MySQL Workbench

- MySQL Workbench is a unified visual database designing or graphical user interface tool used for working with database architects, developers, and Database Administrators.
- It is developed and maintained by Oracle.
- It provides SQL development, data modelling, data migration, and comprehensive administration tools for server configuration, user administration, backup, and many more.
- We can use this Server Administration for creating new physical data models, E-R diagrams, and for SQL development (run queries, etc.).
- It is available for all major operating systems like Mac OS, Windows, and Linux. MySQL Workbench fully supports MySQL Server version v5.6 and higher.

five main functionalities

SQL Development: Connect of Database, build-in SQL editor, execute queries.

Data Modelling (Design): This functionality provides the capability that enables you to create models of the database Schema graphically, performs reverse and forward engineering between a Schema and a live database, and edit all aspects of the database using the comprehensive Table editor. The Table editor gives the facilities for editing tables, columns, indexes, views, triggers, partitioning, etc.

Server Administration: This functionality enables you to administer MySQL Server instances by administering users, inspecting audit data, viewing database health, performing backup and recovery, and monitoring the performance of MySQL Server.

Data Migration: This functionality allows you to migrate from Microsoft SQL Server, SQLite, Microsoft Access, PostgreSQL, Sybase ASE, SQL Anywhere, and other RDBMS tables, objects, and data to MySQL.

MySQL Enterprise Supports: This functionality gives the support for Enterprise products such as MySQL firewall, MySQL Enterprise Backup, and MySQL Audit.

MySQL Workbench is mainly available in three editions, which are given below:

1. Community Edition (Open Source, GPL)
2. Standard Edition (Commercial)
3. Enterprise Edition (Commercial)

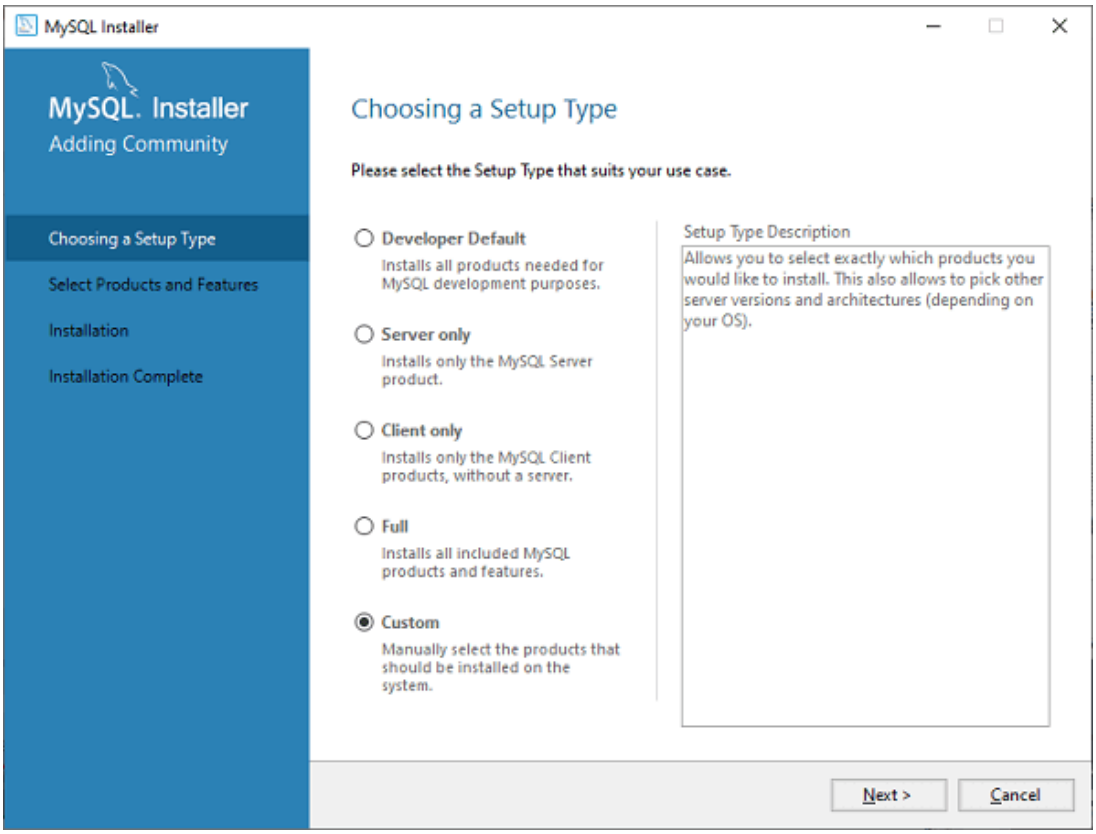
MySQL Workbench Environment Setup

First, we have to install MySQL Server.

