

Module:- SECURITY CONCEPT

(Mysql_mariadb)

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Lab Assignments:

Database:- A database is an organized collection of data stored and accessed electronically.

--> **The data can be easily accessed, managed, modified and most databases use "Structured Query Language" (SQL) for writing and querying data.**

-->**SQL is a programming language used by nearly all relational databases to query, manipulate and define data and to provide access control.**

-->**Database vs spreadsheet**

Spreadsheets were originally designed for one user, their characteristics reflect that. It is great for a single user or small number of users who don't need to do a lot of incredibly complicated data manipulation.

Databases are designed to hold a much larger collection of organized information in massive amounts, it also allows multiple users at the same time to quickly and securely access and query the data using highly complex logic and language.

-->**We have server in this we install database server**

-->**Inside the database server we have multiple databases and each database can have multiple tables**

-->**Tables contain row and columns and the intersection of row and column**

-->**we called it a cell in excel and tuple in SQL.**

-->**We put data in cells as attributes or records .**

Commonly known use database applications

MySQL

MySQL Workbench

MariaDB

MangoDB

Oracle SQL Developer

SQLite

MSSQL

ADMINER

PostgreSQL

Redis

Neo4j

BigchainDb

OrientDB

FirebirdDB

By using SQL

1. Create a Database with yourname_prn

2. Create a table :-

MAC (Primary KEY)	Open Port No.	IP	Address
OS	Running Service	Version	

3. Show all the commands

Step 1:- Install Database Server (SQL)

#sudo apt-get install mariadb-server

```
prithvi@prithvi-virtual-machine:~$ sudo apt-get install mariadb-server
[sudo] password for prithvi:
Sorry, try again.
[sudo] password for prithvi:
Reading package lists... Done
```

Step 2:- After installation access the database server

\$sudo mysql -u root -p

```
prithvi@prithvi-virtual-machine:~$ sudo mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 31
```

Step-3:-Every database can have their own user.

How to view the database?

[(none)]>SHOW DATABASES;

```
MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database      |
+-----+
| information_schema |
| mysql          |
| performance_schema |
| sys            |
+-----+
4 rows in set (0.021 sec)
```

Step-4:- --> Commands are not case sensitive in the SQL which mean we can type either in capital or small letter but the object name or table, column etc all those things are case sensitive.

--> For the best practice all keywords should use in capital letters

How can create a new database?

CREATE DATABASE IF NOT EXISTS PRITHVI_10;

PRITHVI_10--> Database name

```
MariaDB [(none)]> CREATE DATABASE PRITHVI_10;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database      |
+-----+
| PRITHVI_10    |
| SYSTEM        |
| information_schema |
| mysql          |
| performance_schema |
| sys            |
+-----+
6 rows in set (0.001 sec)
```

Step-5:- #How to attach or access the database?

```
USE PRITHVI_10;
```

```
MariaDB [(none)]> USE PRITHVI_10;
Database changed
```

How to show the attached or current in use database

```
> SELECT database();
```

```
MariaDB [EMPLOYEE]> SELECT DATABASE();
+-----+
| DATABASE() |
+-----+
| EMPLOYEE   |
+-----+
1 row in set (0.000 sec)
```

```
MariaDB [EMPLOYEE]> █
```

Step-6:-How to list the tables in the database?

```
SHOW TABLES;
```

#How to Create table

#How to Create table

```
MariaDB [PRITHVI_10]> CREATE TABLE SYSTEM (
```

```
-> id int(5) NOT NULL AUTO_INCREMENT,
->mac varchar(50) NOT NULL,
->ip_address varchar(50) NOT NULL,
->openport_no varchar(50) NOT NULL,
->os varchar(40) NOT NULL,
->running_service varchar(50) NOT NULL,
->version varchar(30) NOT NULL,
-> PRIMARY KEY(mac),
-> UNIQUE(id));
```

Query OK, 0 rows affected (0.024 sec)

```
MariaDB [PRITHVI_10]> CREATE TABLE SYSTEM(id int(5) NOT NULL AUTO_INCREMENT,mac
    varchar(50) NOT NULL,openport_no varchar(20) NOT NULL,ip_address varchar(50) N
    OT NULL,os varchar(40) NOT NULL,running_service varchar(50) NOT NULL,version va
    rchar(20),PRIMARY KEY(mac),UNIQUE(id));
Query OK, 0 rows affected (0.027 sec)
```

