CSCI 4050/ 6050 Software Engineering

Term Project Deliverable Number 6

Object Relational Mapping

In the previous deliverables, you have developed the domain class diagram for the Online Bookstore System. In this deliverable, you are required to map your class diagram to a relational schema and to create your MySQL database schema for the Online Bookstore System on MySQL.

Requirements:

Your database schema should contain the tables and relationships to store the persistent data of the system. Follow all in-class instructions related to this schema.

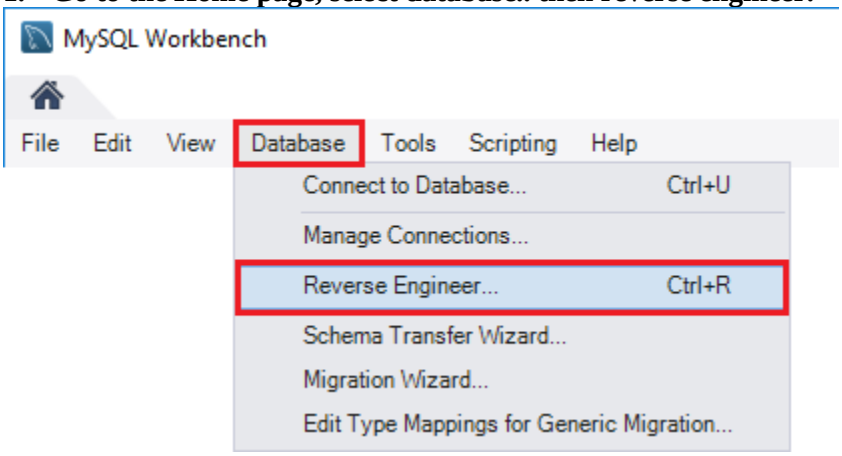
Submit a pdf file (by midnight) to the assignment folder on eLC, use the usual naming format, Team**SN**-Deliverable 5-ORM, where **SN** is your team number (ex. A2).
The ORM document should be structured as follows:

1. Cover Page
2. Introduction: [What is this document about]
3. Class diagram including attributes with their types and class associations.
4. The relational schema, Entity Relationship Diagram (ERD)
   (You can generate this from MySQL Workbench tool, see section 1)
5. The database dictionary.
   In this section you should provide table description for all tables in your database schema. (You don't have to type the data dictionary, see section 2)

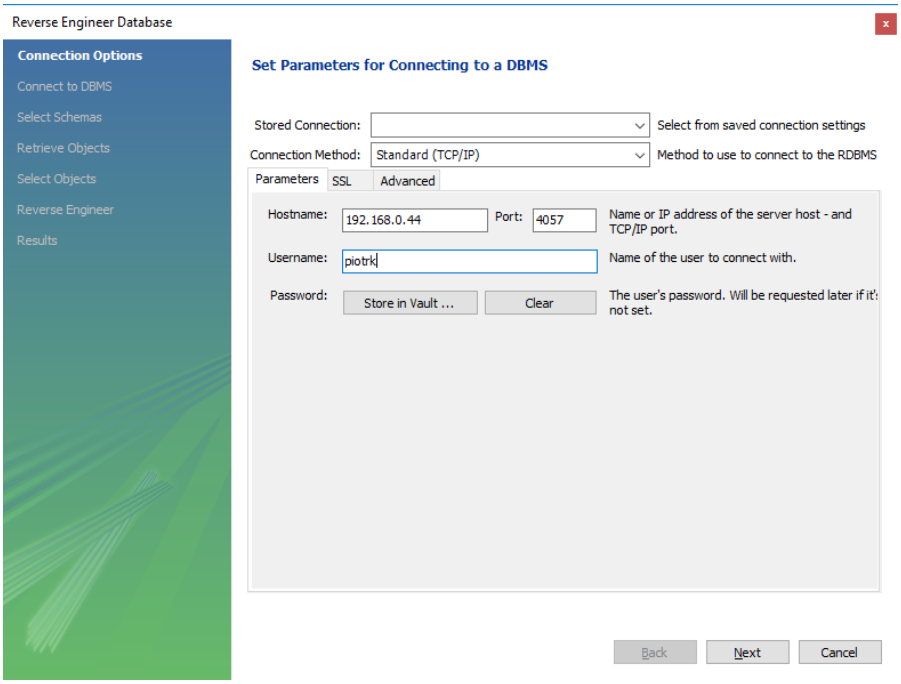
1. The Relational Schema (ERD)

To generate the entity relational diagram/model, Go to the home page on MySQL workbench, Follow these steps or watch this video at minute 6:50 for another way to generate the model.

