



Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 05

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Course title: Operating Systems Lab

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Submitted by

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Submitted To

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Experiment no : 05

Experiment Name : Connecting a database (MySQL) with linux.

Theory :

Many Linux distributions include a version of the MySQL server, client tools, and development components in their native software repositories and can be installed with the platforms' standard package management systems. This section provides basic instructions for installing MySQL using those package management systems.

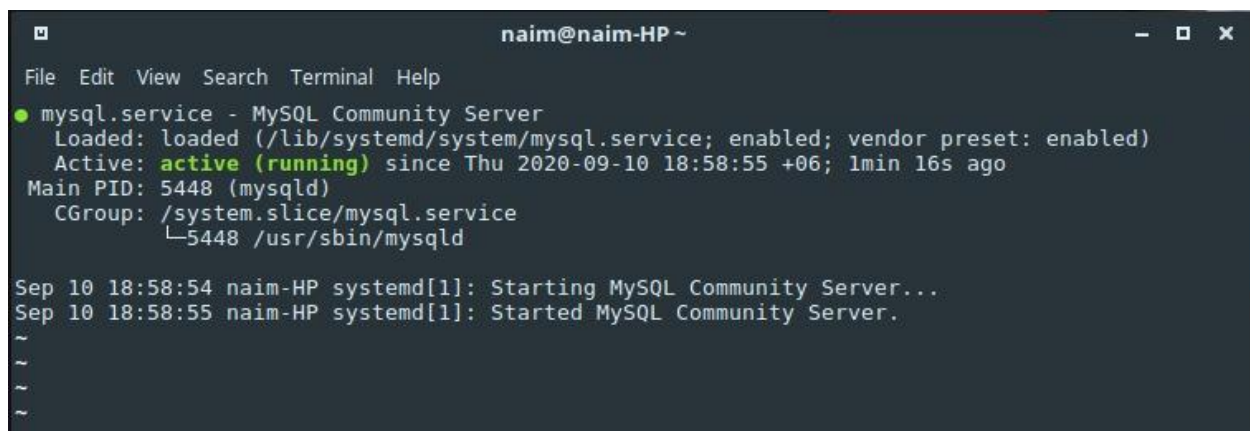
Working Process :

1) Install MySQL on Ubuntu:

```
sudo apt-get update
```

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

```
mysql_secure_installation
```

A terminal window titled 'naim@naim-HP ~' showing the status of the MySQL service. The output of 'systemctl status mysql.service' is displayed, indicating the service is loaded and active (running) since 2020-09-10 18:58:55. Below this, the startup logs for the MySQL Community Server are shown, confirming it started successfully at the same time.

```
naim@naim-HP ~  
File Edit View Search Terminal Help  
● mysql.service - MySQL Community Server  
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)  
   Active: active (running) since Thu 2020-09-10 18:58:55 +06; 1min 16s ago  
     Main PID: 5448 (mysqld)  
       CGroup: /system.slice/mysql.service  
               └─5448 /usr/sbin/mysqld  
  
Sep 10 18:58:54 naim-HP systemd[1]: Starting MySQL Community Server...  
Sep 10 18:58:55 naim-HP systemd[1]: Started MySQL Community Server.  
~  
~  
~  
~
```

2) Log into MySQL by Linux.

```
naim@naim-HP ~  
File Edit View Search Terminal Help  
naim@naim-HP ~ $ sudo mysql -u root -p  
[sudo] password for naim:  
Enter password:  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 6  
Server version: 5.7.31-0ubuntu0.16.04.1 (Ubuntu)  
  
Copyright (c) 2000, 2020, Oracle and/or its affiliates. All rights reserved.  
  
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owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
mysql> █
```

3) Create database table.

```
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
+-----+  
4 rows in set (0.00 sec)  
  
mysql> create database naim;  
Query OK, 1 row affected (0.00 sec)  
  
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| naim |  
| performance_schema |  
| sys |  
+-----+  
5 rows in set (0.00 sec)
```

