer end user or user group. The EUL enables Discoverer end users to focus on business issues instead of data access issues. It helps Discoverer end users produce queries by generating SQL and provides a rich set of default settings to aid report building.

The Meta layer structure of the EUL preserves the data integrity of the database. Whatever the Discoverer manager or the Discoverer end user does with Discoverer, it affects only the metadata in the EUL and not the database.

The EUL is a collection of approximately 50 tables in the database. These are the only tables that can be modified through Discoverer Administrator. Business areas are defined in Discoverer Administrator using the EUL database tables. Discoverer provides read-only access to the application database.

The End User Layer (EUL) is the metadata (i.e. data about the actual data in a database) that is simple and easy for Discoverer end users to understand. We use Discoverer Administrator to create, customize, and maintain this view for the users so they can easily access data in Discoverer. One must have access to at least one EUL in order to use Discoverer. Access is granted using the Privileges dialog.

USAGE OF END USER LAYER

The EUL insulates Discoverer end users from the complexity usually associated with databases. It provides an intuitive, business-focused view of the database using terms that Discoverer end users are familiar with and can easily understand. This enables Discoverer end users to focus on business issues instead of data access issues.

CONTENTS OF EUL

The EUL contains the metadata that defines one or more business areas. A business area is a conceptual grouping of tables and/or views that apply to a user's specific data requirements. Business areas can be set up to reflect the needs of the user or group of users accessing the EUL.

PRIVILEGES TO CREATE AN END USER LAYER IN AN ORACLE DATABASE

To create an End User Layer in an Oracle database, the database user that the EUL is being created in must have the following database privileges:
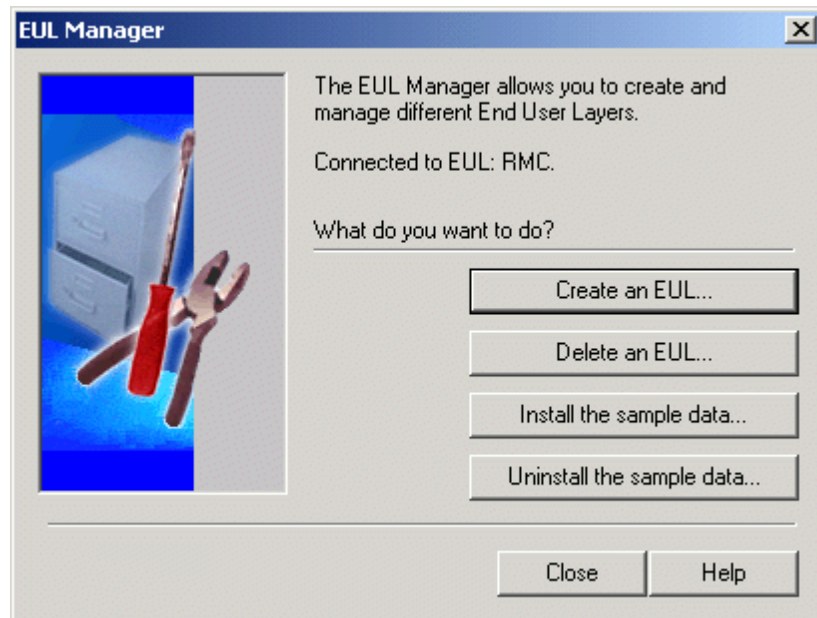
- CREATE SESSION
- CREATE TABLE
- CREATE VIEW
- CREATE SEQUENCE
- CREATE PROCEDURE

HOW TO CREATE AN END USER LAYER --- (FOR AN EXISTING DATABASE USER)