Step-7:- How to view the table structure

> DESC users;

```
MariaDB [PRITHVI_10]> DESC SYSTEM;
+-----+-----+-----+-----+-----+
| Field      | Type       | Null | Key  | Default | Extra          |
+-----+-----+-----+-----+-----+
| id         | int(5)     | NO   | UNI  | NULL    | auto_increment |
| mac        | varchar(50) | NO   | PRI   | NULL    |                |
| openport_no | varchar(20) | NO   |       | NULL    |                |
| ip_address | varchar(50) | NO   |       | NULL    |                |
| os          | varchar(40) | NO   |       | NULL    |                |
| running_service | varchar(50) | NO   |       | NULL    |                |
| version     | varchar(20) | YES  |       | NULL    |                |
+-----+-----+-----+-----+-----+
7 rows in set (0.007 sec)

MariaDB [PRITHVI_10]> █
```

Step-8:- How to insert or add the data into the table

```
MariaDB [PRITHVI_10]> INSERT INTO SYSTEM VALUES(1,'AB:8B:45:0C:FF:69','80','192
    .168.3.88','KALI_LINUX','httpds','4.2.0');
Query OK, 1 row affected (0.006 sec)

MariaDB [PRITHVI_10]> INSERT INTO SYSTEM VALUES(2,'DE:00:35:FC:FF:69','25','192
    .168.3.105','CENT_OS','smtps','4.3.3');
Query OK, 1 row affected (0.001 sec)

MariaDB [PRITHVI_10]> INSERT INTO SYSTEM VALUES(3,'1F:0D:22:8B:AA:56','53','192
    .168.3.47','UBUNTU','BIND','2.3.0');
Query OK, 1 row affected (0.001 sec)
```

Step-9:-How to show the records or data in the tables

SELECT * FROM SYSTEM;

```
MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+---+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version |
+---+-----+-----+-----+-----+-----+
| 3 | 1F:0D:22:8B:AA:56 | 53 | 192.168.3.47 | UBUNTU | BIND | 2.3.0 |
| 1 | AB:8B:45:0C:FF:69 | 80 | 192.168.3.88 | KALI_LINUX | httpd | 4.2.0 |
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.105 | CENT_OS | smtp | 4.3.3 |
+---+-----+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [PRITHVI_10]>
```

**SELECT id,mac,openport_no,ip_address,os,running_service,version
FROM SYSTEM;**

```
MariaDB [PRITHVI_10]> SELECT id,mac,openport_no,ip_address,os,running_service,version FROM SYSTEM;
+---+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version |
+---+-----+-----+-----+-----+-----+
| 3 | 1F:0D:22:8B:AA:56 | 53 | 192.168.3.47 | UBUNTU | BIND | 2.3.0 |
| 1 | AB:8B:45:0C:FF:69 | 80 | 192.168.3.88 | KALI_LINUX | httpd | 4.2.0 |
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.105 | CENT_OS | smtp | 4.3.3 |
+---+-----+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [PRITHVI_10]>
```

**SELECT id,mac,openport_no,ip_address,os,running_service,version
FROM SYSTEM WHERE id=2;**

```
MariaDB [PRITHVI_10]> SELECT id,mac,openport_no,ip_address,os,running_service,version FROM SYSTEM WHERE id=2;
+---+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version |
+---+-----+-----+-----+-----+-----+
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.105 | CENT_OS | smtp | 4.3.3 |
+---+-----+-----+-----+-----+-----+
1 row in set (0.003 sec)

MariaDB [PRITHVI_10]>
```