1. Go to the Home page, select database.. then reverse engineer.

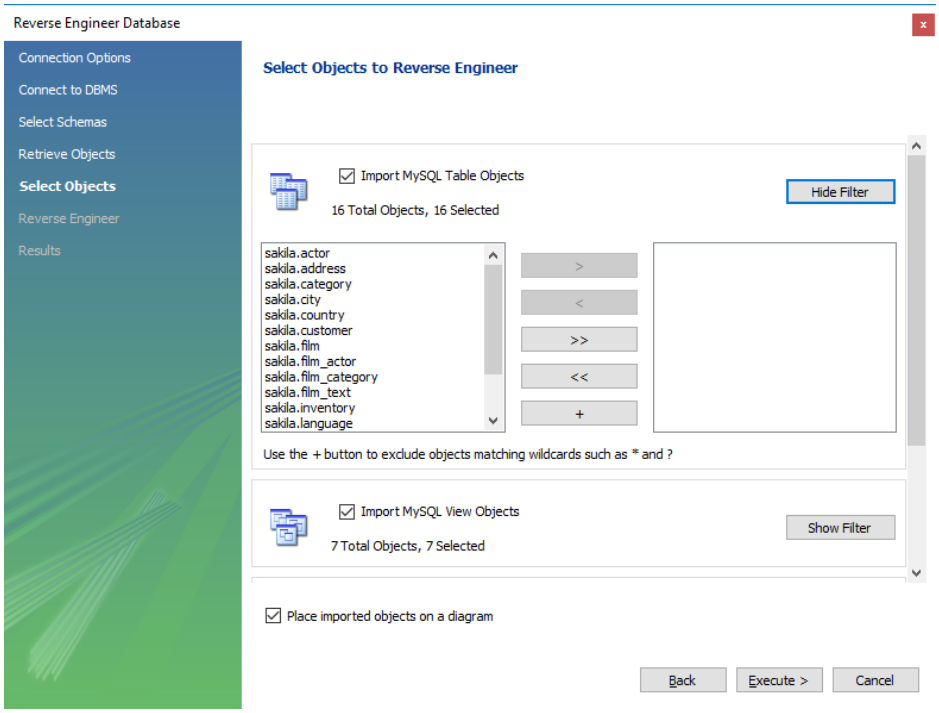


1. Provide connection details to your database and click **Next**. Wait for the connection and click **Next** again.

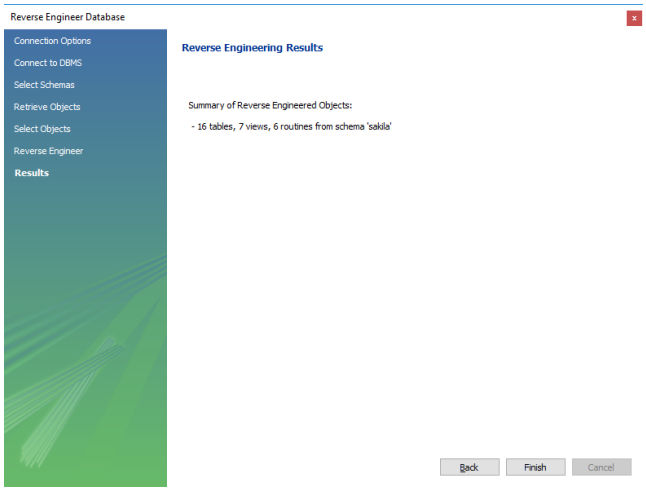


2. Select the schemas you want to reverse engineer.

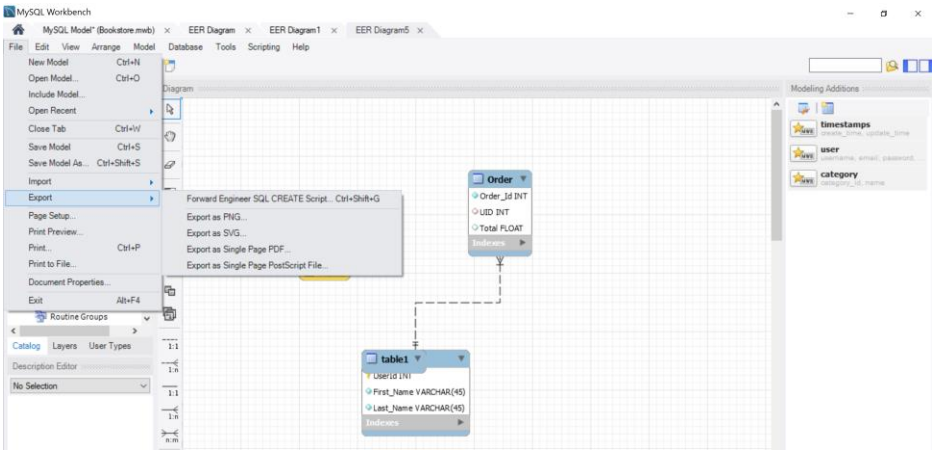
3. Wait for the schemas being read and continue with **Next**.
4. On next screen **select objects to reverse engineer,** import all objects. Click **Execute >**.



