

LAB 01

INSTALL AND MANAGE MYSQL DATABASE

I. Install

All downloads for MySQL are located at MySQL Downloads:

<https://www.mysql.com/downloads/>

Pick the suitable version of *MySQL Community Server* which will be running on your platform and install.

Or install from xampp, lampp ...

<https://www.apachefriends.org/index.html>

II. MySQL Server structure

- **Configuration file:** All system settings are saved in the configuration file. The file name is *my.ini* if using Windows or *my.cnf* on Linux, Unix. The main content of the configuration file is as follows (lines beginning with the # character are comment lines):

The TCP / IP Port the MySQL Server will listen on

port = 3306

Path to installation directory. All paths are

usually resolved relative to this.

basedir = "C:/Program Files/MySQL/MySQL Server 8.0/"

Path to the database root

datadir = "C:/Program Files/MySQL/MySQL Server 8.0/Data/"

- Port: specify the working port number of MySQL Server
- Basedir: the MySQL server installation directory.
- Datadir: the path to the data directory.

Note: You should change the basedir and datadir to increase the security of the system.

MySQL directory structure

| <i>Directory</i> | <i>Contents of Directory</i> |
|-------------------------|--|
| <i>bin</i> | <i>Mysql server, client and utility programs</i> |
| <i>data</i> | <i>Where MySQL stores (reads and writes) data, and server log files.</i> |
| <i>docs</i> | <i>Release documentation</i> |
| <i>include</i> | <i>Include (header) files</i> |
| <i>lib</i> | <i>Libraries</i> |
| <i>share</i> | <i>Miscellaneous support files, including error messages, character set files, sample configuration files, SQL for database installation</i> |

Figure 1: Default MySQL Installation Layout for Microsoft Windows

III. Connect to MySQL server

Firstly, make sure that MySQL Server is turned on after the installation process. you can start the MySQL Server directly through the command.

```
shell> basedir mysqld.exe --console
```

basedir: is the directory containing the *mysqld.exe* program.

| | | |
|-----------------------------------|-------------------------------|--|
| <i>-u <username></i> | <i>--user=username</i> | <i>User login</i> |
| <i>-p</i> | <i>--password</i> | <i>Ask for the password immediately</i> |
| <i>-p <password></i> | <i>--password=xxx</i> | <i>User password</i> |

| | | |
|-------------|-----------------|---|
| -h hostname | --host=hostname | Specify the name or IP address of the MySQL server (the default value is "localhost") |
| -P port | --port=port | MySQL port |

Two ways to log into the MySQL server

M1: basedir\mysql.exe -u user_name -p your_password

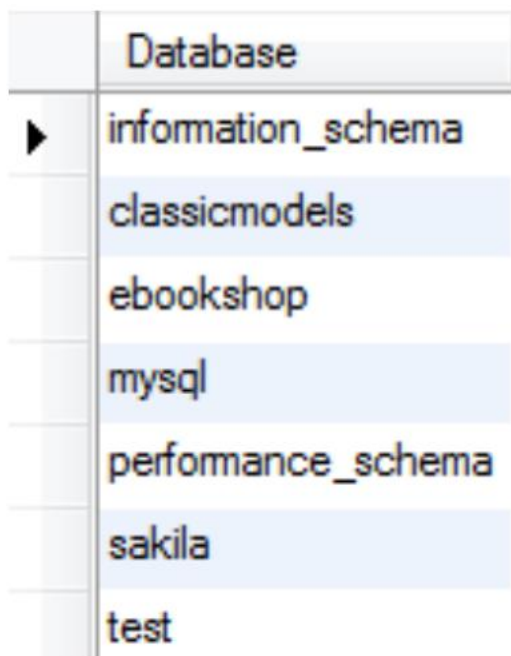
M2: basedir\mysql.exe --user=user_name -- password=your_password

IV. Some Basic Operations with MySQL

After successfully connecting to the MySQL Server, you can manipulate the database.

For example:

mysql> SHOW DATABASES;



| Database |
|--------------------|
| information_schema |
| classicmodels |
| mysql |
| performance_schema |
| sakila |
| test |

Disconnect from the MySQL server using:

mysql> EXIT;

After you have logged into the MySQL server using the mysql client, the following step describes how to create and delete databases.

CREATE DATABASE [IF NOT EXISTS] database_name;

Note: SQL statements ending with asterisk; or \g, \G and press the Enter key.

The CREATE DATABASE statement will create a database called "database_name". IF NOT EXISTS is an option to avoid errors if a database with the same name exists. If it already exists, the command will not be executed.

USE database_name;

To select a database that you intend to work.

DROP DATABASE [IF EXISTS] database_name;

Database deletion means deleting the physical database, all data and related objects. Like the CREATE DATABASE statement, the IF EXIST option will not execute the command DELETE if the database does not exist

V. Questions

- 1. How to change the default port of MySQL server to 3307 and connect to MySQL server at this port?*
- 2. How to move the data directory of MySQL to another directory and reconfigure the configuration file to redirect to new data directory.*

3. *Write the correct SQL statement to list all the existing databases in MySQL.*
4. *Write the correct SQL statement to create a new database called “my_database”.*
5. *Write the correct SQL statement to delete the database “my_database”.*