Step-10:- How to update the existing records in the table

UPDATE users SET ip_address='192.168.3.223' WHERE id=3;

```

MariaDB [PRITHVI_10]> SELECT id,mac,openport_no,ip_address,os,running_service,version FROM SYSTEM WHERE id=2;
+-----+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version |
+-----+-----+-----+-----+-----+-----+
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.105 | CENT_OS | smtps | 4.3.3 |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.003 sec)

MariaDB [PRITHVI_10]> UPDATE SYSTEM SET ip_address='192.168.3.223' WHERE id=2;
Query OK, 1 row affected (0.004 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+-----+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version |
+-----+-----+-----+-----+-----+-----+
| 3 | 1F:0D:22:8B:AA:56 | 53 | 192.168.3.47 | UBUNTU | BIND | 2.3.0 |
| 1 | AB:8B:45:0C:FF:69 | 80 | 192.168.3.88 | KALI_LINUX | httpd | 4.2.0 |
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.223 | CENT_OS | smtps | 4.3.3 |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.000 sec)

MariaDB [PRITHVI_10]>

```

Step-11:-How to modify the table structure:-

```

ALTER TABLE SYSTEM ADD COLUMN status varchar(20) NOT NULL AFTER version;

```

```

MariaDB [PRITHVI_10]> ALTER TABLE SYSTEM ADD COLUMN status varchar(20) NOT NULL AFTER version;
Query OK, 0 rows affected (0.017 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+-----+-----+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version | status |
+-----+-----+-----+-----+-----+-----+-----+
| 3 | 1F:0D:22:8B:AA:56 | 53 | 192.168.3.47 | UBUNTU | BIND | 2.3.0 | |
| 1 | AB:8B:45:0C:FF:69 | 80 | 192.168.3.88 | KALI_LINUX | httpd | 4.2.0 | |
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.223 | CENT_OS | smtps | 4.3.3 | |
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [PRITHVI_10]>

```

Step-12:-

```

ALTER TABLE SYSTEM MODIFY os varchar(50) NOT NULL;

```

```

prithvi@prithvi-virtual-machine: ~      prithvi@prithvi-virtual-machine: ~
+-----+-----+-----+-----+
| os      | varchar(40) | NO   | NULL |
| running_service | varchar(50) | NO   | NULL |
| version    | varchar(20)  | YES  | NULL |
| status     | varchar(20)  | NO   | NULL |
+-----+-----+-----+-----+
8 rows in set (0.002 sec)

MariaDB [PRITHVI_10]> ALTER TABLE SYSTEM MODIFY os varchar(50);
Query OK, 0 rows affected (0.019 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+-----+-----+-----+-----+-----+-----+-----+-----+
| id   | mac        | openport_no | ip_address | os       | running_service | version | status |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 3   | 1F:0D:22:8B:AA:56 | 53          | 192.168.3.47 | UBUNTU   | BIND        | 2.3.0   |
| 1   | AB:8B:45:0C:FF:69 | 80          | 192.168.3.88 | KALI_LINUX | httpd$      | 4.2.0   |
| 2   | DE:00:35:FC:FF:69 | 25          | 192.168.3.223 | CENT_OS  | smtp$       | 4.3.3   |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [PRITHVI_10]> DESC SYSTEM;
+-----+-----+-----+-----+-----+-----+
| Field    | Type     | Null | Key | Default | Extra           |
+-----+-----+-----+-----+-----+-----+
| id       | int(5)   | NO  | UNI | NULL    | auto_increment |
| mac      | varchar(50)| NO  | PRI | NULL    |                |
| openport_no | varchar(20)| NO  |     | NULL    |                |
| ip_address | varchar(50)| NO  |     | NULL    |                |
| os       | varchar(50)| YES |     | NULL    |                |
| running_service | varchar(50)| NO  |     | NULL    |                |
| version    | varchar(20)| YES |     | NULL    |                |
| status     | varchar(20)| NO  |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.001 sec)

```

Step-13:- How to update in the existing records;

UPDATE SYSTEM SET status='yes' WHERE id=1;

UPDATE SYSTEM SET status='no' WHERE id=2;