4) Insert data into table.

```
mysql> insert into STUDENT(ID,NAME,AGE,DISTRICT) values ('IT-18045','AHADUL',21,
'DHAKA');
Query OK, 1 row affected (0.05 sec)

mysql> insert into STUDENT(ID,NAME,AGE,DISTRICT) values ('IT-18031','ARIF',21,'K
ISHORGANJ');
Query OK, 1 row affected (0.03 sec)

mysql> insert into STUDENT(ID,NAME,AGE,DISTRICT) values ('IT-18036','PORITOSH',2
2,'KURIGRAM');
Query OK, 1 row affected (0.03 sec)

mysql> select *from STUDENT;
+-----+-----+-----+-----+
| ID      | NAME    | AGE | DISTRICT |
+-----+-----+-----+-----+
| IT-18045 | AHADUL  | 21  | DHAKA    |
| IT-18031 | ARIF    | 21  | KISHORGANJ |
| IT-18036 | PORITOSH | 22  | KURIGRAM  |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

5)Describe table.

```
mysql> describe STUDENT;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID          | varchar(50)   | NO   |     | NULL    |       |
| NAME        | varchar(50)   | NO   |     | NULL    |       |
| AGE         | int(3)        | NO   |     | NULL    |       |
| DISTRICT    | varchar(50)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

6) Alter table.

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

mysql> describe STUDENT;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID          | varchar(50)   | NO   |     | NULL    |       |
| NAME        | varchar(50)   | NO   |     | NULL    |       |
| AGE         | int(3)        | NO   |     | NULL    |       |
| DISTRICT    | varchar(50)   | NO   |     | NULL    |       |
| HEALTH      | varchar(20)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

7) Modify table.

```
mysql> alter table STUDENT modify HEALTH varchar(50);
Query OK, 0 rows affected (0.08 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe STUDENT;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID    | varchar(50) | NO | | NULL | |
| NAME  | varchar(50) | NO | | NULL | |
| AGE   | int(3) | NO | | NULL | |
| DISTRICT | varchar(50) | NO | | NULL | |
| HEALTH | varchar(50) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

8) Drop data from table.

```
mysql> alter table STUDENT drop HEALTH;
Query OK, 0 rows affected (0.59 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe STUDENT;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID    | varchar(50) | NO | | NULL | |
| NAME  | varchar(50) | NO | | NULL | |
| AGE   | int(3) | NO | | NULL | |
| DISTRICT | varchar(50) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

9) Update data of table.

```
mysql> select *from STUDENT;
+-----+-----+-----+-----+
| ID      | NAME    | AGE | DISTRICT |
+-----+-----+-----+-----+
| IT-18045 | AHADUL  | 21  | DHAKA    |
| IT-18031 | ARIF    | 21  | KISHORGANJ |
| IT-18036 | PORITOSH | 22  | KURIGRAM  |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> update STUDENT
-> set NAME='MAMUN'
-> where AGE=22;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select *from STUDENT;
+-----+-----+-----+-----+
| ID      | NAME    | AGE | DISTRICT |
+-----+-----+-----+-----+
| IT-18045 | AHADUL  | 21  | DHAKA    |
| IT-18031 | ARIF    | 21  | KISHORGANJ |
| IT-18036 | MAMUN   | 22  | KURIGRAM  |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

10) Where and delete operation.

```
mysql> select *from STUDENT where age = 21;
+-----+-----+-----+-----+
| ID      | NAME    | AGE | DISTRICT |
+-----+-----+-----+-----+
| IT-18045 | AHADUL  | 21  | DHAKA    |
| IT-18031 | ARIF    | 21  | KISHORGANJ |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> delete from STUDENT where NAME='ARIF';
Query OK, 1 row affected (0.05 sec)

mysql> select *from STUDENT;
+-----+-----+-----+-----+
| ID      | NAME    | AGE | DISTRICT |
+-----+-----+-----+-----+
| IT-18045 | AHADUL  | 21  | DHAKA    |
| IT-18036 | MAMUN   | 22  | KURIGRAM  |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```


Discussion :

MySQL is globally renowned for being the most secure and reliable database management system used in popular web applications. It takes less time to install mysql in linux and quite easier from windows. We can work in Mysql through some command which is very easy in linux operating system. It manages memory very well.