MySQL

MANUAL V8.3

MODULE CODE:

ANUDIP FOUNDATION

Creation of Table

Objective: After completing this lesson you will be able to : * Understand tables in MySQL * Learn how to query data	Materials Required: 1. Computer 2. Internet access
Theory Duration: 80 minutes	Practical Duration: 0 minute
Total Duration: 80 minutes	

Chapter 7

Tables

MySQL CREATE TABLE

In MySQL, a table is used for organizing data in the form of columns and rows. It can be utilized for the purposes of storing and exhibiting recorded in a structured manner. A MySQL table can be considered similar to the worksheets within a spreadsheet application. Using a table creation command requires -

- Table name
- Field names
- Field definitions

MySQL lets users create database tables through utilizing two options. These are -

1. MySQL Command Line Client
2. MySQL Workbench

MySQL Command Line Client

MySQL users can create a table in a database with the CREATE TABLE command. Take a look at the basic syntax given below to create a MySQL database table below.

1. CREATE TABLE [IF NOT EXISTS] table_name(

2.   column_definition1,

3.   column_definition2,

4.   ....,

5.   table_constraints

6.);

Parameter Meanings

Take a look at the syntax parameter descriptions given used in the syntax given above.

Parameter	Description
database_name	It refers to the name given to a new table. It has to be unique to the selected MySQL database. The **IF NOT EXIST** command is used for avoiding an error when a table is created into the already existing selected database.

column_definition	It is used for specifying the column name along with the data types for each column. The comma operator is used for separating columns in the table definition. The column syntax definition is : **column_name1 data_type(size) [NULL | NOT NULL]**
table_constraints	It is used for specifying the table constraints including PRIMARY KEY, FOREIGN KEY, UNIQUE KEY, CHECK, etc.

Example

The example shows how tables can be created into a database. Users have to launch the MySQL console and input the password they have set during installation.

The next step is opening the database where the table has to be created. Proceed to create a table with the name "employee_table" within the database named "employeedb". Use the statement given below.

1. mysql> CREATE TABLE employee_table(

2.   id int NOT NULL AUTO_INCREMENT,

3.   name varchar(45) NOT NULL,

4.   occupation varchar(35) NOT NULL,

5.   age int NOT NULL,

6.   PRIMARY KEY (id)

7.);

MySQL table creation visual example:

The command given below can be used to view the new table that has been created -

1. mysql> SHOW TABLES;

The output -

Viewing the table structure:

The command given below can be used for viewing the newly created table's structure or information -

1. mysql> DESCRIBE employee_table;

The output -

Using MySQL Workbench for Table Creation

Workbench is a GUI component used for the efficient creation of databases, indexes, tables, views and stored procedures. Users need to launch WorkBench and log into it with their chosen usernames and passwords. Then they can create a new database with it.

MySQL Workbench table creation steps -

1. Visit the Navigation tab and click the Schema menu. See the existing databases and choose the one where the table has to be created.

2. Double click the preferred database and its sub-menu appears. You will find several options including Tables as shown in the screenshot below.

3. Select Tables, right click it, and select the Create Table option. One can also create a new table icon for creating a new table.

4. Fill all required details in the new table screen to create a table. Table name is entered here. Select the default engine and collation here.

5. Click on the middle window to fill in the relevant details. The column name has many attribute details. Click the Apply button after the details have been filled up.

6. On clicking Apply a SQL statement window opens up. Click Apply again to complete statement execution. Then click the Finish button to save your changes.

7. Visit the Schema menu and choose the database containing the new table. Refer to the screen below.

Querying data

MySQL Queries

MySQL queries serve many functions including creating and using databases, creating tables, inputting, selecting and updating records, truncating and dropping tables. Take a look -

1) MySQL Create Database

MySQL create database is a query for creating a database. Example -

     1. create database db1;

2) MySQL Select/Use Database

MySQL use database is a query for selecting a database. For example

     1. use db1;

3) MySQL Create Query

The MySQL create query lets users   create a table, function, procedure, and view. For example:

    1. CREATE TABLE customers

    2. (id int(20),

    3.   name varchar(60),

    4.   city varchar(60),

    5.   PRIMARY KEY (id)

    6.);

4) MySQL Alter Query

The MySQL alter query is used for adding, modifying, deleting or dropping table columns. Let's see a query to add column in customers table:

    1. ALTER TABLE customers

    2. ADD age varchar(60);

5) MySQL Insert Query

The MySQL insert query is utilized for inserting records into a table. For example:

    1. insert into customers values(76,'kumar','london');

6) MySQL Update Query

The MySQL update query is utilized for updating records within a table. Example:

    1. update customers set name='tom', city='amsterdam' where id=241;

7) MySQL Delete Query

The MySQL delete query is utilized for deleting records from a database table. Example -

    1. delete from employees where id=221;

8) MySQL Select Query

The select query is utilized for fetching database records. Example -

    1. SELECT * from customers;

9) MySQL Truncate Table Query

The MySQL update query is utilized for removing or truncating records within a table. It does not affect the structure of the table. Example:

    1. truncate table employees;

10) MySQL Drop Query

The MySQL drop query is utilized for dropping a table, database or view. It is used for removing the data and structure from a table. Example -

> 1. drop table employees;

Instructions: The progress of students will be assessed with the exercises mentioned below.

MCQ

1. A command for creating a table in a MySQL database requires _____

a) field names

b) table name

c) both a and b

d) none of the mentioned

2. What can be utilized for creating database tables in MySQL?

a) MySQL Workbench

b) MySQL Command Line Client

c) both a and b

d) none of the mentioned

3. What is the column_definition syntax parameter for tables in MySQL?

a) changing column name

b) specifying column name

c) deleting column name

d) none of the mentioned

4. The table_constraints parameter is used for specifying the _____ table constraints.

a) FOREIGN KEY

b) CHECK

c) both a and b

d) none of the mentioned

5. The DESCRIBE command is used for viewing a table's _____.

a) structure

b) information

c) both a and b

d) none of the mentioned

6. What can MySQL WorkBench not be used for creating?

a) indexes

b) tables

c) databases

d) none of the mentioned

7. What menu under the navigation tab of MySQL Workbench has to be accessed for seeing existing databases?

a) Database

b) Data

c) Schema

d) none of the mentioned

8. What is the MySQL query used for selecting a database?

a) select

b) use

c) choose

d) none of the mentioned

9. Which is the MySQL query used for deleting table columns?

a) drop

b) delete

c) modify

d) alter

10. Which is the MySQL query used for deleting MySQL table records?

a) delete

b) update

c) remove

d) none of the mentioned