UPDATE SYSTEM SET status='yes' WHERE id=3;

```

MariaDB [PRITHVI_10]> UPDATE SYSTEM SET status='YES' WHERE id=1;
Query OK, 1 row affected (0.002 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [PRITHVI_10]> UPDATE SYSTEM SET status='NO' WHERE id=2;
Query OK, 1 row affected (0.001 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [PRITHVI_10]> UPDATE SYSTEM SET status='YES' WHERE id=3;
Query OK, 1 row affected (0.001 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+---+-----+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version | status |
+---+-----+-----+-----+-----+-----+-----+
| 3 | 1F:0D:22:8B:AA:56 | 53 | 192.168.3.47 | UBUNTU | BIND | 2.3.0 | YES |
| 1 | AB:8B:45:0C:FF:69 | 80 | 192.168.3.88 | KALI_LINUX | httpd | 4.2.0 | YES |
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.223 | CENT_OS | smtps | 4.3.3 | NO |
+---+-----+-----+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [PRITHVI_10]>

```

Step-14:- How to take backup of the database

mysqldump --user root SYSTEM > SYSTEM_BACKUP.txt

SYSTEM:- database name

SYSTEM_BACKUP.txt :- file name

```

prithvi@prithvi-virtual-machine:~$ ls
Desktop  Downloads  Pictures  snap      Videos
Documents  Music      Public    Templates
prithvi@prithvi-virtual-machine:~$ sudo mysqldump --user root SYSTEM > SYSTEM_B
ACKUP.txt
[sudo] password for prithvi:
prithvi@prithvi-virtual-machine:~$ ls
Desktop  Downloads  Pictures  snap      Templates
Documents  Music      Public    SYSTEM_BACKUP.txt  Videos
prithvi@prithvi-virtual-machine:~$ 

```

#cat SYSTEM_BACKUP.txt

```

prithvi@prithvi-virtual-machine:~$ cat SYSTEM_BACKUP.txt
-- MariaDB dump 10.19 Distrib 10.6.11-MariaDB, for debian-linux-gnu (x86_64)
--
-- Host: localhost      Database: SYSTEM
-- 
-- Server version      10.6.11-MariaDB-0ubuntu0.22.04.1

/*!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 */;
/*!40101 SET NAMES utf8mb4 */;
/*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
/*!40103 SET TIME_ZONE='+00:00' */;
/*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
/*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;

/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
/*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
```

Step-15:-How to delete the data from the given table

DELETE FROM SYSTEM WHERE id=3;

```

MariaDB [PRITHVI_10]> DELETE FROM SYSTEM WHERE id=3;
Query OK, 1 row affected (0.002 sec)

MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+----+-----+-----+-----+-----+-----+-----+
| id | mac           | openport_no | ip_address   | os        | running_service | version | status |
+----+-----+-----+-----+-----+-----+-----+
| 1  | AB:8B:45:0C:FF:69 | 80          | 192.168.3.88 | KALI_LINUX | httpdsv       | 4.2.0   | YES    |
| 2  | DE:00:35:FC:FF:69 | 25          | 192.168.3.223 | CENT_OS    | smtps         | 4.3.3   | NO     |
+----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [PRITHVI_10]>
```

STEP-16:-How to delete column from a table

ALTER TABLE table_name DROP COLUMN column_name;

ALTER TABLE SYSTEM DROP COLUMN status;

```

MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+-----+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version | status |
+-----+-----+-----+-----+-----+-----+
| 1 | AB:8B:45:0C:FF:69 | 80 | 192.168.3.88 | KALI_LINUX | httpd | 4.2.0 | YES |
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.223 | CENT_OS | smtp | 4.3.3 | NO |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [PRITHVI_10]> ALTER TABLE SYSTEM DROP COLUMN status;
Query OK, 0 rows affected (0.005 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [PRITHVI_10]> SELECT * FROM SYSTEM;
+-----+-----+-----+-----+-----+
| id | mac | openport_no | ip_address | os | running_service | version |
+-----+-----+-----+-----+-----+
| 1 | AB:8B:45:0C:FF:69 | 80 | 192.168.3.88 | KALI_LINUX | httpd | 4.2.0 |
| 2 | DE:00:35:FC:FF:69 | 25 | 192.168.3.223 | CENT_OS | smtp | 4.3.3 |
+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [PRITHVI_10]> 

```

To remove data or values we use **DELETE** and we want to remove structure (e.g. table,column or a database the use **DROP**.)

