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----------PRACTICAL 12----------

» Task 1 : Configure MariaDB server on server.example.com with below conditions:

a)Set the root password as "access" and block root access from remote hosts.

First of all let's install mariadb & mariadb-server:

```
[student@workstation ~]$ su root
Password:

(process:2872): dconf-WARNING **: 00:07:20.576: failed to commi
ection is closed
[root@workstation student]# yum install mariadb mariadb-server
Last metadata expiration check: 0:02:24 ago on Sun 10 Mar 2024
Dependencies resolved.
================================================================
 Package                Arch   Version              Repository
================================================================
Installing:
 mariadb                x86_64 3:10.3.17-1.module+el8.1.0+3974+
```

Commands :

```
su root
yum install mariadb mariadb-server
```

then start the mariadb service:

```
[root@workstation student]# service mariadb start
Redirecting to /bin/systemctl start mariadb.service
[root@workstation student]#
```

Command :

```
service mariadb start
```

Now let's configure mariadb:

```
[root@workstation student]# mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB
      SERVERS IN PRODUCTION USE!  PLEASE READ EACH STEP CAREFULLY!

In order to log into MariaDB to secure it, we'll need the current
password for the root user.  If you've just installed MariaDB, and
you haven't set the root password yet, the password will be blank,
so you should just press enter here.

Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password ensures that nobody can log into the MariaDB
root user without the proper authorisation.

Set root password? [Y/n] y
New password:
Re-enter new password:
Password updated successfully!
Reloading privilege tables..
 ... Success!
```

Command :

```
mysql_secure_installation
```

(Further configuration is in d)

b)Create a user "yourname" by password "password".

Login into mariadb:

Command :

```
mysql -u root -p
```

-u to give username -p to give password.

```
[root@workstation student]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 17
Server version: 10.3.17-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

Create user:

Query:

```
create user ‘tushar’@’localhost’ identified by ‘password’;
```

Here username is tushar password is 0000 and host is localhost.

```
MariaDB [(none)]> create user 'tushar'@'localhost' identified by 'password';
Query OK, 0 rows affected (0.001 sec)
```

Let’s check we successfully created user or not:

```
MariaDB [(none)]> select User,Host from mysql.user;
+--------+-----------+
| User   | Host      |
+--------+-----------+
| root   | 127.0.0.1 |
| root   | ::1       |
| root   | localhost |
| tushar | localhost |
+--------+-----------+
4 rows in set (0.001 sec)
```

c) Create another user with password as "@yourname".

Query :

```
create user ‘user1’@’localhost’ identified by ‘@tushar’;
```

```
MariaDB [(none)]> create user ‘user1’@’localhost’ identified by '@tushar';
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> select User,Host from mysql.user;
+-------------+-----------------+
| User        | Host            |
+-------------+-----------------+
| root        | 127.0.0.1       |
| root        | ::1             |
| root        | localhost       |
| tushar      | localhost       |
| ‘user1’     | ’localhost’     |
+-------------+-----------------+
5 rows in set (0.000 sec)
```

d) Only local hosts should have access to MariaDB server.

Now let's configure mariadb:

```
By default, a MariaDB installation has an anonymous user, allowing anyone
to log into MariaDB without having to have a user account created for
them.  This is intended only for testing, and to make the installation
go a bit smoother.  You should remove them before moving into a
production environment.

Remove anonymous users? [Y/n] y
 ... Success!

Normally, root should only be allowed to connect from 'localhost'.  This
ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n] y
 ... Success!

By default, MariaDB comes with a database named 'test' that anyone can
access.  This is also intended only for testing, and should be removed
before moving into a production environment.

Remove test database and access to it? [Y/n] y
 - Dropping test database...
 ... Success!
 - Removing privileges on test database...
 ... Success!
```

```
Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n] y
 ... Success!

Cleaning up...

All done!  If you've completed all of the above steps, your MariaDB
installation should now be secure.

Thanks for using MariaDB!
[root@workstation student]#
```

Command :

```
mysql_secure_installation
```

» Task 2 : Do the Security setting of the Maria DB and ensure that remote access of the db is enabled and anonymous user access is denied.

For task 2 we have to configure mariadb:

```
[root@workstation student]# mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB
      SERVERS IN PRODUCTION USE!  PLEASE READ EACH STEP CAREFULLY!

In order to log into MariaDB to secure it, we'll need the current
password for the root user.  If you've just installed MariaDB, and
you haven't set the root password yet, the password will be blank,
so you should just press enter here.

Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password ensures that nobody can log into the MariaDB
root user without the proper authorisation.

You already have a root password set, so you can safely answer 'n'.

Change the root password? [Y/n] n
 ... skipping.

By default, a MariaDB installation has an anonymous user, allowing anyone
to log into MariaDB without having to have a user account created for
them.  This is intended only for testing, and to make the installation
go a bit smoother.  You should remove them before moving into a
production environment.

Remove anonymous users? [Y/n] y
 ... Success!

Normally, root should only be allowed to connect from 'localhost'.  This
ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n] n
 ... skipping.
```

```
Disallow root login remotely? [Y/n] n
 ... skipping.

By default, MariaDB comes with a database named 'test' that anyone can
access.  This is also intended only for testing, and should be removed
before moving into a production environment.

Remove test database and access to it? [Y/n] n
 ... skipping.

Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n] y
 ... Success!

Cleaning up...

All done!  If you've completed all of the above steps, your MariaDB
installation should now be secure.

Thanks for using MariaDB!
[root@workstation student]#
```

Command :

`mysql_secure_installation`

» Task 3 : Create 2 database named - Batch61 and yourname_first4digitofyourenrollemntno. Each database has 3 tables present in it and tables must have atleast 5 entries.

Login into mariadb:

Command :

```
mysql -u root -p
```

then let's create 2 db(database):

Query :

```
create database batch61;
create database tushar_2116;
```

```
[root@workstation student]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 28
Server version: 10.3.17-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> create database batch61;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]> create database tushar_2116;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]>
```

Creating table1 & Inserting data using batch61 DB :

```
MariaDB [(none)]> use batch61
Database changed
MariaDB [batch61]> create table table1 (id INT,roll_no INT,name VARCHAR(50));
Query OK, 0 rows affected (0.017 sec)

MariaDB [batch61]> insert into table1 values(1,14,'Tushar'),(2,20,'John'),(3,24,'Charlie'),
(4,21,'Bob'),(5,28,'Ghost');
Query OK, 5 rows affected (0.007 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

Queries :

```
use batch61;
create table table1 (id INT,roll_no INT,name VARCHAR(50));
```

```
insert into table1
values(1,20,'tushar'),(2,20,'John'),(3,24,'Charlie'),(4,21,'Bob'
),(5,28,'Ghost');
```

reading data from **table 1 batch61** DB :

```
MariaDB [batch61]> select * from table1;
+------+---------+---------+
| id   | roll_no | name    |
+------+---------+---------+
|    1 |      14 | Tushar  |
|    2 |      20 | John    |
|    3 |      24 | Charlie |
|    4 |      21 | Bob     |
|    5 |      28 | Ghost   |
+------+---------+---------+
5 rows in set (0.004 sec)
```

Query :

```
select * from table1;
```

Creating **table2** & Inserting data using **batch61** DB and reading data :

```
MariaDB [batch61]> create table table2 (id INT,roll_no INT,name VARCHAR(50));
Query OK, 0 rows affected (0.018 sec)

MariaDB [batch61]> insert into table2 values(1,14,'Tushar'),(2,20,'John'),(3,24,'Charlie'),
(4,21,'Bob'),(5,28,'Ghost');
Query OK, 5 rows affected (0.004 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [batch61]> select * from table2;
+------+---------+---------+
| id   | roll_no | name    |
+------+---------+---------+
|    1 |      14 | Tushar  |
|    2 |      20 | John    |
|    3 |      24 | Charlie |
|    4 |      21 | Bob     |
|    5 |      28 | Ghost   |
+------+---------+---------+
5 rows in set (0.000 sec)
```

Query :

```
create table table2 (id INT,roll_no INT,name VARCHAR(50));
```

```
insert into table2
values(1,20,'tushar'),(2,20,'John'),(3,24,'Charlie'),(4,21,'Bob'
),(5,28,'Ghost');
```

```
select * from table2;
```

