MySQL CREATE TABLE

A table creation command requires three things: *Name of the table*, *Names of fields* and *Definitions for each field*.

Syntax:

```
CREATE TABLE [IF NOT EXISTS] table_name(
    column_definition1,
    column_definition2,
    ........,
    table_constraints
);
```

Example:

```
mysql> CREATE TABLE employee_table(
        id int NOT NULL AUTO_INCREMENT,
        name varchar(45) NOT NULL,
        occupation varchar(35) NOT NULL,
         age int NOT NULL,
        PRIMARY KEY (id)
        );
```

Note:

- Here, **NOT NULL** is a field attribute, and it is used if we want this field not to be NULL. If we try to insert a record with a NULL value, then MySQL will raise an error.
- The field attribute AUTO_INCREMENT specifies MySQL to go ahead and add the next available number to the id field.
- PRIMARY KEY is used to define a column's uniqueness. We can use multiple columns separated by a comma to define a primary key.

Output:

```
mysql> use university;
Database changed
mysql> CREATE TABLE employee_table(
    ->     id int NOT NULL AUTO_INCREMENT,
    ->     name varchar(45) NOT NULL,
    ->     occupation varchar(35) NOT NULL,
    ->     age int NOT NULL,
    ->     PRIMARY KEY (id)
    -> );
Query OK, 0 rows affected (0.95 sec)
```

This will create a employee_table

```
mysql> show tables;
+----------------------+
| Tables_in_university |
+----------------------+
| employee_table       |
+----------------------+
1 row in set (0.12 sec)
```

MySQL DROP Table

MYSQL uses a Drop Table statement to delete the existing table.

Syntax: **mysql> DROP TABLE** table**_name;**

Example: mysql> **DROP TABLE** employee_table**;**

This will delete the table employee_table;

Output:

```
mysql> DROP TABLE  employee_table;
Query OK, 0 rows affected (3.07 sec)

mysql> show tables;
Empty set (0.41 sec)
```

MySQL Show/List Tables

Syntax: **mysql>SHOW TABLES;**

Output:

```
mysql> show tables;
+----------------------+
| Tables_in_university |
+----------------------+
| employee_table       |
+----------------------+
1 row in set (0.00 sec)
```

Show the list of tables in the university database

Syntax: **mysql>SHOW FULL TABLES;**

Output:

```
mysql> show full tables;
+----------------------+------------+
| Tables_in_university | Table_type |
+----------------------+------------+
| employee_table       | BASE TABLE |
+----------------------+------------+
1 row in set (0.08 sec)
```

The **FULL modifier** with the SHOW TABLES query to get the type of table (Base or View) that appears in a second output column.

Syntax: **mysql>SHOW TABLES FROM UNIVERISTY;**

Output:

```
mysql> show tables from university;
+----------------------+
| Tables_in_university |
+----------------------+
| employee_table       |
+----------------------+
1 row in set (0.00 sec)
```

If we want to show or list the table name from different databases or database to which you are not connected without switching, MySQL allows us to use the FROM or IN clause followed by the database name.

Syntax: **mysql> SHOW TABLES FROM UNIVERISTY LIKE 'e%';**

Output:

```
mysql> show tables from university like 'e%';
+--------------------------+
| Tables_in_university (e%) |
+--------------------------+
| employee_table           |
+--------------------------+
1 row in set (0.10 sec)
```

Show Tables command in MySQL also provides an option that allows us to filter the returned table using different pattern matching with LIKE clause.

MySQL DESCRIBE TABLE

DESCRIBE means to show the information in detail. Since we have tables in MySQL, so we will use the DESCRIBE command to show the structure of our table, such as column names, constraints on column names, etc. The DESC command is a short form of the DESCRIBE command.

Syntax: **mysql> {DESCRIBE | DESC} table_name;**

Example: **mysql> desc employee_table;**

Output:

```
mysql> describe employee_table;
+------------+-------------+------+-----+---------+----------------+
| Field      | Type        | Null | Key | Default | Extra          |
+------------+-------------+------+-----+---------+----------------+
| id         | int         | NO   | PRI | NULL    | auto_increment |
| name       | varchar(45) | NO   |     | NULL    |                |
| occupation | varchar(35) | NO   |     | NULL    |                |
| age        | int         | NO   |     | NULL    |                |
+------------+-------------+------+-----+---------+----------------+
4 rows in set (0.04 sec)

mysql> desc employee_table;
+------------+-------------+------+-----+---------+----------------+
| Field      | Type        | Null | Key | Default | Extra          |
+------------+-------------+------+-----+---------+----------------+
| id         | int         | NO   | PRI | NULL    | auto_increment |
| name       | varchar(45) | NO   |     | NULL    |                |
| occupation | varchar(35) | NO   |     | NULL    |                |
| age        | int         | NO   |     | NULL    |                |
+------------+-------------+------+-----+---------+----------------+
4 rows in set (0.08 sec)
```

MySQL Show Columns

Columns in the table are a series of cells that can stores text, numbers, and images. Every column stores one value for each row in a table. When we work with the MySQL server, it is common to display the column information from a particular table. In this section, we are going to discuss how to display or list columns in an existing table.

Syntax: **mysql>** SHOW COLUMNS FROM **table_name;**

Example: **mysql>** SHOW COLUMNS FROM employee_table;

Output:

```
mysql> show columns from employee_table;
+------------+-------------+------+-----+---------+----------------+
| Field      | Type        | Null | Key | Default | Extra          |
+------------+-------------+------+-----+---------+----------------+
| id         | int         | NO   | PRI | NULL    | auto_increment |
| name       | varchar(45) | NO   |     | NULL    |                |
| occupation | varchar(35) | NO   |     | NULL    |                |
| age        | int         | NO   |     | NULL    |                |
+------------+-------------+------+-----+---------+----------------+
4 rows in set (0.07 sec)
```

Syntax: **mysql>** SHOW FULL COLUMNS FROM **table_name;**

Example: **mysql>** SHOW FULL COLUMNS FROM employee_table;

Output:

```
mysql> show full columns from employee_table;
+------------+-------------+--------------------+------+-----+---------+----------------+---------------------------------+---------+
| Field      | Type        | Collation          | Null | Key | Default | Extra          | Privileges                      | Comment |
+------------+-------------+--------------------+------+-----+---------+----------------+---------------------------------+---------+
| id         | int         | NULL               | NO   | PRI | NULL    | auto_increment | select,insert,update,references |         |
| name       | varchar(45) | utf8mb4_0900_ai_ci | NO   |     | NULL    |                | select,insert,update,references |         |
| occupation | varchar(35) | utf8mb4_0900_ai_ci | NO   |     | NULL    |                | select,insert,update,references |         |
| age        | int         | NULL               | NO   |     | NULL    |                | select,insert,update,references |         |
+------------+-------------+--------------------+------+-----+---------+----------------+---------------------------------+---------+
4 rows in set (0.06 sec)
```