



**MAWLANA BHASHANI SCIENCE AND TECHNOLOGY UNIVERSITY**

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# LAB REPORT

Lab Report No : 05  
Lab Report name : Connecting a database (MySQL) with linux  
Course Title : Operating System Lab  
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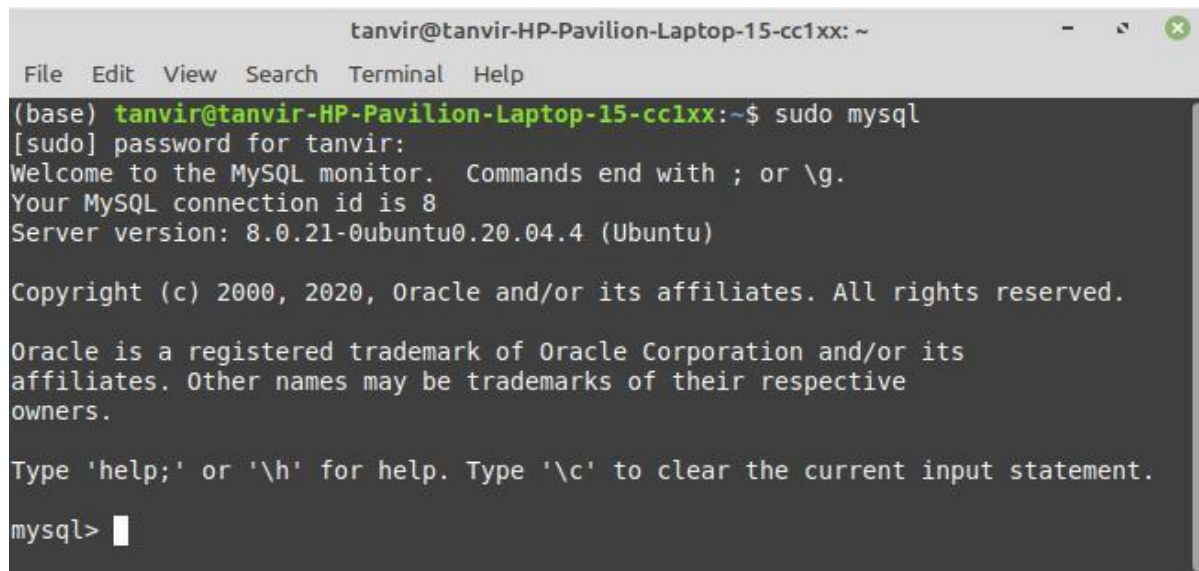
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## Lab 05 - Connecting a database (MySQL) with linux

### 1. Install MySQL on Ubuntu

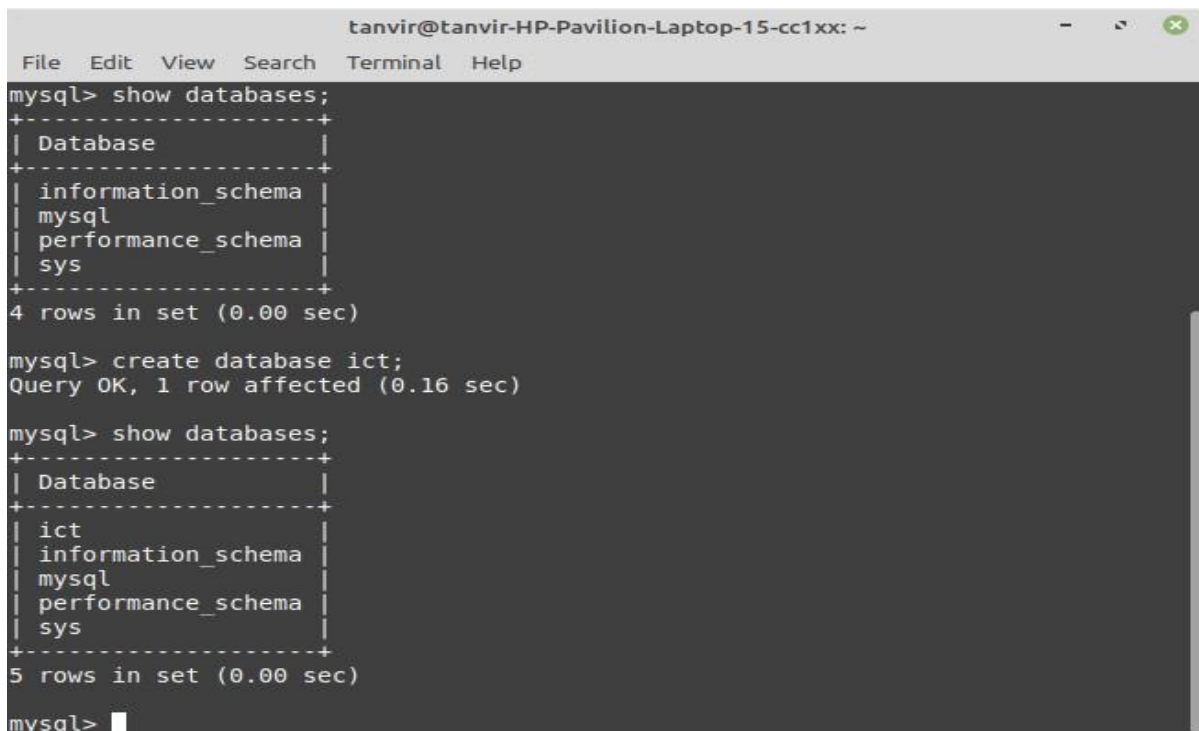
```
sudo apt-get install mysql-server
```