To create a EUL for an existing database user followings steps are to be followed:
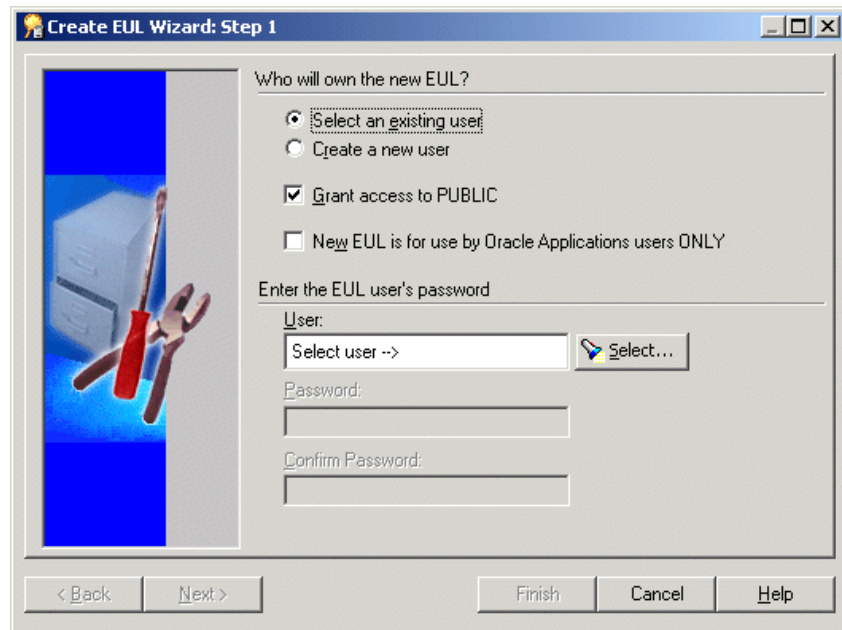
Tools | EUL Manager is to be chosen to display the EUL Manager window.

Figure 1 EUL Manager Dialog

To Create a new EUL we need to click on the radio button as shown in the below figure.

Figure 2 Create EUL Wizard Step 1 dialog

The **Select an existing user** radio button is to be selected.

The **Grant access to PUBLIC** check box is to be Selected or cleared as required:

- This check box is to be selected to enable all users in the current database to access the new EUL
- This check box is to be cleared to enable only the EUL owner to view data through the new EUL.

The **New EUL is for use by Oracle Applications users ONLY** check box   is to be selected or cleared as required:

- This check box is to be selected to restrict the new EUL to Oracle Applications users only.
- This check box is to be cleared to create a standard EUL

  The Select button is to be clicked to display the where we search for, and the database user is selected to own the new EUL. If it is specified a database user other than the current user to be the EUL owner, then it is needed to specify the database user's password.
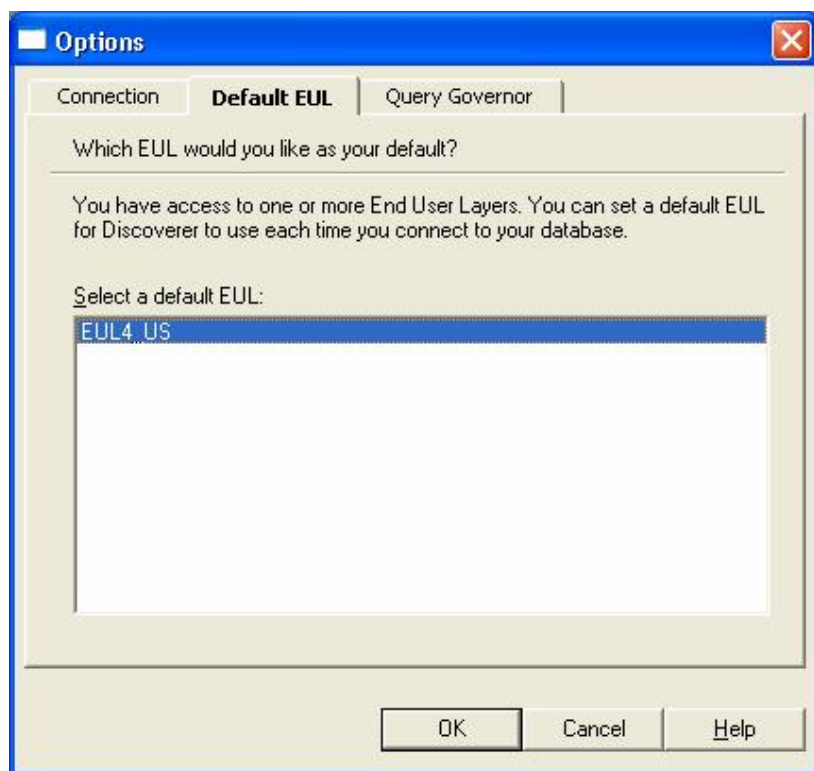
   Finish button is to be clicked.

