



# **Mawlana Bhashani Science and Technology University**

## **Lab -Report**

Report No:05

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## Experiment No:05

**Experiment Name:** Connecting a database (MySQL) with Linux

- Install MySQL on Ubuntu
- Log into MySQL by Linux.
- Create database table.
- Insert data into table.
- Describe table.
- Alter table.
- Modify table.viii) Drop data from table. ix) Update data of table.
- x) Where and delete operation.

**Install MySQL on Ubuntu:**

**sudo apt-get install mysql-server**

```
root@hp-envy-notebook: ~  
root@hp-envy-notebook:~# sudo apt-get install mysql-server  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  linux-headers-4.4.0-21 linux-headers-4.4.0-21-generic  
  linux-image-4.4.0-21-generic linux-image-extra-4.4.0-21-generic  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  libaio1 libhtml-template-perl mysql-client-5.7 mysql-client-core-5.7  
  mysql-common mysql-server-5.7 mysql-server-core-5.7  
Suggested packages:  
  libipc-sharedcache-perl mailx tinycal  
The following NEW packages will be installed:  
  libaio1 libhtml-template-perl mysql-client-5.7 mysql-client-core-5.7  
  mysql-common mysql-server mysql-server-5.7 mysql-server-core-5.7  
0 upgraded, 8 newly installed, 0 to remove and 693 not upgraded.  
Need to get 17.8 MB of archives.  
After this operation, 156 MB of additional disk space will be used.  
Do you want to continue? [Y/n]
```

```
root@hp-envy-notebook: ~  
Package configuration  
  
Configuring mysql-server-5.7  
While not mandatory, it is highly recommended that you set a password  
for the MySQL administrative "root" user.  
If this field is left blank, the password will not be changed.  
New password for the MySQL "root" user:  
_____  
  
<Ok>
```

## Log into MySQL by Linux:

```
root@hp-envy-notebook: ~
Setting up mysql-server-core-5.7 (5.7.31-0ubuntu0.16.04.1) ...
Setting up mysql-server-5.7 (5.7.31-0ubuntu0.16.04.1) ...
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my
.cnf) in auto mode
Renaming removed key_buffer and myisam-recover options (if present)
Setting up libhtml-template-perl (2.95-2) ...
Setting up mysql-server (5.7.31-0ubuntu0.16.04.1) ...
Processing triggers for libc-bin (2.23-0ubuntu9) ...
Processing triggers for systemd (229-4ubuntu16) ...
Processing triggers for ureadahead (0.100.0-19) ...
root@hp-envy-notebook:~# sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 3
Server version: 5.7.31-0ubuntu0.16.04.1 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 
```

**Create database:** specify the name of the database.

```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

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 (0.00 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| ICT        |
| mysql      |
| performance_schema |
| sys       |
+-----+
5 rows in set (0.00 sec)

mysql> 
```

**Create database table:** specify the name of the database in which the table is created.

```
| performance_schema |
| sys                |
+-----+
4 rows in set (0.00 sec)

mysql> create database ICT;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| ICT             |
| mysql          |
| performance_schema |
| sys            |
+-----+
5 rows in set (0.00 sec)

mysql> use ICT;
Database changed
mysql> create table ict_student(id varchar(30),name varchar(40),cgpa varchar(20)
);
Query OK, 0 rows affected (0.26 sec)

mysql> █
```

**Insert data into table:** The INSERT INTO statement is used to add new data to a database.

```
mysql> insert into ict_student values('it-1802','snigdha','3.07');
Query OK, 1 row affected (0.04 sec)

mysql> insert into ict_student values('it-1809','nazma','2.07');
Query OK, 1 row affected (0.05 sec)

mysql> select * from ict_student;
+-----+-----+-----+
| id      | name   | cgpa  |
+-----+-----+-----+
| it-1801 | ruku   | 3.57  |
| it-1802 | snigdha | 3.07  |
| it-1809 | nazma  | 2.07  |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> █
```

**Describe table:** We use DESCRIBE or DESC (both are same) command to describe the structure of a table.

```
mysql> describe ict_student;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | varchar(30)   | YES  |     | NULL    |       |
| name  | varchar(40)   | YES  |     | NULL    |       |
| cgpa  | varchar(20)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> █
```

**Alter table:** The ALTER TABLE statement is used to add, delete, or modify columns in an existing table.

```
mysql> alter table ict_student add city varchar(20);
Query OK, 0 rows affected (0.55 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe ict_student;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | varchar(30)   | YES  |     | NULL    |       |
| name  | varchar(40)   | YES  |     | NULL    |       |
| cgpa  | varchar(20)   | YES  |     | NULL    |       |
| city  | varchar(20)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> █
```

**Modify table:** The alter command is used when we want to MODIFY a database or any object contained in the database.

```
mysql> alter table ict_student modify cgpa varchar(10);
Query OK, 3 rows affected (0.68 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> describe ict_student;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | varchar(30)   | YES  |     | NULL    |       |
| name  | varchar(40)   | YES  |     | NULL    |       |
| cgpa  | varchar(10)   | YES  |     | NULL    |       |
| city  | varchar(20)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> █
```

**Drop data from table:** The DROP database statement is used to drop or delete a database.

```
mysql> alter table ict_student drop column city;
Query OK, 0 rows affected (0.67 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe ict_student;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | varchar(30)   | YES  |     | NULL    |       |
| name  | varchar(40)   | YES  |     | NULL    |       |
| cgpa  | varchar(10)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> █
```

**Update data of table:** An SQL UPDATE statement changes the data of one or more records in a table.

```
mysql> update ict_student set cgpa = '3.99' where id ='it-1801';
Query OK, 1 row affected (0.05 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from ict_student;
+-----+-----+-----+
| id      | name   | cgpa |
+-----+-----+-----+
| it-1801 | ruku   | 3.99 |
| it-1802 | snigdha | 3.07 |
| it-1809 | nazma  | 2.07 |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> █
```

**Where and delete operation:**

```
mysql> delete from ict_student where id ='it-1809';
Query OK, 1 row affected (0.05 sec)

mysql> select * from ict_student;
+-----+-----+-----+
| id      | name   | cgpa |
+-----+-----+-----+
| it-1801 | ruku   | 3.99 |
| it-1802 | snigdha | 3.07 |
+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> █
```

### Discussion:

Finally I connected database MySQL with linux .Frist of all, I Install MySQL on Ubuntu.Then I logged into MySQL by linux.Afterthen the process are would be like database management system.Create a database table ,insert data,describe table ,alter table,and other process done by me.Next time I would be able to solve any type of problem