5. Wait for reverse engineering to take place and when done continue with **Next**. Final screen Reverse Engineering Results. Close with **Finish**.



The diagram will appear, but you need to arrange tables by dragging them.
To export your diagram as an image or a pdf file, go to the **file menu** and select **export**.



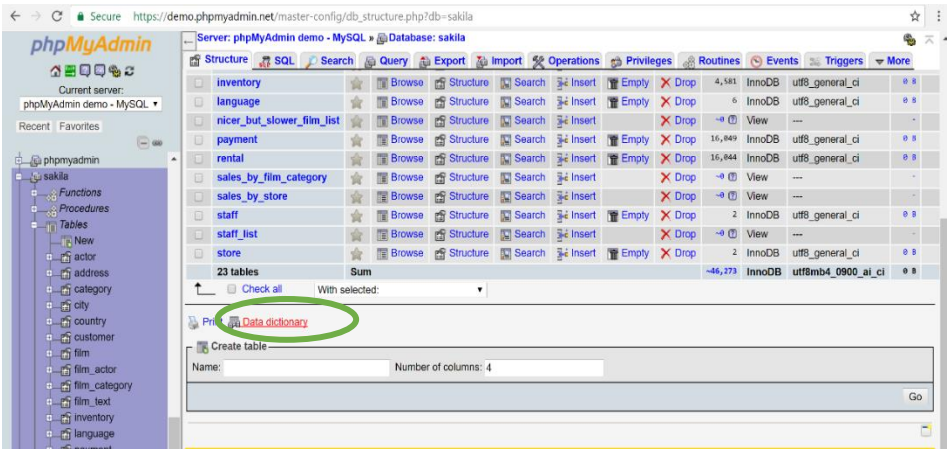
2. Generating the Data Dictionary

You can generate the data dictionary from PhpMyAdmin or from MySQL Workbench. The following sections will explain the steps to generate the data dictionary.

1. Generating the Data Dictionary in PhpMyAdmin:

If you are using MySQL workbench, you need to login to phpMyAdmin and import your MySQL database. Click on the database name then click the link *data dictionary*.

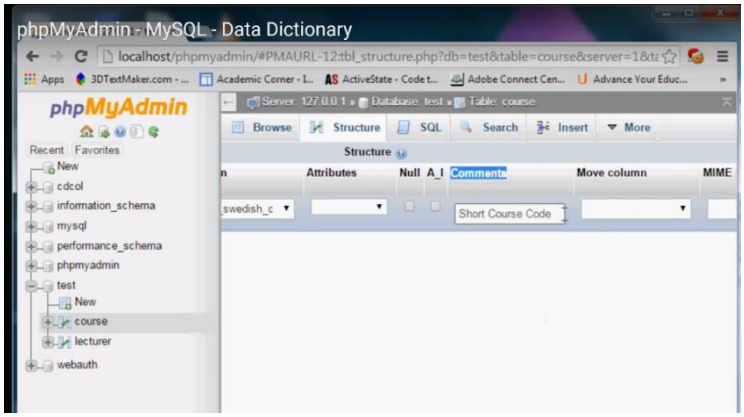
Watch this tutorial on how to import your database.



Once you click *Data dictionary*, the data dictionary will be shown, select all (ctrl+A), copy, then paste in your word document, you can edit the tables in the word document (add comments or delete unneeded columns).

This is easier than creating the schema from MySQL workbench.

Before creating the data dictionary, you may add comments to your table to provide all needed information. To add comments there: Go to table→ Structure→ change→ then insert your comments. You may add comments in the word document after exporting the Data Dictionary.



For example, in the **users** *tables insert a comment for the user_Type: 1 for admin, 2 for customer.*