Lab1: MySQL and MySQL Workbench

Objectives:

1. To illustrate the concepts of relational database and SQL within the MySQL environment
2. To understand how to use the visual tools, called MySQL Workbench, for SQL development, server administration and database design and modeling by self-studying.

Estimated Time: 1.5 hours

Introduction

MySQL is one of the most popular Open Source SQL database management systems. In this course, it will be used to illustrate the concepts of relational databases which store data in a structured format using rows and columns and to understand the fundamentals of SQL and how they are implemented in MySQL.

MySQL Workbench provides a visual console to easily administer MySQL environments and gain better visibility into databases. Developers and DBAs can use the visual tools for SQL development, Server administration, and database designing and modeling. More information about MySQL Workbench: http://dev.mysql.com/doc/workbench/en

Figure. 1 show MySQL Workbench Architecture uses to run SQL commands or test queries to use in application later.

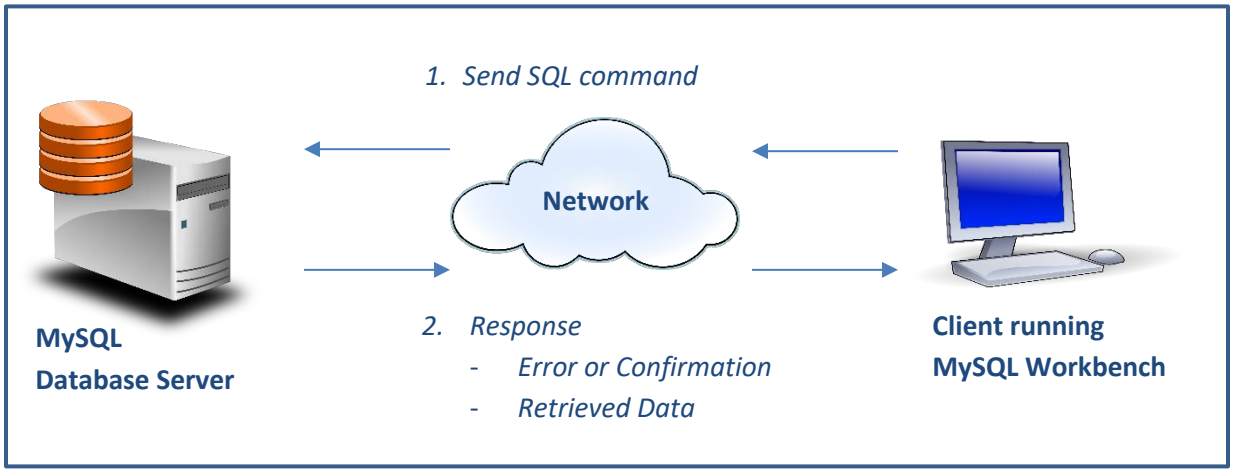


Figure 1. MySQL Workbench Architecture

Lab Instruction

1.1 Install MySQL Server - The Community Edition

Download: https://dev.mysql.com/downloads/mysql/

Documents:

***Windows*:** https://dev.mysql.com/doc/refman/8.0/en/windows-installation.html

MacOS: https://dev.mysql.com/doc/mysql-osx-excerpt/5.7/en/osx-installation-pkg.html

***Linux*:** https://dev.mysql.com/doc/refman/8.0/en/linux-installation.html

1.2 Install MySQL Workbench

Download: https://dev.mysql.com/downloads/workbench/

Documents: https://dev.mysql.com/doc/workbench/en/wb-installing.html

Windows: https://dev.mysql.com/doc/workbench/en/wb-installing-windows.html

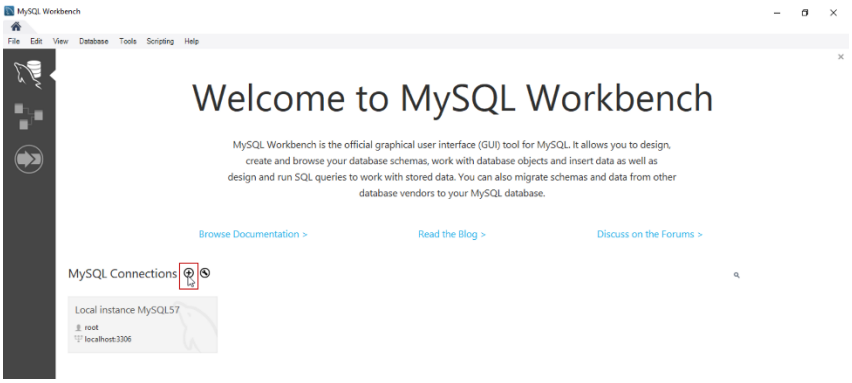
MacOS: https://dev.mysql.com/doc/workbench/en/wb-installing-mac.html

***Linux*:** https://dev.mysql.com/doc/workbench/en/wb-installing-linux.html

1.3 Study MySQL Workbench

1.3.1 Test connection to MySQL server

1) Create a connection by clicking on the + sign on the home tab.

