Mawlana Bhashani Science and Technology University
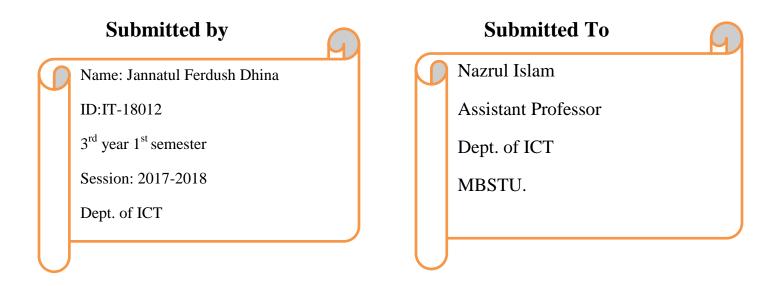
Lab-Report

Report No: 11

Course code: ICT-3110

Course title: Operating System Lab

Date of Performance: 24-09-2020

Date of Submission:

Reference: Tazneen Akter (The mother board of my laptop is suddenly damaged and for that, I wasn't able to do my lab (2,3,5,6). So I took her help).

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

```
File  Edit  View  Search  Terminal  Help
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ 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:
  efibootmgr gir1.2-geocodeglib-1.0 libegl1-mesa libfwup1 libllvm8 libllvm9
  libwayland-egl1-mesa linux-headers-5.0.0-23 linux-headers-5.0.0-23-generic
  linux-image-5.0.0-23-generic linux-modules-5.0.0-23-generic
  linux-modules-extra-5.0.0-23-generic ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libaio1 libevent-core-2.1-6 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 tinyca
The following NEW packages will be installed:
  libaio1 libevent-core-2.1-6 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, 9 newly installed, 0 to remove and 41 not upgraded.
Need to get 19.2 MB of archives.
After this operation, 155 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://bd.archive.ubuntu.com/ubuntu bionic/main amd64 mysql-common all 5.8+1.0.4 [7,308 B]
Get:2 http://bd.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libaio1 amd64 0.3.110-5ubuntu0.1 [6,476 B]
Get:3 http://bd.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-client-core-5.7 amd64 5.7.31-0ubuntu0.18.04.1 [6,653 kB]
Get:4 http://bd.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-client-5.7 amd64 5.7.31-0ubuntu0.18.04.1 [1,948 kB]
Get:5 http://bd.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-server-core-5.7 amd64 5.7.31-0ubuntu0.18.04.1 [7,452 kB]
Get:6 http://bd.archive.ubuntu.com/ubuntu bionic/main amd64 libevent-core-2.1-6 amd64 2.1.8-stable-4build1 [85.9 kB]
Get:7 http://bd.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-server-5.7 amd64 5.7.31-0ubuntu0.18.04.1 [2,931 kB]
Get:8 http://bd.archive.ubuntu.com/ubuntu bionic/main amd64 libhtml-template-perl all 2.97-1 [59.0 kB]
Get:9 http://bd.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-server all 5.7.31-0ubuntu0.18.04.1 [9,948 B]
Fetched 19.2 MB in 1min 21s (236 kB/s)
```

```
Terminal
File Edit View Search Terminal Help
Setting up libaio1:amd64 (0.3.110-5ubuntu0.1) ...
Setting up mysql-client-core-5.7 (5.7.31-0ubuntu0.18.04.1) ...
Setting up mysql-server-core-5.7 (5.7.31-0ubuntu0.18.04.1) ...
Setting up mysql-client-5.7 (5.7.31-0ubuntu0.18.04.1) ...
Setting up mysql-server-5.7 (5.7.31-0ubuntu0.18.04.1) ...
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)

Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service →/lib/systemd/system/mysql.service.
Setting up mysql-server (5.7.31-0ubuntu0.18.04.1) ...
Processing triggers for libc-bin (2.27-3ubuntu1.2) ...
Processing triggers for systemd (237-3ubuntu10.42) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ureadahead (0.100.0-21) ...
ureadahead will be reprofiled on next reboot
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ mysql_secure_installation

Securing the MySQL server deployment.
```