Discoverer Administrator displays the Creating EUL progress bar and creates a new EUL for the specified database user. When the new EUL has been created, Discoverer gives the option to install the Discoverer sample data in the new EUL.

DEFAULT END USER LAYER

It can be viewed or changed which EUL is the default.

EUL for the current database user (i.e. the EUL used when the current database user connects to Discoverer Administrator).

Figure: Default EUL (for example: EUL4_US)

A STANDARD EUL CANNOT BE CHANGED INTO ORACLE APPLICATIONS EUL AND VICE VERSA

EUL TABLES

A EUL's tables / views are found in the schema by the same name as the EUL. The views that are in the Apps schema are not EUL tables / views always, but Oracle Apps BIS views that can be imported the definition into EUL. So, for example, if an Apps EUL is not used but a standard EUL, there are no BIS views.

(Table: Some of the EUL tables and its description)

EUL TABLES	DESCRIPTION
EUL4_BAS	Table gives list of Business Areas
EUL4_OBJS	Table gives all folders in the EUL
EUL4_KEY_CONS	Table gives all Folder Joins details. Key_Obj_ID points to parent folder, FK_Obj_ID_Remote points to child folder
EUL4_EXPRESSIONS	Table gives all Items that are in the EUL where IT_Obj_ID is not null AND join to a row in EUL4_Objs you have a Folder Item. They are listed as Exp_Type of 'CO' or 'CI'. COs are database object items. CIs are created items (like date hierarchy items, complex folder items, etc).
EUL4_OBJS	Table gives details about the types of objects Obj_Type tells you Standard (SOBJ) from Complex (COBJ) folders.
EUL_USERS	Table gives user details.
EUL4_ACCESS_PRIVS	Table to use to get the list of Disco users that was granted access to the User Edition. Basically, when a user has been granted privileges one row per privilege is inserted into this table. The column called AP_EU_ID contains the ID of the user. The column GP_APP_ID is the one that tells you what privilege a user has.

Figure: Granting Access on EUL tables while Creating EUL

END USER LAYER OWNERS

An End User Layer (EUL) owner is the database user that a EUL is created for.

A database user can only own one EUL. If you are connected to your own EUL and you attempt to create a new one, Discoverer Administrator prompts you to delete your existing EUL. If you create a EUL for a database user that already owns an EUL, Discoverer Administrator prompts you to delete the existing EUL before creating the new one.

The EUL owner maintains and modifies their own EUL and can grant access to the EUL to other users. Depending on the privileges given to the other users, those users can use and make changes to the EUL.

When you create a EUL, you specify who has access to it, as follows:

- every user in the database (PUBLIC access)
- only the EUL owner (PRIVATE access)

HOW TO MANAGE AN END USER LAYER (EUL)

- Discoverer Administration privilege on the EUL
- Allow Administration privilege on business areas you want to modify
- SELECT database privilege on any tables you want to add to a business area.

HOW TO DELETE AN END USER LAYER (EUL)

We may need to delete a EUL for a number of reasons. For example, it might be an old or a test EUL.

It is required to connect as the owner of the EUL that is to be deleted.

To delete an EUL:

1. Choose File | Connect to display the "Connect dialog".
2. Specify the username, password, and connect string for the owner of the EUL that you want to delete, and click Connect to display the "Load Wizard: Step 1 dialog".
3. Click Cancel to close the Load Wizard.
4. Choose Tools | EUL Manager.
5. Click Delete an EUL to display the "Delete EUL dialog".

