MySQLTUTORIAL

MySQL CREATE DATABASE

Summary: in this tutorial, you will learn how to use the MySQL `CREATE DATABASE` statement to create a new database on a MySQL database server.

Introduction to the MySQL CREATE DATABASE statement

To create a new database in MySQL, you use the `CREATE DATABASE` statement with the following syntax:

```
CREATE DATABASE [IF NOT EXISTS] database_name
[CHARACTER SET charset_name]
[COLLATE collation_name]
```

In this syntax:

- First, specify name of the database after the the `CREATE DATABASE` keywords. The database name must be unique within a MySQL server instance. If you attempt to create a database with a name that already exists, MySQL will issue an error.

- Second, use the `IF NOT EXISTS` option to conditionally create a database if it doesn't exist.

- Third, specify the character set (https://www.mysqltutorial.org/mysql-character-set/) and collation (https://www.mysqltutorial.org/mysql-collation/) for the new database. If you skip the `CHARACTER SET` and `COLLATE` clauses, MySQL will the default character set and collation for the new database.

Creating a new database using the mysql client tool

To create a new database via the mysql client tool, you follow these steps:

First, log in to the MySQL Server using a user account that has the `CREATE DATABASE` privilege:

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

It'll prompt you for entering a password. To authenticate, you need to type the password for the `root` user account and press the `Enter` key.

Next, display the current databases available on the server using the `SHOW DATABASES` (https://www.mysqltutorial.org/mysql-show-databases/) statement. This step is optional.

```
SHOW DATABASES;
```

Output:

```
+--------------------+
| Database           |
+--------------------+
| classicmodels      |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

Then, issue the `CREATE DATABASE` command with a database name e.g., `testdb` and press Enter:

```
CREATE DATABASE testdb;
```

It'll return the following:

```
Query OK, 1 row affected (0.02 sec)
```

After that, use the `SHOW CREATE DATABASE` command to review the created database:

```
SHOW CREATE DATABASE testdb;
```

MySQL returns the database name and the character set and collation of the database:

```
+-----------+----------------------------------------------------------------
| Database | Create Database
+-----------+----------------------------------------------------------------
| testdb   | CREATE DATABASE `testdb` /*!40100 DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4
+-----------+----------------------------------------------------------------
1 row in set (0.01 sec)
```

Finally, select the newly created database (https://www.mysqltutorial.org/mysql-select-database/) to work with by
using the `USE` statement:

```
USE testdb;
```

Output:

```
Database changed
```

Now, you can start creating tables (https://www.mysqltutorial.org/mysql-create-table/) and other databases objects
within the `testdb` database.

To quit the **mysql** program, type `exit` command:

```
exit
```

Output:

```
Bye
```

Creating a new database using MySQL Workbench

To create a new database using the MySQL Workbench, you follow these steps:

First, launch the MySQL Workbench and click the **setup new connection** button as shown in the
following screenshot:

Second, type the name for the connection and click the **Test Connection** button.

MySQL Workbench displays a dialog asking for the password of the `root` user:

You need to (1) type the password for the `root` user, (2) check the **Save password in vault**, and (3) click **OK** button.

Third, double-click the connection name **Local** to connect to the MySQL Server.

MySQL Workbench opens the following window which consists of four parts: Navigator, Query, Information, and Output.

Fourth, click the **create a new schema in the connected server** button from the toolbar:

In MySQL, the schema is the synonym for the database. Creating a new schema also means creating a new database.

Fifth, the following window is open. You need to (1) enter the schema name, (2) change the character set and collation if necessary, and click the **Apply** button:

Sixth, MySQL Workbench opens the following window that displays the SQL script which will be executed. Note that the `CREATE SCHEMA` statement command has the same effect as the `CREATE DATABASE` statement.

If everything is fine, you will see the new database created and showed in the **schemas** tab of the **Navigator** section.

Seventh, to select the `testdb2` database, (1) right-click the database name and (2) choose **Set as Default Schema** menu item:

The `testdb2` node is open as shown in the following screenshot.

Now, you can work with `testdb2` from the MySQL Workbench.

Summary

- Use the `CREATE DATABASE` statement to create a new database.

- In MySQL, schemas are synonyms of databases.