Creating **table3** & Inserting data using **batch61** DB and reading data :

```
MariaDB [batch61]> create table table3 (enroll_no INT,marks INT,email VARCHAR(50));
Query OK, 0 rows affected (0.038 sec)

MariaDB [batch61]> insert into table3 values(14,100,'tushar@gnu.ac.in'),(20,34,'john@gnu.ac
.in'),(24,25,'charlie@gnu.ac.in'),(21,35,'bob@gnu.ac.in'),(28,45,'ghost@gnu.ac.in');
Query OK, 5 rows affected (0.008 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [batch61]> select * from table3;
+-----------+-------+------------------+
| enroll_no | marks | email            |
+-----------+-------+------------------+
|        14 |   100 | tushar@gnu.ac.in |
|        20 |    34 | john@gnu.ac.in   |
|        24 |    25 | charlie@gnu.ac.in |
|        21 |    35 | bob@gnu.ac.in    |
|        28 |    45 | ghost@gnu.ac.in  |
+-----------+-------+------------------+
5 rows in set (0.000 sec)
```

Query :

```
create table table3 (enroll_no INT,marks INT,email VARCHAR(50));

insert into table3 values(20,100,'tushar@gnu.ac.in'),(20,34'john@gnu.ac.in'),(24,25,'charlie@gnu.ac.in'),(21,35,'bob@gnu.ac.in'),(28,45,'ghost@gnu.ac.in');

select * from table3;
```

Now creating tables and inserting data for tushar_2116 DB :

Creating **table1** & Inserting data using **tushar_2116** DB and reading data :

Query :

```
use tushar_2116;

create table table1 (id INT,roll_no INT,name VARCHAR(50));

insert into table1 values(1,20,'tushar'),(2,20,'John'),(3,24,'Charlie'),(4,21,'Bob'),(5,28,'Ghost');

select * from table1;
```

```
MariaDB [batch61]> use tushar_2116
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [tushar_2116]> create table table1 (id INT,roll_no INT,name VARCHAR(50));
Query OK, 0 rows affected (0.026 sec)

MariaDB [tushar_2116]> insert into table1 values(1,14,'Tushar'),(2,20,'John'),(3,24,'Charli
e'),(4,21,'Bob'),(5,28,'Ghost');
Query OK, 5 rows affected (0.004 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [tushar_2116]> select * from table1;
+------+---------+---------+
| id   | roll_no | name    |
+------+---------+---------+
|    1 |      14 | Tushar  |
|    2 |      20 | John    |
|    3 |      24 | Charlie |
|    4 |      21 | Bob     |
|    5 |      28 | Ghost   |
+------+---------+---------+
5 rows in set (0.000 sec)
```

Creating **table2** & Inserting data using **tushar_2116** DB and reading data :

```
MariaDB [tushar_2116]> create table table2 (enroll_no INT,marks INT,name VARCHAR(50));
Query OK, 0 rows affected (0.019 sec)

MariaDB [tushar_2116]> insert into table2 values(14,100,'Tushar'),(20,34,'John'),(24,25,'Ch
arlie'),(21,35,'Bob'),(28,45,'Ghost');
Query OK, 5 rows affected (0.006 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [tushar_2116]> select * from table2;
+-----------+-------+---------+
| enroll_no | marks | name    |
+-----------+-------+---------+
|        14 |   100 | Tushar  |
|        20 |    34 | John    |
|        24 |    25 | Charlie |
|        21 |    35 | Bob     |
|        28 |    45 | Ghost   |
+-----------+-------+---------+
5 rows in set (0.000 sec)
```

Query :

```
create table table2 (enroll_no INT,marks INT,tushar VARCHAR(50));

insert into table3 values(20,100,'Tushar),(20,34'John'),(24,25,'Charlie'),(21,35,'Bob'),(28,45,'Ghost');

select * from table2;
```

Creating **table3** & Inserting data using **tushar_2116** DB and reading data :

```
MariaDB [tushar_2116]> create table table3 (enroll_no INT,marks INT,email VARCHAR(50));
Query OK, 0 rows affected (0.015 sec)

MariaDB [tushar_2116]> insert into table3 values(14,100,'tushar@gnu.ac.in'),(20,34,'john@gn
u.ac.in'),(24,25,'charlie@gnu.ac.in'),(21,35,'bob@gnu.ac.in'),(28,45,'ghost@gnu.ac.in');
Query OK, 5 rows affected (0.004 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [tushar_2116]> select * from table3;
+-----------+-------+------------------+
| enroll_no | marks | email            |
+-----------+-------+------------------+
|        14 |   100 | tushar@gnu.ac.in |
|        20 |    34 | john@gnu.ac.in   |
|        24 |    25 | charlie@gnu.ac.in |
|        21 |    35 | bob@gnu.ac.in    |
|        28 |    45 | ghost@gnu.ac.in  |
+-----------+-------+------------------+
5 rows in set (0.000 sec)
```

