Alexandria University
Faculty of Engineering
Computer and Systems Engineering Dept.

Prof. Dr. Yousry Taha
Database Systems
Date: 11/10/2022

Introduction To MySQL

Lab # 1

Objectives

1. Introducing some features of MySQL as an Object Relational Database Management System.
2. Learning how to log in into MySQL.
3. Learning how to use the MySQL Workbench tool.
4. Learning some of SQL DDL and DML statements.
5. Learning how to create new connections to MySQL database and use it for database manipulation.

Introduction

MySQL, the most popular Open Source SQL Relational database management system, is developed, distributed, and supported by Oracle Corporation**.** A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed. MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years.

The SQL part of "MySQL" stands for "Structured Query Language". SQL is the most common standardized language used to access databases. Depending on your programming environment, you might enter SQL directly (for example, to generate reports), embed SQL statements into code written in another language or use a language-specific API that hides the SQL syntax [1].

MySQL (or My ESS Que ELL) is one of the progressive famous Relational Database Management Systems that acquires many of the desirable features we seek for in any database engine and more [2].

- Security and Privileges.
- User accounts and schemas.
- Scalability for large databases reaching 50 million records.
- Backup and Recovery Facilities.
- Many Options for Physical Design and Tuning.
- Import and Export Facilities.

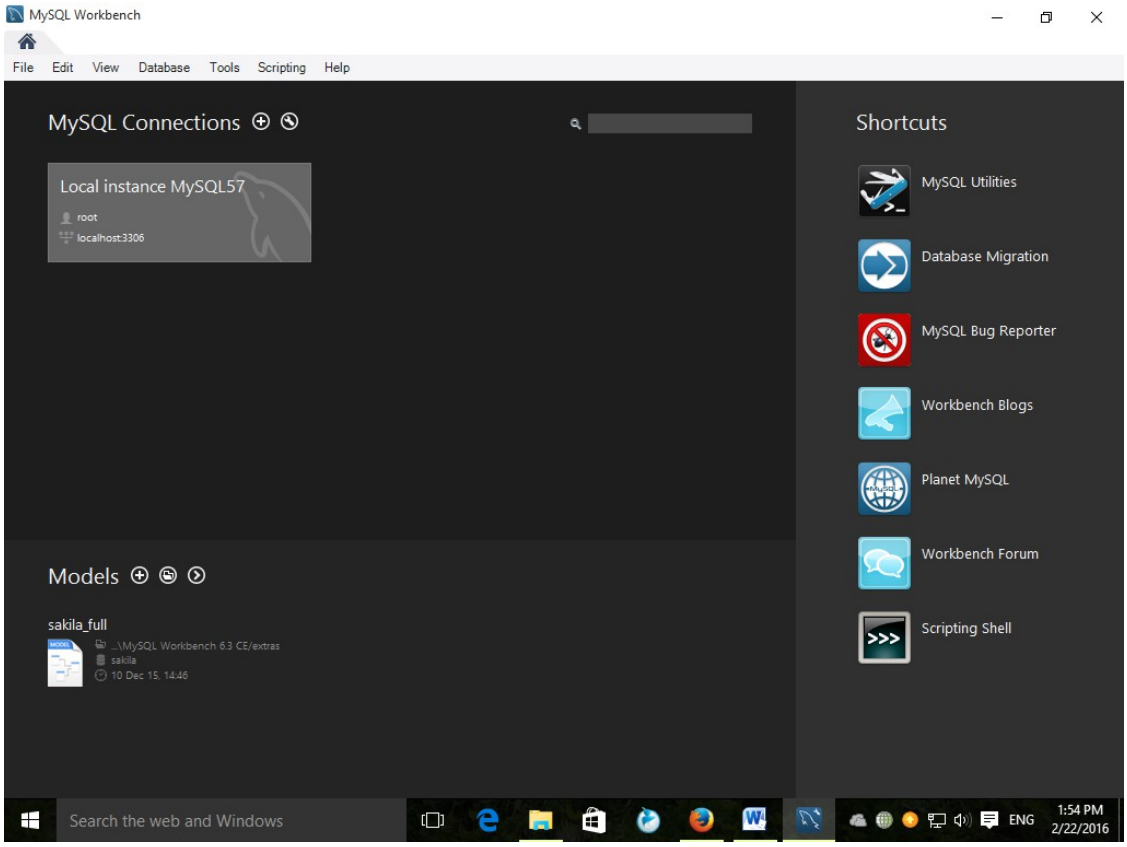
Starting MySQL

MySQL is started automatically with the system as a windows service.

