



ASSIGNMENT 1

Basic installation of MySQL



JANUARY 12, 2021

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W1D1 – LESSON1 ASSIGNMENT:

A. Answer the following questions:

a. Briefly discuss (i.e. in 2-4 statements/sentences) each of the following terms:

i. Data: is a row fact of information means any data which is not processed which may be gives meaning or just scrambled kind of data

ii. Database: is a collection of inter related data and files stored in a specific area.

iii. Database Management system: is a software to management our data base making all the necessary operation like CRUD

iv. Database application program: and computer program which interact with the database either through the command line or in GUI based.

b. Describe the main characteristics of the Data approach and contrast it with the File-based approach.

No	Data approach	File based approach
1	Centralization of data	Data isolation and separation
2	Sharing of data	Easy to start with it but nor efficient
3	Data security	Boring and time consuming to update single change of the files because it is not inherited
4	Consistency	No security to protect our data access by others
5	Lower cost of update and maintenance	Redundancy or dup lication

c. What are the five components of the DBMS environment and how are they related to each other?

- I. Hardware
- II. Software
- III. Data
- IV. Process
- V. Person

This all are interact through one intermediate connector which is data, because the main goal of DB is have highly purified data that makes a better achievement in our day to day activities.

d. Study the Dream Home case study introduced/presented in this Lesson

1. And answer the following questions:

I. What do you think are the main objects that need to be represented in the database?

- ❖ Property
- ❖ Client
- ❖ Owner
- ❖ Lease

ii. What relationships do you think exist between these main objects?

It depends on to which interacts to:-

For example : owner and client have one to many relationship, property and owner client 0 to 1 and property with owner n to 1 relationship are there

iii. For each of the objects, what details do you think need to be stored in the database?

Property		Owner		Client	
Id		Id		Id	
Name		Property		Name	
type				Prop-Id	
Price				Lease-length	
duration					

iv. Give at least 3 queries you think will be required.

B. Perform the following tasks:

a. Obtain and install the MySQL database (dbms) product, on your computer.

Completed

b. Using the MySQL dbms which you have installed, complete the following sub-tasks:

i. Start the MySQL database server instance (if it is not already running) :done

ii. Launch open the MySQL Shell and execute the following shell commands

(Note: For each command you successfully execute, take a screenshot of the output and add it to your Assignment1 answers document, which you will submit):

1. MySQL JS > \status (This command will display information about the current global session. Since no connection has been made at this time, it will simply print the MySQL Shell version).

```
MySQL Shell
MySQL Shell 8.0.22
Copyright (c) 2016, 2020, Oracle and/or its affiliates.
Oracle is a registered trademark of Oracle Corporation and/or its affiliates.
Other names may be trademarks of their respective owners.
Type '\help' or '\?' for help; '\quit' to exit.
MySQL JS > \status
MySQL Shell version 8.0.22
Not Connected.
MySQL JS >
```

2. MySQL JS > \connect root@localhost (This command will open a connection to the database server as the super-user named, root. Note: You will be prompted to enter the correct password for “root”).

```
MySQL JS > \connect root@localhost
Creating a session to 'root@localhost'
Fetching schema names for autocompletion... Press ^C to stop.
Your MySQL connection id is 13 (X protocol)
Server version: 8.0.22 MySQL Community Server - GPL
No default schema selected; type \use <schema> to set one.
MySQL localhost:33060+ ssl JS >
```

3. MySQL JS > \sql (This command will switch the Shell session from JavaScript processing mode to SQL processing mode).

```
MySQL localhost:33060+ ssl JS > \sql
Switching to SQL mode... Commands end with ;
MySQL localhost:33060+ ssl SQL >
```

4. MySQL localhost:33060+ ssl SQL > show databases; (This will display a list of the Databases found in the MySQL DBMS instance).

```
MySQL localhost:33060+ ssl SQL > show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
6 rows in set (0.0011 sec)
MySQL localhost:33060+ ssl SQL >
```

5. MySQL localhost:33060+ ssl SQL > show world; (This will set the default/active schema to “world”. Note: schema here means the database).

```
MySQL localhost:33060+ ssl SQL > use world;
Default schema set to `world`.
Fetching table and column names from `world` for auto-completion... Press ^C to stop.
MySQL localhost:33060+ ssl world SQL > show tables
-> ^C
MySQL localhost:33060+ ssl world SQL > show tables;
+-----+
| Tables_in_world |
+-----+
| city |
| country |
| countrylanguage |
+-----+
3 rows in set (0.0016 sec)
MySQL localhost:33060+ ssl world SQL >
```

6. MySQL localhost:33060+ ssl SQL > show tables; (This will display a list of all the tables in the world schema (database)).

```
MySQL localhost:33060+ ssl SQL > use world;
Default schema set to `world`.
Fetching table and column names from `world` for auto-completion... Press ^C to stop.
MySQL localhost:33060+ ssl world SQL > show tables
-> ^C
MySQL localhost:33060+ ssl world SQL > show tables;
+-----+
| Tables_in_world |
+-----+
| city |
| country |
| countrylanguage |
+-----+
3 rows in set (0.0016 sec)
MySQL localhost:33060+ ssl world SQL >
```

7. MySQL localhost:33060+ ssl SQL > desc country; (This will display the schema/specification for the table named, country).

```

5 rows in set (0.0010 sec)
MySQL localhost:33060+ ssl world SQL > desc country;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Code | char(3) | NO | PRI | | |
| Name | char(52) | NO | | | |
| Continent | enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South America') | NO | | Asia | |
| Region | char(26) | NO | | | |
| SurfaceArea | float(10,2) | NO | | 0.00 | |
| IndepYear | smallint | YES | | NULL | |
| Population | int | NO | | 0 | |
| LifeExpectancy | float(3,1) | YES | | NULL | |
| GNP | float(10,2) | YES | | NULL | |
| GNPOld | float(10,2) | YES | | NULL | |
| LocalName | char(45) | NO | | | |
| GovernmentForm | char(45) | NO | | | |
| HeadOfState | char(60) | YES | | NULL | |
| Capital | int | YES | | NULL | |
| Code2 | char(2) | NO | | | |
+-----+-----+-----+-----+-----+-----+
15 rows in set (0.0022 sec)

```

8. MySQL localhost:33060+ ssl SQL > desc city; (This will display the schema/specification for the table named, city).

```

MySQL localhost:33060+ ssl world SQL > desc city;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID | int | NO | PRI | NULL | auto_increment |
| Name | char(35) | NO | | | |
| CountryCode | char(3) | NO | MUL | | |
| District | char(20) | NO | | | |
| Population | int | NO | | 0 | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.0023 sec)
MySQL localhost:33060+ ssl world SQL >

```

iii. Carefully examine the schema/specifications for both the table named, country and the one named, city. Is there any relationship(s) between the two tables? Yes or No? If yes, describe the relationship(s) which you can identify.

Yes : the code attribute under country table is also attribute for city but code under country but in case of city it act like foreign key to interact with the country table also they have one to many cardinality relationship

iv. Launch open the MySQL Workbench GUI tool and take a screenshot of it.



Welcome to MySQL Workbench

MySQL Workbench is the official graphical user interface (GUI) tool for MySQL. It allows you to design, create and browse your database schemas, work with database objects and insert data as well as design and run SQL queries to work with stored data. You can also migrate schemas and data from other database vendors to your MySQL database.

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MySQL Connections ⊕ ⊖

a |

Local instance MySQL80

root

localhost:3306