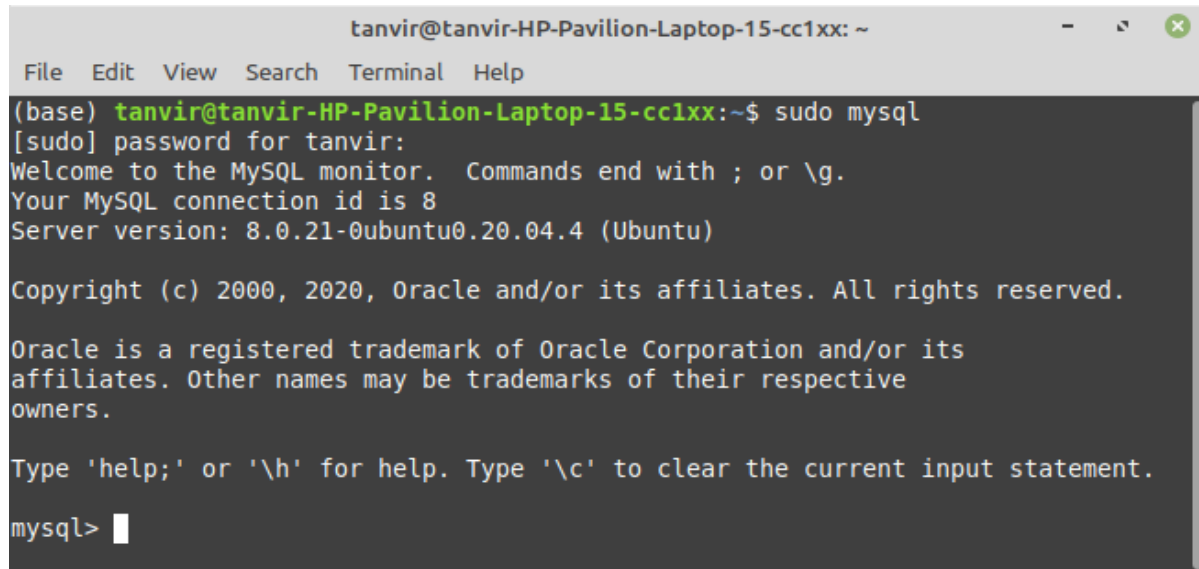


Lab 05 - Connecting a database (MySQL) with linux

1. Install MySQL on Ubuntu

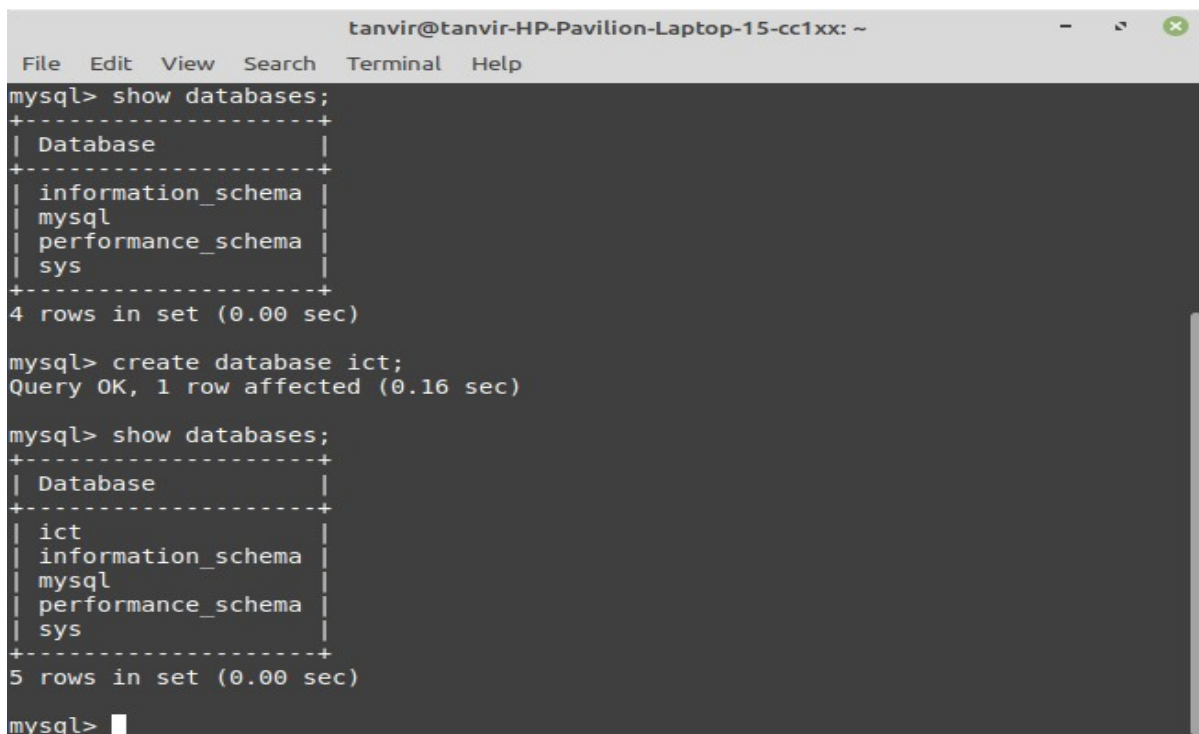
`sudo apt-get install mysql-server`

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 list of databases: information_schema, mysql, performance_schema, and sys. Then, the command 'create database ict;' is executed, and it returns 'Query OK, 1 row affected (0.16 sec)'. Finally, 'show databases;' is executed again, which now returns five databases: ict, information_schema, mysql, performance_schema, and sys.

```
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      |  
+-----+  
1 row in set (0.00 sec)  
  
mysql> CREATE TABLE student(  
-> id INT NOT NULL,  
-> name VARCHAR(255) NOT NULL,  
-> dept VARCHAR(255) ,  
-> PRIMARY KEY(id)  
-> );  
Query OK, 0 rows affected (0.60 sec)  
  
mysql> show tables;  
+-----+  
| Tables_in_ict |  
+-----+  
| MyGuests      |  
| student       |  
+-----+  
2 rows in set (0.00 sec)  
  
mysql> █
```

4. insert data into table :

```
mysql> INSERT INTO student (id,name,dept) values (18043,'Tanvir Ahmed','ICT')  
-> ;  
Query OK, 1 row affected (0.09 sec)  
  
mysql> SELECT * FROM student;  
+-----+-----+-----+  
| id    | name      | dept |  
+-----+-----+-----+  
| 18043 | Tanvir Ahmed | ICT |  
+-----+-----+-----+  
1 row in set (0.00 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 student SET mobile='elevenDigits';  
Query OK, 0 rows affected (0.00 sec)  
Rows matched: 5 Changed: 0 Warnings: 0  
  
mysql> SELECT * FROM student;  
+-----+-----+-----+-----+  
| id    | name                | dept | mobile      |  
+-----+-----+-----+-----+  
| 18002 | Masud               | ICT  | elevenDigits |  
| 18034 | Milon               | ICT  | elevenDigits |  
| 18038 | Farhana Afrin Shikha | ICT  | elevenDigits |  
| 18041 | Iqbal               | ICT  | elevenDigits |  
| 18043 | Tanvir Ahmed        | ICT  | elevenDigits |  
+-----+-----+-----+-----+  
5 rows in set (0.00 sec)  
  
mysql> 
```

10. Where and delete operation:

```
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> 
```