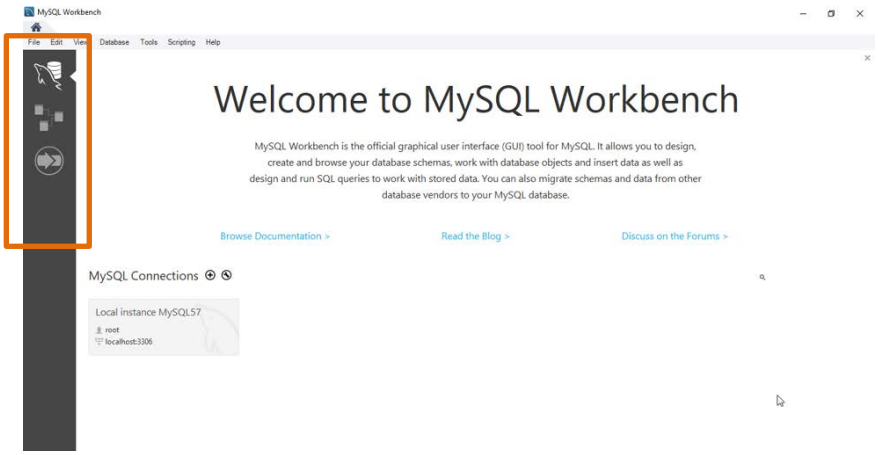


2) Provide the connection name=DBS_<your id> e.g. my ID is st120200, my connection name = DBS_120200 in New Connection dialog box and click the ***Test Connection*** button. If success, then click OK.

3) **[TASK1]** Show an image to verify successful connection.

1.3.2 Self-study MySQL Workbench functionalities

MySQL Workbench provides three main areas of functionality: SQL Development, Data Modeling, and Server Administration in Home tab.

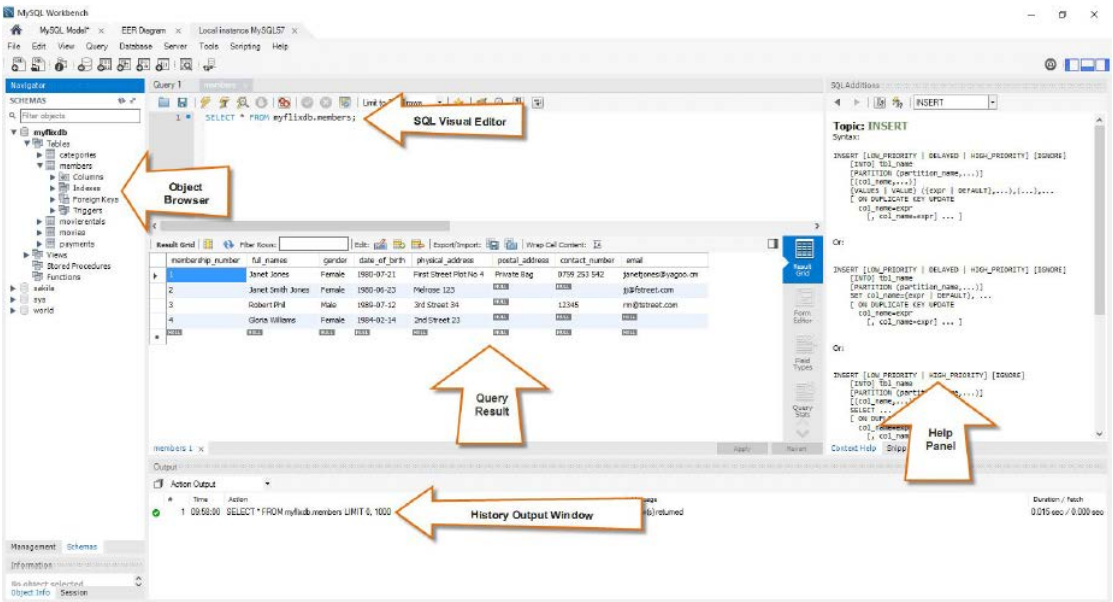


[TASK2] Describe what the three functionalities are and how useful they are.

1.3.3 Verify proper operation of MySQL Workbench

1) Open *SQL Editor*

Note: SQL Editor consists of a set of specialized set of editors such as query, schema, and table.



2) Run the below command

CREATE DATABASE myFirstDB;

USE myFirstDB;

3) **[TASK3]** Show an image reflecting the successful completion of the running the command.

Lab Submission

How to submit: Submit into the course LMS.

Total number of tasks: 3