    Discoverer prompts you to confirm that you want to delete the current EUL.

6. Make sure that the EUL specified in the **EUL** field is the one you want to delete and click OK.

    If the EUL name displayed is incorrect, go back to Step 2 and use the correct connect string to connect as the EUL owner.

    When you click OK, Discoverer prompts you to confirm that you want to delete all EUL tables. This will delete all EUL information and workbooks in the database. This will also remove all summary data and information.

7. Click yes to continue.
8. Click OK to delete the EUL.

    Discoverer deletes the EUL objects for the current database user.

EXPORTS/IMPORTS EUL OBJECTS

EUL objects can be exported (e.g. business areas, workbooks, folders, items) from one database and imported into another database. For example, we might want to move EUL objects when transitioning from a development environment to a production environment.

There are a number of different ways to copy EUL and EUL objects, depending on the requirement:

- copy specified EUL objects into another EUL
- copy an entire EUL and recreate it as a new EUL
- copy the database user that is the EUL owner

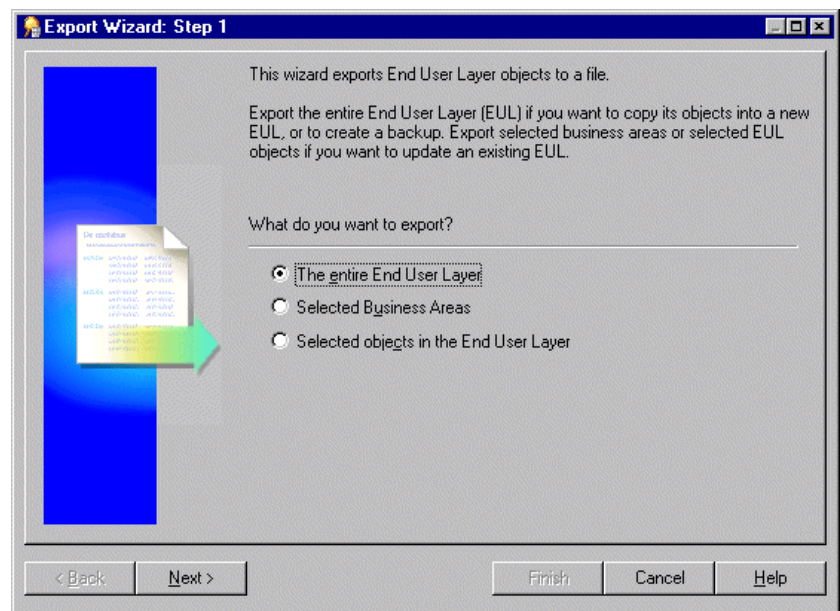We can import and export EULs and EUL objects in the following ways:

- Using the Discoverer Export Wizard and Import Wizard
- Using the Discoverer command line interface

Using the standard database export/import commands, this option is used to export an entire EUL to a file when one needs to copy objects from the EUL into a new EUL or to create a backup.