Step-17:-How to delete a table

DROP TABLE table_name;

```

MariaDB [PRITHVI_10]> DROP TABLE SYSTEM;
Query OK, 0 rows affected (0.004 sec)

MariaDB [PRITHVI_10]> SHOW TABLES;
Empty set (0.001 sec)

MariaDB [PRITHVI_10]> 

```

#How to delete a database

DROP DATABASE database_name;

```
MariaDB [PRITHVI_10]> DROP DATABASE PRITHVI_10;
Query OK, 0 rows affected (0.009 sec)
```

```
MariaDB [(none)]> SHOW DATABASES;
```

Database
SYSTEM
information_schema
mysql
performance_schema
sys

```
+-----+
| Database           |
+-----+
| SYSTEM             |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+-----+
5 rows in set (0.001 sec)
```

```
MariaDB [(none)]>
```

Step-18:-How to restore the backup of your database

--> First you should have an empty database in which you copy the backup.

-->That empty base can be same or different name

Import the backup database

```
sudo mysql -u root -p empty_database_name < backup_filename.txt
```

e.g.

```
sudo mysql -u root -p my_newdb < dbbackup.txt
```

```
MariaDB [(none)]> CREATE DATABASE PRITHVIRAJ_10;
Query OK, 1 row affected (0.001 sec)
```

```
MariaDB [(none)]> SHOW DATABASES;
```

Database
PRITHVIRAJ_10
SYSTEM
information_schema
mysql
performance_schema
sys

```
+-----+
| Database           |
+-----+
| PRITHVIRAJ_10     |
| SYSTEM             |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+-----+
6 rows in set (0.001 sec)
```

```
MariaDB [(none)]>
```

```
prithvi@prithvi-virtual-machine:~$ ls
Desktop  Downloads  Pictures  snap      Templates
Documents  Music    Public     SYSTEM_BACKUP.txt  Videos
prithvi@prithvi-virtual-machine:~$ sudo mysql -u root -p PRITHVIRAJ_10 < SYSTEM
_BACKUP.txt
Enter password:
prithvi@prithvi-virtual-machine:~$
```

Step-19:- # Authentication:-

By default MariaDB uses unix_socket plugin to authenticate.

What is unix_socket authentication:

This plugin allows the user to use operating system credentials when connecting to MariaDB via the local unix socket file

-->In the upgraded version of MariaDB mysql_native_password plugin authentication mechanism is in used

```
MariaDB [mysql]> SELECT host,user,password,plugin FROM user;
+-----+-----+-----+-----+
| Host   | User    | Password | plugin        |
+-----+-----+-----+-----+
| localhost | mariadb.sys |          | mysql_native_password |
| localhost | root     | invalid  | mysql_native_password |
| localhost | mysql    | invalid  | mysql_native_password |
+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [mysql]>
```

-->the authentication for root user in the MySQL.

-->**sudo mysql -u root -p**

```
prithvi@prithvi:~$ sudo mysql -u root -p
[sudo] password for prithvi:
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \q.
```

-->SHOW DATABASES;

```
MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database      |
+-----+
| N_EMP          |
| information_schema |
| mysql           |
| performance_schema |
| sys             |
+-----+
5 rows in set (0.000 sec)
```

-->USE mysql;

```
MariaDB [(none)]> use mysql
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
```

-->SHOW TABLES;

```
MariaDB [mysql]> show tables;
+-----+
| Tables_in_mysql |
+-----+
| column_stats
| columns_priv
| db
| event
| func
| general_log
| global_priv
| gtid_slave_pos
| help_category
| help_keyword
| help_relation
| help_topic
| index_stats
| innodb_index_stats
| innodb_table_stats
| plugin
| proc
| procs_priv
| proxies_priv
| roles_mapping
| servers
| slow_log
```

--> SET old_passwords=0;

```
MariaDB [mysql]> SET old_passwords=0;
Query OK, 0 rows affected (0.000 sec)
```

-->SELECT Host,User,Password,plugin FROM SYSTEM;

```
MariaDB [mysql]> SELECT host,user,password,plugin FROM user;
+-----+-----+-----+-----+
| Host      | User        | Password | plugin      |
+-----+-----+-----+-----+
| localhost | mariadb.sys |          | mysql_native_password |
| localhost | root        | invalid  | mysql_native_password |
| localhost | mysql        | invalid  | mysql_native_password |
+-----+-----+-----+-----+
3 rows in set (0.001 sec)
```

```
MariaDB [mysql]>
```

-->ALTER USER root@localhost IDENTIFIED BY 'secret_password';

```
MariaDB [mysql]> ALTER USER root@localhost IDENTIFIED BY 'toor';
Query OK, 0 rows affected (0.003 sec)

MariaDB [mysql]>
```

Step-20:-How to Create a user?