### 2. Log into mysql by linux ubuntu.

A terminal window titled 'tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the command 'sudo mysql' being executed. It prompts for a password, then displays the MySQL monitor welcome message, connection ID (8), and server version (8.0.21-0ubuntu0.20.04.4). It also shows copyright and trademark information, and instructions on how to use help and clear the input. The prompt 'mysql>' is shown at the bottom.

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~  
File Edit View Search Terminal Help  
(base) tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx:~$ sudo mysql  
[sudo] password for tanvir:  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 8  
Server version: 8.0.21-0ubuntu0.20.04.4 (Ubuntu)  
  
Copyright (c) 2000, 2020, Oracle and/or its affiliates. All rights reserved.  
  
Oracle is a registered trademark of Oracle Corporation and/or its  
affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
mysql>
```

### 3.show and create database :

A terminal window titled 'tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the command 'show databases;' being executed, which returns a table of existing databases: information\_schema, mysql, performance\_schema, and sys. Then, the command 'create database ict;' is executed, returning 'Query OK, 1 row affected (0.16 sec)'. Finally, 'show databases;' is executed again, showing the new database 'ict' added to the list. The prompt 'mysql>' is shown at the bottom.

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~  
File Edit View Search Terminal Help  
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
+-----+  
4 rows in set (0.00 sec)  
  
mysql> create database ict;  
Query OK, 1 row affected (0.16 sec)  
  
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| ict |  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
+-----+  
5 rows in set (0.00 sec)  
  
mysql>
```

### 3. show and create table :

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~  
File Edit View Search Terminal Help  
mysql> show tables;  
+-----+  
| Tables_in_ict |  
+-----+  
| MyGuests      |  
| student      |  
+-----+  
2 rows in set (0.00 sec)  
  
mysql> CREATE TABLE myTable(  
-> id INT NOT NULL,  
-> name VARCHAR(255) NOT NULL,  
-> cgpa VARCHAR(255),  
-> PRIMARY KEY(id)  
-> );  
Query OK, 0 rows affected (0.56 sec)  
  
mysql> show tables;  
+-----+  
| Tables_in_ict |  
+-----+  
| MyGuests      |  
| myTable       |  
| student      |  
+-----+  
3 rows in set (0.01 sec)  
  
mysql> 
```

### 4. insert data into table :

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~  
File Edit View Search Terminal Help  
mysql> INSERT INTO myTable values(18043,'Tanvir Ahmed','ICT');  
Query OK, 1 row affected (0.21 sec)  
  
mysql> SELECT* FROM myTable;  
+-----+  
| id   | name       | cgpa |  
+-----+  
| 18043 | Tanvir Ahmed | ICT |  
+-----+  
1 row in set (0.01 sec)  
  
mysql> 
```