2) Log into MySQL by Linux

```
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 4
Server version: 5.7.31-0ubuntu0.18.04.1 (Ubuntu)

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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 (0.01 sec)

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

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

4) Insert data into table

```
mysql> insert into Student values('IT-18008','Rima',21,'Tangail');
Query OK, 1 row affected (0.08 sec)

mysql> insert into Student values('IT-18012','Dhina',21,'Netrokona');
Query OK, 1 row affected (0.10 sec)

mysql> insert into Student values('IT-18056','Tazneen',21,'Cumilla');
Query OK, 1 row affected (0.09 sec)

mysql> select *from Student;
+----------+---------+-----+-----------+
| ID       | NAME    | AGE | DISTRICT  |
+----------+---------+-----+-----------+
| IT-18008 | Rima    |  21 | Tangail   |
| IT-18012 | Dhina   |  21 | Netrokona |
| IT-18056 | Tazneen |  21 | Cumilla   |
+----------+---------+-----+-----------+
3 rows in set (0.00 sec)
```

5) Describe table

```
mysql> describe Student;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| ID       | varchar(20) | YES  |     | NULL    |       |
| NAME     | char(20)    | YES  |     | NULL    |       |
| AGE      | int(20)     | YES  |     | NULL    |       |
| DISTRICT | char(30)    | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

6) Alter table

```
mysql> alter table Student add Health varchar(20);
Query OK, 0 rows affected (0.86 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe Student;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| ID       | varchar(20) | YES  |     | NULL    |       |
| NAME     | char(20)    | YES  |     | NULL    |       |
| AGE      | int(20)     | YES  |     | NULL    |       |
| DISTRICT | char(30)    | YES  |     | NULL    |       |
| Health   | varchar(20) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

7) Modify table

```
mysql> alter table Student modify Health varchar(40);
Query OK, 0 rows affected (0.10 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe Student;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| ID       | varchar(20) | YES  |     | NULL    |       |
| NAME     | char(20)    | YES  |     | NULL    |       |
| AGE      | int(20)     | YES  |     | NULL    |       |
| DISTRICT | char(30)    | YES  |     | NULL    |       |
| Health   | varchar(40) | 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 (0.60 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe Student;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| ID       | varchar(20) | YES  |     | NULL    |       |
| NAME     | char(20)    | YES  |     | NULL    |       |
| AGE      | int(20)     | YES  |     | NULL    |       |
| DISTRICT | char(30)    | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

9) Update data of table

```
mysql> update Student
    -> set AGE=22
    -> where NAME='Rima';
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select *from Student;
+----------+---------+------+-----------+
| ID       | NAME    | AGE  | DISTRICT  |
+----------+---------+------+-----------+
| IT-18008 | Rima    |   22 | Tangail   |
| IT-18012 | Dhina   |   21 | Netrokona |
| IT-18056 | Tazneen |   21 | Cumilla   |
+----------+---------+------+-----------+
3 rows in set (0.00 sec)
```

10)   Where and delete operation

```
mysql> select *from Student where age = 21;
+-----------+----------+------+------------+
| ID        | NAME     | AGE  | DISTRICT   |
+-----------+----------+------+------------+
| IT-18012  | Dhina    |   21 | Netrokona  |
| IT-18056  | Tazneen  |   21 | Cumilla    |
+-----------+----------+------+------------+
2 rows in set (0.00 sec)
```

```
mysql> delete from Student where NAME='Rima';
Query OK, 1 row affected (0.08 sec)

mysql> select *from Student;
+-----------+----------+------+------------+
| ID        | NAME     | AGE  | DISTRICT   |
+-----------+----------+------+------------+
| IT-18012  | Dhina    |   21 | Netrokona  |
| IT-18056  | Tazneen  |   21 | Cumilla    |
+-----------+----------+------+------------+
2 rows in set (0.00 sec)
```

Discussion: 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.