



Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 05

Course code: ICT-3110

Course title: Operating Systems Lab

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Submitted by

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Reference:Nusrat Jahan Jui(IT-18039)

Experiment no : 05

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

Theory:

MySQL is the most popular open-source relational database management system. 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. On Linux, MySQL database and table names are case sensitive.

Working Process :

1) Install MySQL on Linux terminal:

```
jui@DESKTOP-1T35KU2:~$ sudo apt install mysql-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
mysql-server is already the newest version (8.0.21-0ubuntu0.20.04.4).
0 upgraded, 0 newly installed, 0 to remove and 20 not upgraded.
2 not fully installed or removed.
After this operation, 0 B of additional disk space will be used.
Do you want to continue? [Y/n] y
Setting up mysql-server-8.0 (8.0.21-0ubuntu0.20.04.4) ...
invoke-rc.d: could not determine current runlevel
* Stopping MySQL database server mysqld
   [ OK ]
Renaming removed key_buffer and myisam-recover options (if present)
Cannot open /proc/net/unix: No such file or directory
Cannot stat file /proc/1/fd/5: Operation not permitted
Cannot stat file /proc/1/fd/6: Operation not permitted
Cannot stat file /proc/3/fd/7: Operation not permitted
Cannot stat file /proc/3/fd/5: Operation not permitted
mysqld will log errors to /var/log/mysql/error.log
mysqld is running as pid 456
```

2) Log into MySQL by Linux:

```
jui@DESKTOP-1T35KU2:~$ sudo mysql
[sudo] password for jui:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.21-0ubuntu0.20.04.4 (Ubuntu)

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owners.

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

mysql> show databases;
```

```
mysql> use jui;
Database changed
mysql> CREATE TABLE STUDENT(
    -> ID VARCHAR(50) NOT NULL,
    -> NAME VARCHAR(50) NOT NULL,
    -> AGE INT(3) NOT NULL,
    -> DISTRICT VARCHAR(50) NOT NULL);
Query OK, 0 rows affected, 1 warning (1.82 sec)

mysql> SHOW TABLES;
+-----+
| Tables_in_jui |
+-----+
| STUDENT       |
+-----+
1 row in set (0.04 sec)
```

3) Create database table.

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.41 sec)

mysql> create database jui;
Query OK, 1 row affected (1.04 sec)
```

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| jui |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.01 sec)
```

4)Describe table.

```
mysql> use jui;
Database changed
mysql> CREATE TABLE STUDENT(
  -> ID VARCHAR(50) NOT NULL,
  -> NAME VARCHAR(50) NOT NULL,
  -> AGE INT(3) NOT NULL,
  -> DISTRICT VARCHAR(50) NOT NULL);
Query OK, 0 rows affected, 1 warning (1.82 sec)

mysql> SHOW TABLES;
+-----+
| Tables_in_jui |
+-----+
| STUDENT       |
+-----+
1 row in set (0.04 sec)
```

```
mysql> describe STUDENT;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID         | varchar(50)   | NO   |     | NULL    |       |
| NAME       | varchar(50)   | NO   |     | NULL    |       |
| AGE        | int           | NO   |     | NULL    |       |
| DISTRICT   | varchar(50)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.07 sec)
```

5) Insert data into table.

```
mysql> describe STUDENT;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID    | varchar(50)   | NO   |     | NULL    |       |
| NAME  | varchar(50)   | NO   |     | NULL    |       |
| AGE   | int           | NO   |     | NULL    |       |
| DISTRICT | varchar(50) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.07 sec)

mysql> insert into STUDENT(ID,NAME,AGE,DISTRICT) values ('IT-18039','JUI',21,'NARAYANGONJ');
Query OK, 1 row affected (0.23 sec)

mysql> insert into STUDENT(ID,NAME,AGE,DISTRICT) values('IT-18030','SUCHI','20','DHAKA');
Query OK, 1 row affected (0.15 sec)

mysql> insert into STUDENT(ID,NAME,AGE,DISTRICT) values('IT-18020','PIA',21,'DHAKA');
Query OK, 1 row affected (0.07 sec)

mysql> select *from STUDENT;
+-----+-----+-----+-----+
| ID      | NAME  | AGE | DISTRICT |
+-----+-----+-----+-----+
| IT-18039 | JUI   | 21  | NARAYANGONJ |
| IT-18030 | SUCHI | 20  | DHAKA      |
| IT-18020 | PIA   | 21  | DHAKA      |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

6) Alter table.

```
mysql> alter table STUDENT add HEALTH varchar(20);
Query OK, 0 rows affected (0.53 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	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 (1.38 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	NO		NULL	
DISTRICT	varchar(50)	NO		NULL	

4 rows in set (0.00 sec)

9) Update data of table.

```
mysql> update STUDENT
-> set NAME='TITHI'
-> where AGE=21;
Query OK, 2 rows affected (0.06 sec)
Rows matched: 2 Changed: 2 Warnings: 0
```

```
mysql> select *from STUDENT;
```

ID	NAME	AGE	DISTRICT
IT-18039	TITHI	21	NARAYANGONJ
IT-18030	SUCHI	20	DHAKA
IT-18020	TITHI	21	DHAKA

3 rows in set (0.00 sec)

10) Where and delete operation.

```
mysql> select *from STUDENT where AGE=21;
+-----+-----+-----+-----+
| ID      | NAME  | AGE  | DISTRICT |
+-----+-----+-----+-----+
| IT-18039 | TITHI | 21   | NARAYANGONJ |
| IT-18020 | TITHI | 21   | DHAKA      |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> delete from STUDENT where NAME='TITHI';
Query OK, 2 rows affected (0.38 sec)

mysql> select *from STUDENT;
+-----+-----+-----+-----+
| ID      | NAME  | AGE  | DISTRICT |
+-----+-----+-----+-----+
| IT-18030 | SUCHI | 20   | DHAKA     |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

Discussion :

Although it took me a while to install Mysql on linux because of some issues in the command line it was not difficult to solve the problem. We can work in Mysql through some command which is very easy in linux operating system. It manages memory very well.