## 5. Describe table:

```
Empty set (0.02 sec)

mysql> DESCRIBE STUDENTS;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID    | int           | NO   | PRI | NULL    |       |
| NAME  | varchar(20)   | NO   |     | NULL    |       |
| AGE   | int           | NO   |     | NULL    |       |
| ADDRESS | char(25)      | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql>
```

## 6. alter table :

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~
File Edit View Search Terminal Help

mysql> ALTER TABLE student ADD mobile VARCHAR(15);
Query OK, 0 rows affected (0.42 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> DESCRIBE student;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int           | NO   | PRI | NULL    |       |
| name  | varchar(255)  | NO   |     | NULL    |       |
| dept  | varchar(255)  | YES  |     | NULL    |       |
| mobile | varchar(15)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

## 7.modify table:

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~
File Edit View Search Terminal Help

mysql> ALTER TABLE student MODIFY id VARCHAR(20);
Query OK, 5 rows affected (1.67 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> DESCRIBE student;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | varchar(20)   | NO   | PRI | NULL    |       |
| name  | varchar(255)  | NO   |     | NULL    |       |
| dept  | varchar(255)  | YES  |     | NULL    |       |
| mobile | varchar(15)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

## 8. drop data from table:

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~  
File Edit View Search Terminal Help  
mysql> ALTER TABLE student DROP mobile;  
Query OK, 0 rows affected (1.78 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
mysql> SELECT * FROM student;  
+-----+-----+-----+  
| id      | name                | dept |  
+-----+-----+-----+  
| 18002   | Masud               | ICT  |  
| 18034   | Milon               | ICT  |  
| 18038   | Farhana Afrin Shikha | ICT  |  
| 18041   | Iqbal               | ICT  |  
| 18043   | Tanvir Ahmed        | ICT  |  
+-----+-----+-----+  
5 rows in set (0.00 sec)  
  
mysql> 
```

## 9.update data of table:

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~  
File Edit View Search Terminal Help  
mysql> UPDATE myTable SET cgpa='3.75' WHERE id=18043;  
Query OK, 1 row affected (0.11 sec)  
Rows matched: 1 Changed: 1 Warnings: 0  
  
mysql> SELECT* FROM myTable;  
+-----+-----+-----+  
| id      | name                | cgpa |  
+-----+-----+-----+  
| 18002   | Masud Rana          | 3.80 |  
| 18034   | Milon Miah          | 3.70 |  
| 18040   | Abdullah Ahmed Mamun | 3.70 |  
| 18041   | Iqbal Ahmed         | 3.70 |  
| 18043   | Tanvir Ahmed        | 3.75 |  
+-----+-----+-----+  
5 rows in set (0.00 sec)  
  
mysql> 
```

## 10. Where and delete operation:

```
tanvir@tanvir-HP-Pavilion-Laptop-15-cc1xx: ~  
File Edit View Search Terminal Help  
mysql> SELECT * FROM student;  
+-----+-----+-----+  
| id    | name                | dept |  
+-----+-----+-----+  
| 18002 | Masud               | ICT  |  
| 18034 | Milon               | ICT  |  
| 18038 | Farhana Afrin Shikha | ICT  |  
| 18041 | Iqbal               | ICT  |  
| 18043 | Tanvir Ahmed        | ICT  |  
+-----+-----+-----+  
5 rows in set (0.00 sec)  
  
mysql> DELETE FROM student WHERE name='Iqbal';  
Query OK, 1 row affected (0.13 sec)  
  
mysql> SELECT * FROM student;  
+-----+-----+-----+  
| id    | name                | dept |  
+-----+-----+-----+  
| 18002 | Masud               | ICT  |  
| 18034 | Milon               | ICT  |  
| 18038 | Farhana Afrin Shikha | ICT  |  
| 18043 | Tanvir Ahmed        | ICT  |  
+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql> 
```

**Conclusion:** MySQL is a very familiar database management system through all over the world. It is free and very easy to use.

In this lab experiment we learned how to install mysql and how to use mysql through the CLI. Here we learned how to show databases, create database, show tables, create and delete tables and their columns and rows.

MySQL is very easy to learn and use. This is a relational database management system. Which is great for web developers .

Database is actually a storage management system. It is more efficient and faster than file system. That's why it is highly used where data manipulation is very necessary .

However this experiment was very easy and enjoyable to us.