Comparing designs and databases with Oracle SQL Developer Data Modeler

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Introduction

A compare functionality is a big bonus in database designing tool. If you can compare different designs to each other, a design to a database and a database to a design you can see how they differ from each other and you understand what you have and what you do not have. That leads to a better quality. In Oracle SQL Developer Data Modeler (Data Modeler) you can also merge the changes to a design or get the ALTER DDLs, SQL scripts to change the database, automatically. Comparison functionality can also be used for reverse engineering a database.

Different Compares

There are different ways of comparing using Data Modeler. You can compare two designs to each other; you can compare a design to a database or a database to a design. Depending which one is the source and which one is the target the compare result will be of course different. The source is „the truth"and the target is the one that should be changed.

Comparing Designs

There are two ways of comparing designs
1. File | Import | Data Modeler Design
2. Tools | Compare/Merge Models.

This functionality can be used for instance to compare two different versions of the design to see how let's say version 3.5 database structures are different from version 1.7 structures. The difference between these two ways is that the first one compares everything that there is in a design, including the entities and attributes. While the latter one only compares the relational and physical models BUT it also gives the ALTER DDLs if needed.

Comparing Database

There are four ways of comparing a design and a database:

1. Synchronize Model With Data Dictionary
2. Synchronize Data Dictionary With Model
3. File | Import | DDL File
4. File | Import | Data Dictionary.

Synchronize Model With Data Dictionary (the target is the design) or Synchronize Data Dictionary With Model (the target is the database) is usually used when the design is open and the user wants to know how the relational model differs from the database. These functionalities are activated by pressing a tool icon in relational model canvas. File | Import | Data Dictionary can be used if the user has access to the database. It needs a connection and user can define which database objects will be compared. File | Import | DDL File can be used if the user has no access to the database but has the

DDL scripts for creating the database objects. File | Import | DDL File or File | Import | Data Dictionary can also be used for reverse engineering a database. The only difference is that instead of selecting an existing relational model when importing, choose a new relational model.

Preferences

In Data Modeler everything is controlled by Preferences. You can change the behavior of the tool using Preferences. There are some Preferences I would recommend you to check when performing any of the comparisons explained earlier.

Preferences in DDL/Comparison (Figure 1), lets the user to choose some properties to be included to or excluded from the comparison.
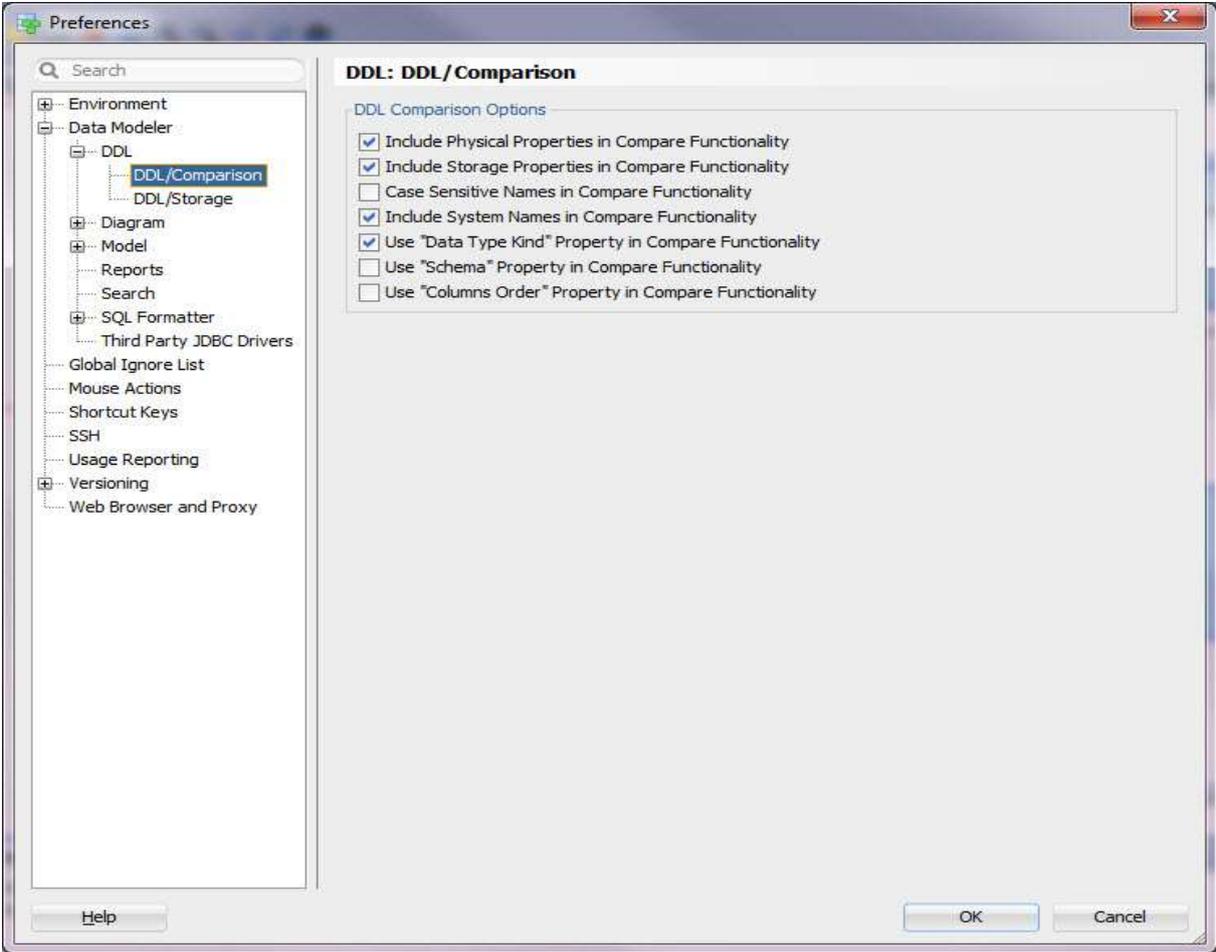