Queries :

```
create table table3 (enroll_no INT,marks INT,email VARCHAR(50));

insert into table3 values(20,100,'tushar@gnu.ac.in'),(20,34'john@gnu.ac.in'),(24,25,'charlie@gnu.ac.in'),(21,35,'bob@gnu.ac.in'),(28,45,'ghost@gnu.ac.in');

select * from table3;
```

- **Task 4 : One user must be having the access to both the database while another user should have the read access to one database and read and write access to another database.**

Grant all privileges to one user:

Command :

```
grant all privileges on *.* to 'tushar'@'localhost' identified by 'password';
```

To provide read access to one DB:

Command :

```
grant select on batch61.* to 'user1'@'localhost' identified by '@tushar';
```

To give write access just add insert with select and give the DB name:

Command :

```
grant select,insert on Tushar_2116.* to ‘user1’@’localhost’ identified by ‘@tushar’;
```

```
MariaDB [tushar_2116]> grant all privileges on *.* to ‘tushar’@’localhost’ identified by 'password';
Query OK, 0 rows affected (0.001 sec)

MariaDB [tushar_2116]> grant select on batch61.* to 'user1'@'localhost' identified by '@tushar';
Query OK, 0 rows affected (0.002 sec)

MariaDB [tushar_2116]> grant select,insert on tushar_2116.* to 'user1'@'localhost' identified by '@tushar';
Query OK, 0 rows affected (0.001 sec)
```

Here is the explaintion :

- The first command grants all privileges on all databases to the user 'tushar'.
- The second command grants only the **SELECT** privilege on the 'batch61' database to the user 'user1'.
- The third command grants both **SELECT** and **INSERT** privileges on the 'Tushar_2116' database to the user 'user1'.

Now login into **user1** and try to use select and **insert** query :

```
[root@workstation student]# mysql -u user1 -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 35
Server version: 10.3.17-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> use batch61
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [batch61]> select * from table1;
+------+---------+---------+
| id   | roll_no | name    |
+------+---------+---------+
|    1 |      14 | Tushar  |
|    2 |      20 | John    |
|    3 |      24 | Charlie |
|    4 |      21 | Bob     |
|    5 |      28 | Ghost   |
+------+---------+---------+
5 rows in set (0.000 sec)

MariaDB [batch61]> insert into table1 values(21,007,'Devloper');
ERROR 1142 (42000): INSERT command denied to user 'user1'@'localhost' for table 'table1'
MariaDB [batch61]>
```

Command & queries :

```
mysql -u user1 -p
use batch61
select * from table1;
insert into table1 values(21,007,’devloper’);
```

As you can see we can use only select query if we tried to use insert query it is showing access denied.

Now login into **tushar** and try to use select and insert queries :

```
[root@workstation student]# mysql -u tushar -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 14
Server version: 10.3.17-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> use batch61
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [batch61]> select * from table1;
+------+---------+---------+
| id   | roll_no | name    |
+------+---------+---------+
|    1 |      14 | Tushar  |
|    2 |      20 | John    |
|    3 |      24 | Charlie |
|    4 |      21 | Bob     |
|    5 |      28 | Ghost   |
+------+---------+---------+
5 rows in set (0.001 sec)

MariaDB [batch61]> insert into table1 values(24,135,'Devloper');
Query OK, 1 row affected (0.005 sec)
```

```
MariaDB [batch61]> select * from table1;
+------+---------+----------+
| id   | roll_no | name     |
+------+---------+----------+
|    1 |      14 | Tushar   |
|    2 |      20 | John     |
|    3 |      24 | Charlie  |
|    4 |      21 | Bob      |
|    5 |      28 | Ghost    |
|   24 |     135 | Devloper |
+------+---------+----------+
6 rows in set (0.000 sec)
```

Command & queries :

```
mysql -u tushar -p
use batch61
select * from table1;
insert into table1 values(21,007,’devloper’);
```

As you can see we can use all queries on tushar user.