CREATE USER 'User_name'@'host_name' IDENTIFIED BY 'Secret_passwor';

e.g.

CREATE USER 'prithvi'@'localhost' IDENTIFIED BY 'root';

```
MariaDB [mysql]> SELECT PASSWORD('root');
+-----+
| PASSWORD('root') |
+-----+
| *81F5E21E35407D884A6CD4A731AEBFB6AF209E1B |
+-----+
1 row in set (0.000 sec)

MariaDB [mysql]> SELECT host,user,password,plugin FROM user;
+-----+-----+-----+-----+
| Host | User | Password | plugin |
+-----+-----+-----+-----+
| localhost | mariadb.sys |          | mysql_native_password |
| localhost | root | *9CFBBC772F3F6C106020035386DA5BBBF1249A11 | mysql_native_password |
| localhost | mysql | invalid | mysql_native_password |
+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [mysql]>
```

Step-21:-Give the full permission to other user

```
GRANT ALL PRIVILEGES ON database_name.* TO  
'user_name'@'host_name';
```

e.g.

```
GRANT ALL PRIVILEGES ON N_SYSTEM.* TO  
'PRITHVI'@'localhost';
```

```
--  
prithvi@prithvi:~$ sudo mysql -u root -p  
Enter password:  
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password:  
YES)  
prithvi@prithvi:~$ sudo mysql -u root -p  
Enter password:  
Welcome to the MariaDB monitor. Commands end with ; or \g.  
Your MariaDB connection id is 40  
Server version: 10.6.11-MariaDB-0ubuntu0.22.04.1 Ubuntu 22.04  
  
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 mysql;  
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 [mysql]> CREATE USER 'prithvi'@'localhost' IDENTIFIED BY 'root';  
Query OK, 0 rows affected (0.002 sec)
```

```
MariaDB [mysql]> GRANT ALL PRIVILEGES ON N_EMP.* TO 'prithvi'@'localhost';  
Query OK, 0 rows affected (0.002 sec)
```

```
MariaDB [mysql]> █
```

```
SHOW GRANTS FOR 'user_name'@'hostname';
```

e.g.: - **SHOW GRANTS FOR 'prithvi'@'localhost';**

```
MariaDB [mysql]> SHOW GRANTS FOR 'prithvi'@'localhost';
+-----+
| Grants for prithvi@localhost
|
+-----+
| GRANT USAGE ON *.* TO `prithvi`@`localhost` IDENTIFIED BY PASSWORD '*81F5E21
E35407D884A6CD4A731AEBFB6AF209E1B' |
| GRANT ALL PRIVILEGES ON `N_EMP`.* TO `prithvi`@`localhost`
|
+-----+
-----+
2 rows in set (0.000 sec)

MariaDB [mysql]>
```

Step-22:-How to revoke all privileges from the users for particular database

REVOKE ALL PRIVILEGES ON database_name.* FROM 'ditiss'@'localhost';

```
MariaDB [mysql]> REVOKE ALL PRIVILEGES ON N_EMP.* FROM 'prithvi'@'localhost';
Query OK, 0 rows affected (0.002 sec)

MariaDB [mysql]> SHOW GRANTS FOR 'prithvi'@'localhost';
+-----+
| Grants for prithvi@localhost
|
+-----+
| GRANT USAGE ON *.* TO `prithvi`@`localhost` IDENTIFIED BY PASSWORD '*81F5E21
E35407D884A6CD4A731AEBFB6AF209E1B' |
|
+-----+
1 row in set (0.000 sec)

MariaDB [mysql]>
```