Figure 1: DDL/Comparison Preferences.

In Database Synchronization (Figure 2) you can define how the comparison is done. Depending what you enable and disable in this Preference the result of the comparison will be very different.
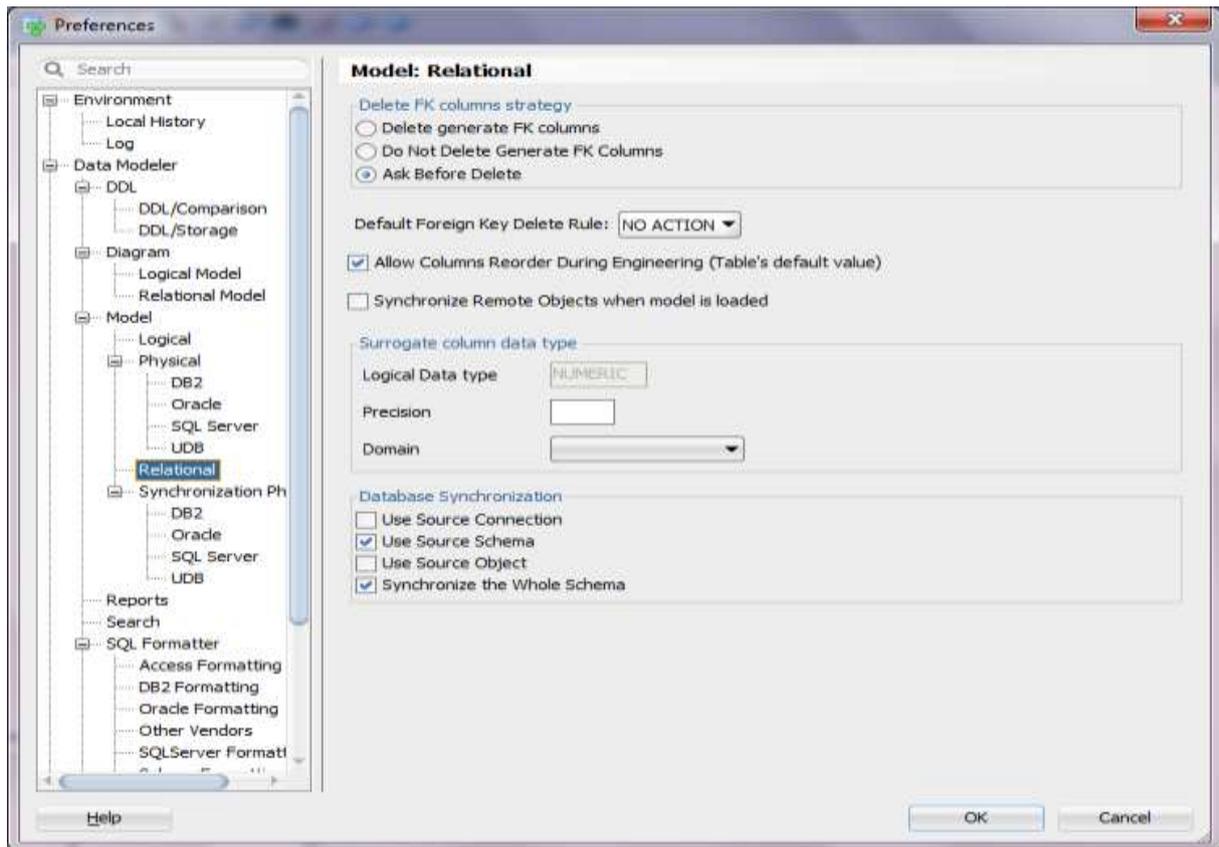
Figure 2: Database Synchronization.