- **Task 5 : Create a third user and that user should have only the access to two tables present in Batch61 database.**

Make an user and grant access:

```
MariaDB [(none)]> CREATE USER 'user3'@'localhost' IDENTIFIED BY 'password';
Query OK, 0 rows affected (0.000 sec)

MariaDB [(none)]> GRANT SELECT ON batch61.table1 TO 'user3'@'localhost';
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> GRANT SELECT ON batch61.table2 TO 'user3'@'localhost';
Query OK, 0 rows affected (0.000 sec)
```

Commands :

```
mysql -u root -p
CREATE USER 'user3'@'localhost' IDENTIFIED BY ‘password';
GRANT SELECT ON batch61.table1 TO 'user3'@'localhost';
GRANT SELECT ON batch61.table2 TO 'user3'@'localhost';
```

```
[root@workstation student]# mysql -u user3 -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 31
Server version: 10.3.17-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> use batch61
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [batch61]> select * from table1;
+------+---------+----------+
| id   | roll_no | name     |
+------+---------+----------+
|    1 |      14 | Tushar   |
|    2 |      20 | John     |
|    3 |      24 | Charlie  |
|    4 |      21 | Bob      |
|    5 |      28 | Ghost    |
|   24 |     135 | Devloper |
+------+---------+----------+
6 rows in set (0.000 sec)
```

```
MariaDB [batch61]> select * from table2;
+------+---------+---------+
| id   | roll_no | name    |
+------+---------+---------+
|    1 |      14 | Tushar  |
|    2 |      20 | John    |
|    3 |      24 | Charlie |
|    4 |      21 | Bob     |
|    5 |      28 | Ghost   |
+------+---------+---------+
5 rows in set (0.000 sec)
```

» Task 6 : Demonstrate how to check the privilege details of users. (show the privileges assigned to all the users).

Theres two ways to see the privilege details of users:

```
MariaDB [(none)]> show grants for 'tushar'@'localhost';
+-----------------------------------------------------------------------------------------
-----------------------------------------+
| Grants for 'tushar'@'localhost'
                                         |
+-----------------------------------------------------------------------------------------
-----------------------------------------+
| GRANT ALL PRIVILEGES ON *.* TO ''tushar''@''localhost'' IDENTIFIED BY PASSWORD '*2470C0C0
6DEE42FD1618BB99005ADCA2EC9D1E19'        |
+-----------------------------------------------------------------------------------------
-----------------------------------------+
1 row in set (0.001 sec)
```

Command :

```
show grants for 'user'@'host';
```

```
MariaDB [(none)]> select USER, Select_priv, Insert_priv,  Update_priv, Delete_priv from mys
ql.user;
+--------------+-------------+-------------+-------------+-------------+
| USER         | Select_priv | Insert_priv | Update_priv | Delete_priv |
+--------------+-------------+-------------+-------------+-------------+
| root         | Y           | Y           | Y           | Y           |
| tushar       | N           | N           | N           | N           |
| root         | Y           | Y           | Y           | Y           |
| root         | Y           | Y           | Y           | Y           |
| 'user1'      | N           | N           | N           | N           |
| 'tushar'     | Y           | Y           | Y           | Y           |
| user1        | N           | N           | N           | N           |
| 'user2'      | N           | N           | N           | N           |
| 'user007'    | N           | N           | N           | N           |
| 'james'      | N           | N           | N           | N           |
| user3        | N           | N           | N           | N           |
+--------------+-------------+-------------+-------------+-------------+
11 rows in set (0.000 sec)
```

Command :

```
select USER, Select_priv, Insert_priv, Update_priv, Delete_priv
from mysql.user;
```

» Task 7 : Demonstrate how to revoke a single permission of a user.

this will revoke select privileges of user1 from all tables of **batch61** database:

```
MariaDB [(none)]> revoke SELECT on batch61.* from 'user1'@'localhost';
Query OK, 0 rows affected (0.000 sec)
```

Command :

```
revoke SELECT on batch61.* from 'user1'@'localhost';
```

» Task 8 : Set up a default secure MariaDB database called "result" with a user "yourname"with all privileges. In this database, create one simple table with name "students" that allow to store names varchar(20) and their marks int(10). Enter two students with their marks.