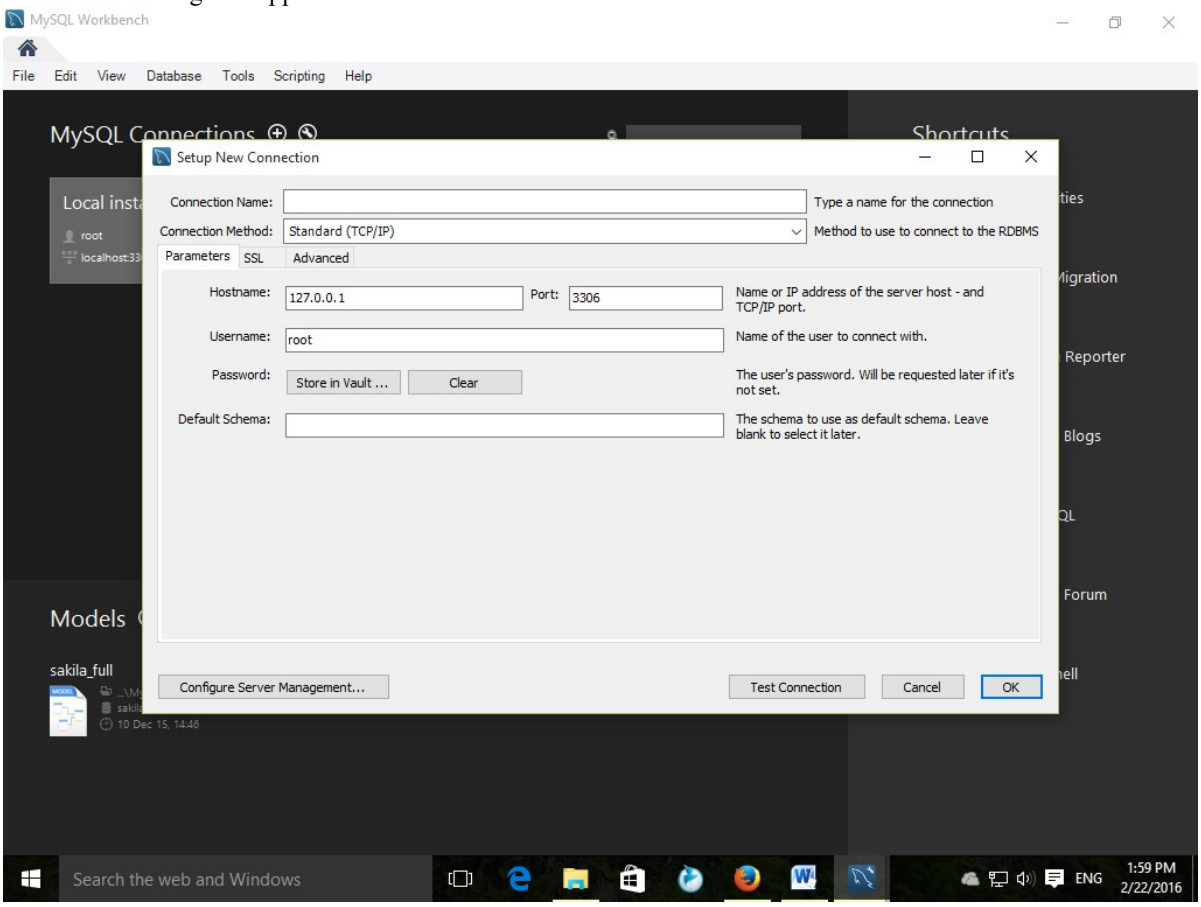
Logging In

MySQL workbench command line interface

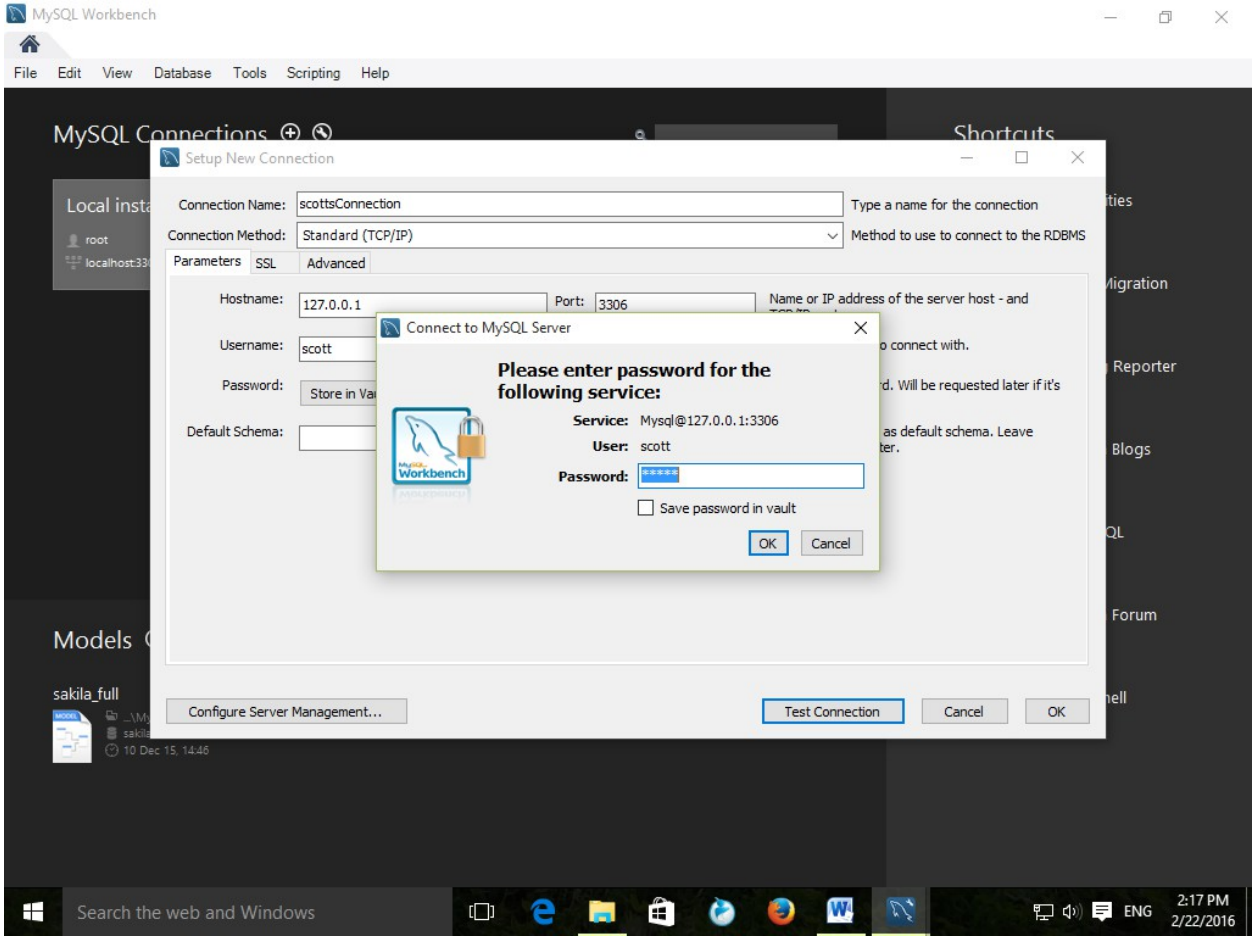
1. Run the MySQL Workbench the following screen should appear


MySQL Workbench
File Edit View Database Tools Scripting Help
MySQL Connections
Local instance MySQL57
root
localhost:3306
Shortcuts
MySQL Utilities
Database Migration
MySQL Bug Reporter
Workbench Blogs
Planet MySQL
Workbench Forum
Scripting Shell
Models
sakila_full
...\MySQL Workbench 6.3 CE/extras
sakila
10 Dec 15, 14:46
Search the web and Windows
ENG
1:54 PM
2/22/2016