In Synchronization Physical (Figure 3) a user can define which object types will be included to or excluded from the comparison.
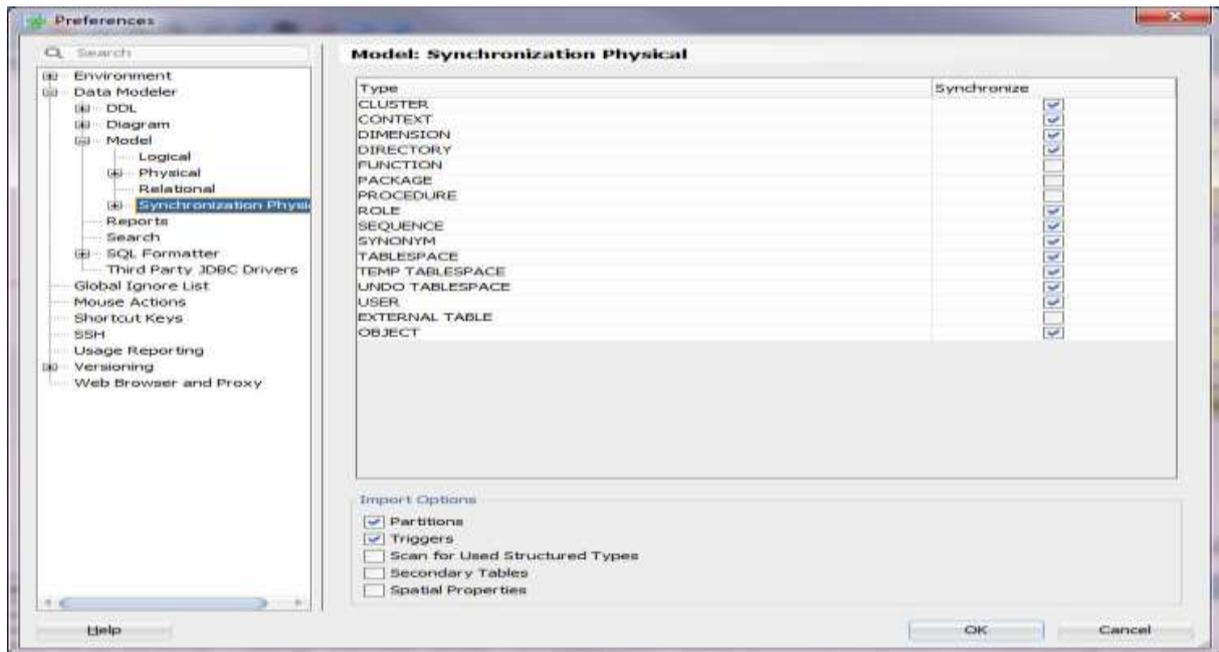
Figure 3: Synchronization Physical.

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