First of all let's create result database then create students table and insert values into it then read it:

```
MariaDB [(none)]> create database result;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]> use result
Database changed
MariaDB [result]> create table students (name VARCHAR(20),marks INT(10));
Query OK, 0 rows affected (0.020 sec)

MariaDB [result]> insert into students values('tushar',69),('user2',56);
Query OK, 2 rows affected (0.005 sec)
Records: 2  Duplicates: 0  Warnings: 0

MariaDB [result]> select * from students;
+--------+-------+
| name   | marks |
+--------+-------+
| tushar |    69 |
| user2  |    56 |
+--------+-------+
2 rows in set (0.000 sec)
```

Commands :

```
create database result;
use result
```

```
create table students (name VARCHAR(20),marks INT(10));
insert into students values('tushar',69),('user2',56);
select * from students;
```

» Task 9 : Demonstrate how to update the records of the table using any user except root user.

here SET is the new value and we can select the row using WHERE condition; so **id** set to **10** for **roll_no 14**:

```
MariaDB [result]> use batch61
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [batch61]> update table1 set id=10 where roll_no=14;
Query OK, 1 row affected (0.004 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [batch61]> select * from table1;
+------+---------+----------+
| id   | roll_no | name     |
+------+---------+----------+
|   10 |      14 | Tushar   |
|    2 |      20 | John     |
|    3 |      24 | Charlie  |
|    4 |      21 | Bob      |
|    5 |      28 | Ghost    |
|   24 |     135 | Devloper |
+------+---------+----------+
6 rows in set (0.000 sec)
```

Commands :

```
update table1 set id=10 where roll_no=14;
select * from table1;
```

» Task 10 : Delete the create user.

To delete a user we can user drop query :

```
MariaDB [(none)]> drop user 'user2'@'localhost';
Query OK, 0 rows affected (0.001 sec)
```

Command :

```
drop user 'user'@'localhost';
```

You can see here **user2** has been deleted :

```
MariaDB [(none)]> select user from mysql.user;
+--------------+
| user         |
+--------------+
| root         |
| root         |
| root         |
| tushar       |
| user1        |
| user3        |
| 'tushar'     |
| 'user1'      |
+--------------+
8 rows in set (0.001 sec)
```

» Task 11 : Backup the database with mysqldump to /root/result.dump.

We can perform this using mysqldump command :

Here **-u** is used to specify mariadb user and **-p** to provide password.

Batch61 is the database that we want to backup. **/root/result.dump** is the file path where the data will be stored.

cat to see that our backup is successful or not.

```
[root@workstation student]# mysqldump -u root -p batch61 > /root/result.dump
Enter password:
[root@workstation student]# cat /root/result.dump
-- MySQL dump 10.17  Distrib 10.3.17-MariaDB, for Linux (x86_64)
--
-- Host: localhost    Database: batch61
-- ------------------------------------------------------
-- Server version       10.3.17-MariaDB

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
```

Commands :

```
mysqldump -u root -p batch61 > /root/result.dump
cat /root/result.dump
```

» Task 12 : Create another user and provide the privilege to just update the information.

First of all let's create new user and provide update privilege:

```
MariaDB [(none)]> create user 'user4'@'localhost' identified by 'user4';
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> grant UPDATE on *.* to 'user4'@'localhost' identified by 'user4';
Query OK, 0 rows affected (0.001 sec)
```

Commands :

```
mysql -u root -p
create user 'user4'@'localhost' identified by 'user4';
grant UPDATE on *.* to 'user4'@'localhost' identified by 'user4';
```

» Task 13 : Delete the create table, also demonstrate how to perform update operation on the values on the table.

To delete a table use drop query:

```
MariaDB [(none)]> use batch61
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [batch61]> drop table table1;
Query OK, 0 rows affected (0.016 sec)
```

Commands :

```
drop table table1;
update table1 set id=10 where roll_no=14;
```

```
MariaDB [batch61]> update table1 set id=10 where roll_no=14;
Query OK, 1 row affected (0.004 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [batch61]> select * from table1;
+------+---------+----------+
| id   | roll_no | name     |
+------+---------+----------+
|   10 |      14 | Tushar   |
|    2 |      20 | John     |
|    3 |      24 | Charlie  |
|    4 |      21 | Bob      |
|    5 |      28 | Ghost    |
|   24 |     135 | Devloper |
+------+---------+----------+
6 rows in set (0.000 sec)
```

» Task 14 : Demonstrate how to delete the database along with the table present in it.

If we delete a database the table inside will get deleted so, we only need to delete the database.

We can delete database using **drop** query:

```
MariaDB [(none)]> drop database tushar_2116;
Query OK, 3 rows affected (0.036 sec)
```

Command :

```
drop database tushar_2116;
```

here **tushar_2116** is the database name which i want to delete.

As you can see here **tushar_2116** DB has been deleted successfully:

```
MariaDB [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| batch61            |
| information_schema |
| mysql              |
| performance_schema |
| result             |
+--------------------+
5 rows in set (0.001 sec)
```

Command :

```
show databases;
```