2. Create a new connection using + sign near MySQL connection in the upper right corner, the following will appear.



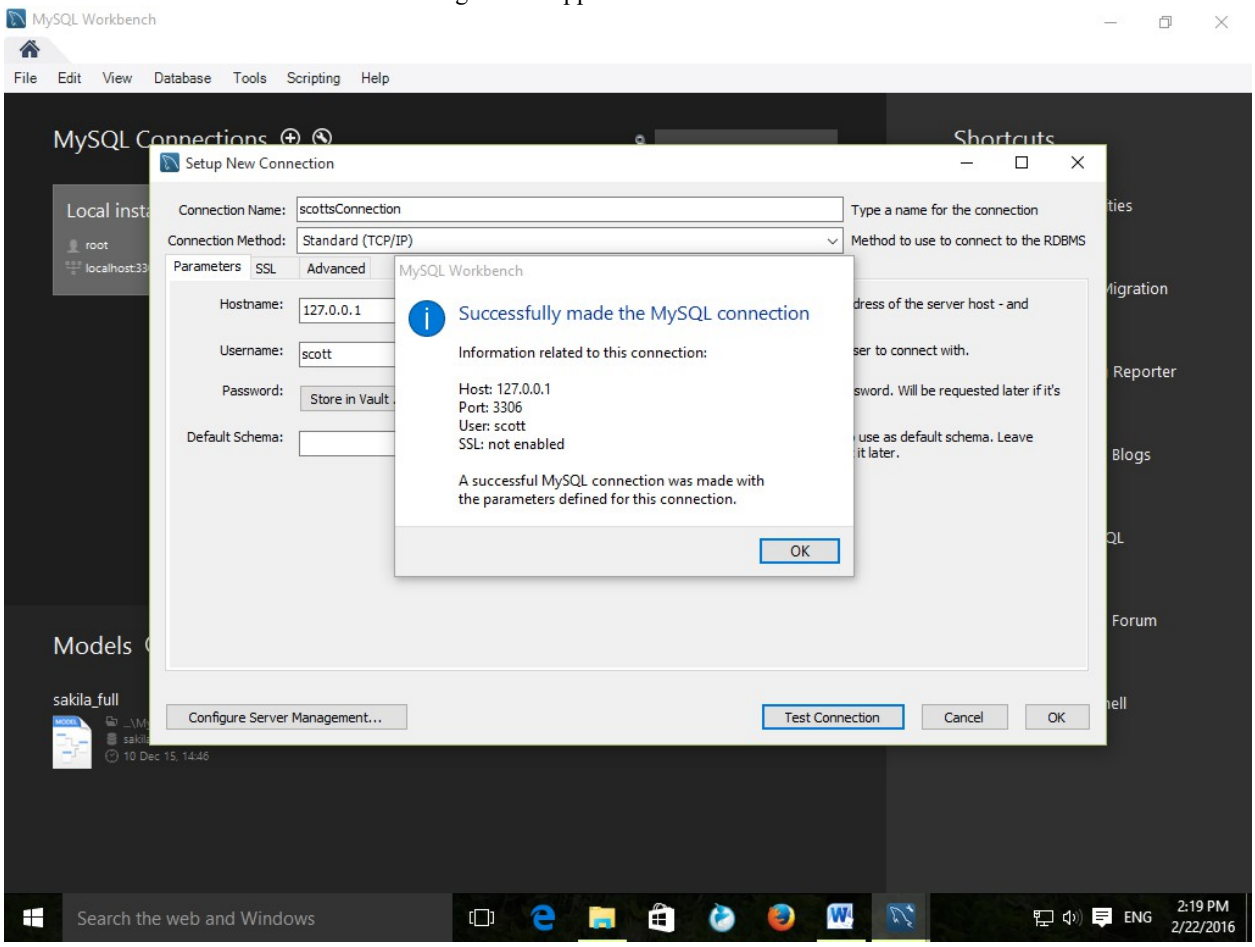
3. Add the desired connection name and add the user name you will connect to the database with (scott in our case) then test the connection.