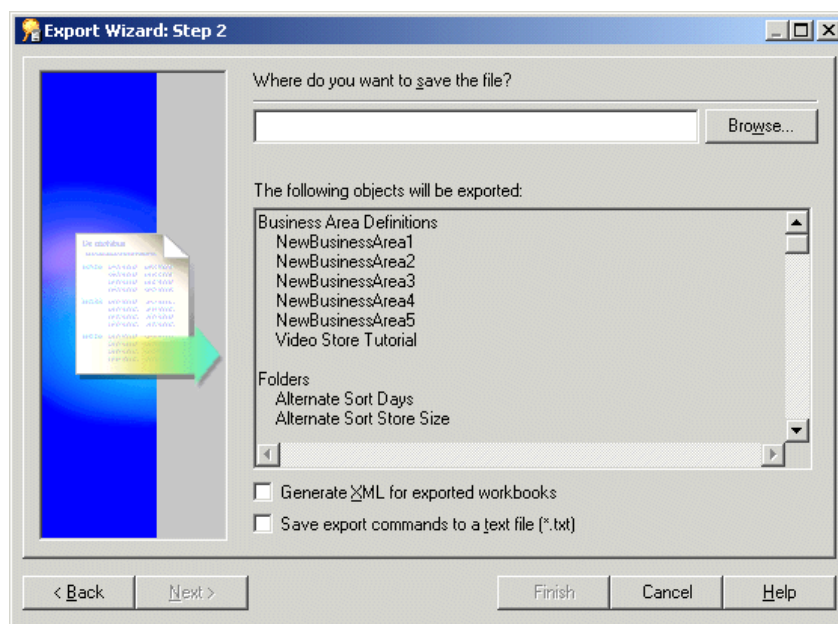To export the entire EUL using the Discoverer Export Wizard:

o   Choose File | Export to display the "Export Wizard Step 1 dialog".

Figure: Export Wizard: Step 1 dialog

o   Select **the entire End User Layer** radio button and click Next to display the next wizard.

Figure: Export Wizards: Step 2 dialog

The above dialog is used to specify a name and location for the export file.

o   Click Browse to display the Save As dialog.

This enables us to browse for a location to save the EUL export file.

o   Enter a suitable name for the exported EUL.

Select the **Generate XML for exported workbooks** check box to save any workbook definitions in XML format. (Optional)
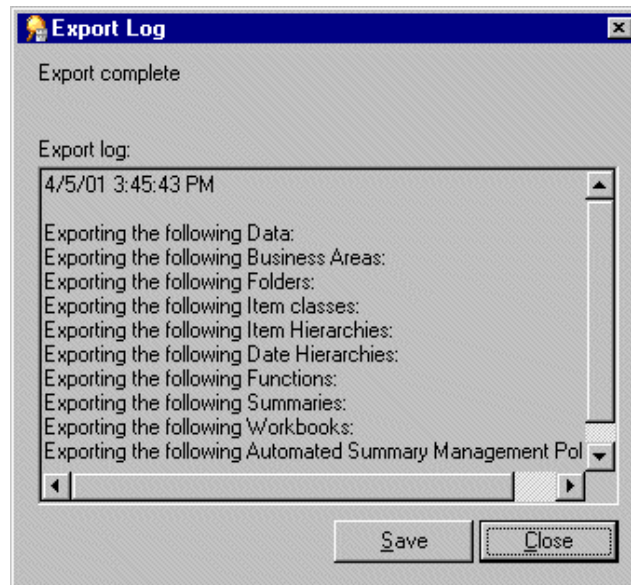
This enables us to view workbook definitions in an XML browser.

o   Select the **Save export commands to a text file (*.txt)** check box to save the export commands that created this export to a text file. (Optional).

This creates an additional file containing the commands used to create this export and applies the file extension .txt.

o   Click Finish to create the export file (and any additional files selected) in the specified location and display the Export Log.

Figure: Export Log dialog

The Export Log displays information about what has been exported.

- o Click Save to specify a name and location to save the Log file. (Optional)
- o Click Close to finish.

DISCOVERER INTERGRATION

- o Discoverer 10g End User Layer resides in 11i database.
- o APPS_MODE option enforces Applications Security for all Discoverer Users.
- o Easy migration from Discoverer4i.Installation upgrades a copy of 4i End User Layer to 10g.

CONCLUSION

Discoverer stores statistics about end user queries in the EUL to improve the performance. For this reason, Discoverer requires that the database containing the EUL is writeable. Specifically, Discoverer does not support the creation of EULs in Logical Standby (or read-only) databases.

Always Discoverer Administrator is started in the default EUL. Default EUL is the one specified on the "Options dialog: Connection tab". If we want to change the EUL we are working in, we must change our default EUL and then reconnect to Discoverer Administrator.