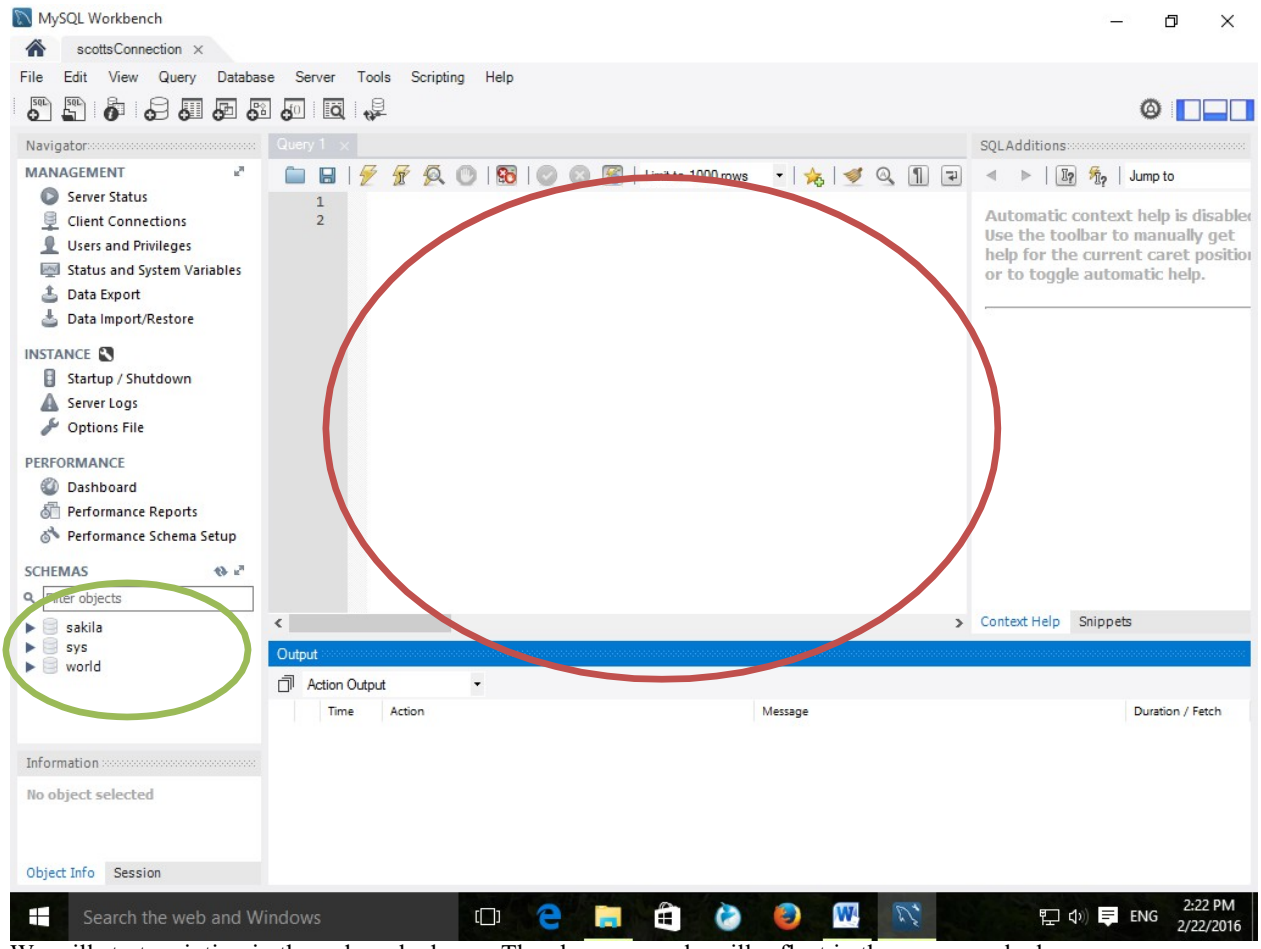
4. You will be prompted to provide a user name and password, use the following user name and password:

   User Name: SCOTT
   Password: TIGER

5. If the connection is successful the following should appear



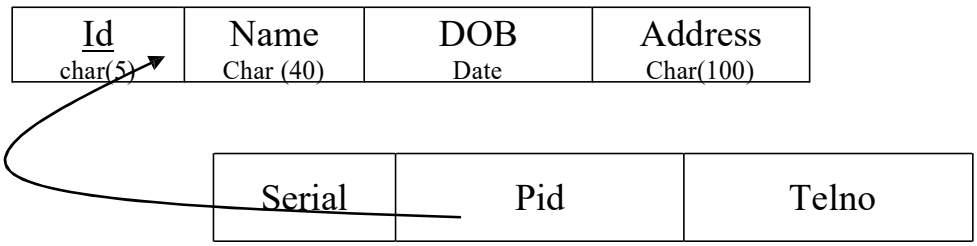
6. Open the newly added connection.



7. We will start scripting in the red marked area. The changes we do will reflect in the green marked area.

Problem Statement

A company requires maintaining its employees' names, date of birth, address, and telephone numbers. Assume that the Entity-Relationship model of the company is mapped into the relational schema shown below. It is required to implement this relational schema in Oracle, and to insert few records.



Lab Session:

Perform the following SQL statements one by one.

```
Create Schema phonebook;
Use phonebook;

Create Table Person (
Id          Varchar (5)  Primary Key Not Null,
Pname       Varchar(40),
DOB         Date,
Paddress    Varchar (100));


Create Table Tel (
Pid         Varchar(5),
Tserial     Varchar (3),
Telno       Varchar (15),
Constraint pk Primary Key (Pid, Tserial),
Constraint fk Foreign Key (Pid) references Person (Id));
```

You can insert few records by using the following statements

```
Insert into Person values (1,'john','1970-01-03','5 shore st.' );
Insert into Tel values (1,1,'03-2245655' );
Insert into Tel values (1,2,'012-6453242' );
Insert into Person values (2,'mark','1967-07-08','5 shore st.' );
Insert into Tel values (2,1,'03-8644353' );
```

Finally, you can enter a simple query to test the entered data as following

```
Select Id, Pname, DOB, paddress, Tserial, Telno
from Tel , Person
where Pid = Id;
```

References

[1] https://dev.mysql.com/doc/refman/5.7/en/what-is-mysql.html
[2] https://dev.mysql.com/doc/refman/5.7/en/features.html