Download MySQL Installer From here.

Step 1: Install the MySQL Community Server. To install MySQL Server, double click the MySQL **installer .exe file**.

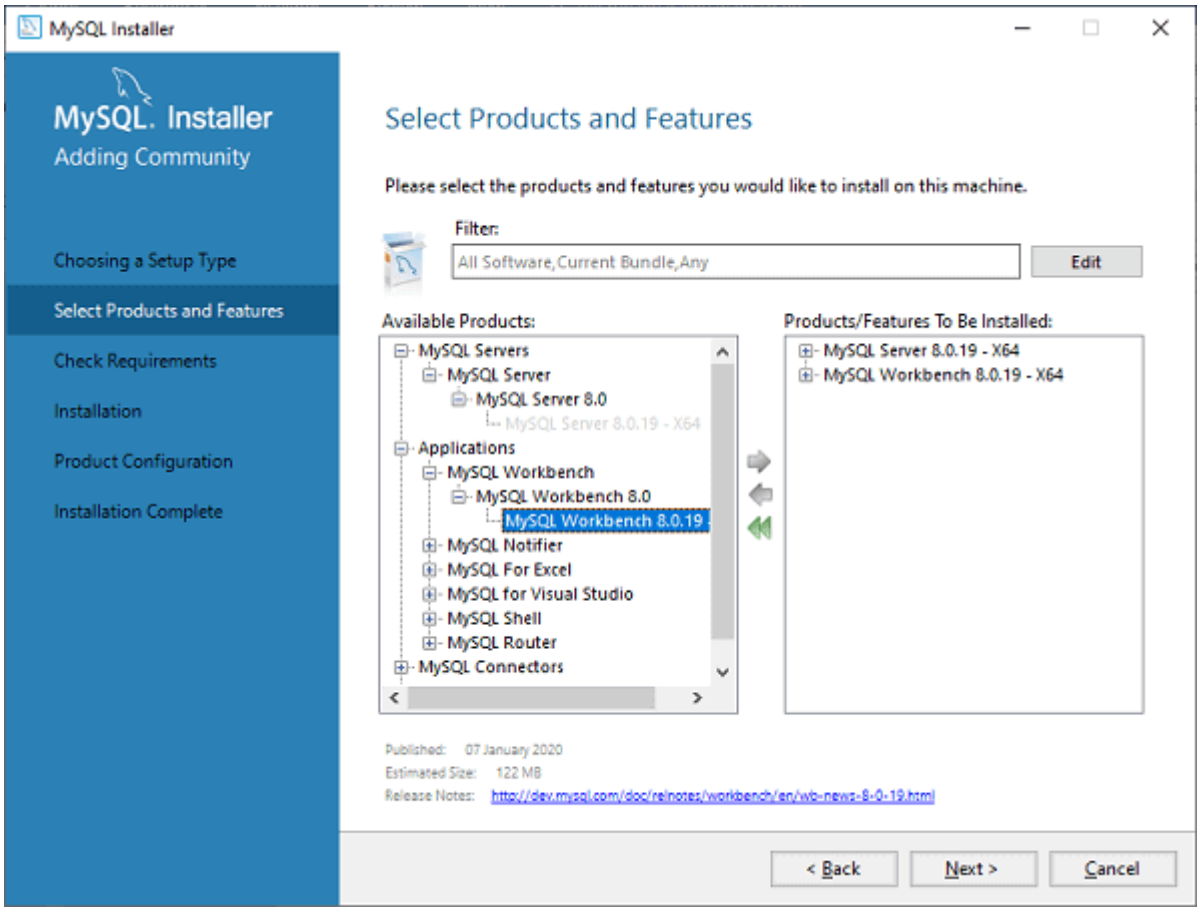
Step 2: Choose the **Setup Type** and click on the **Next** button. There are several types available, and you need to choose the appropriate option to install MySQL product and features. Here, we are going to select a Custom option because there is a need for only MySQL Server and Workbench. If you need more features, you can choose the Full option.



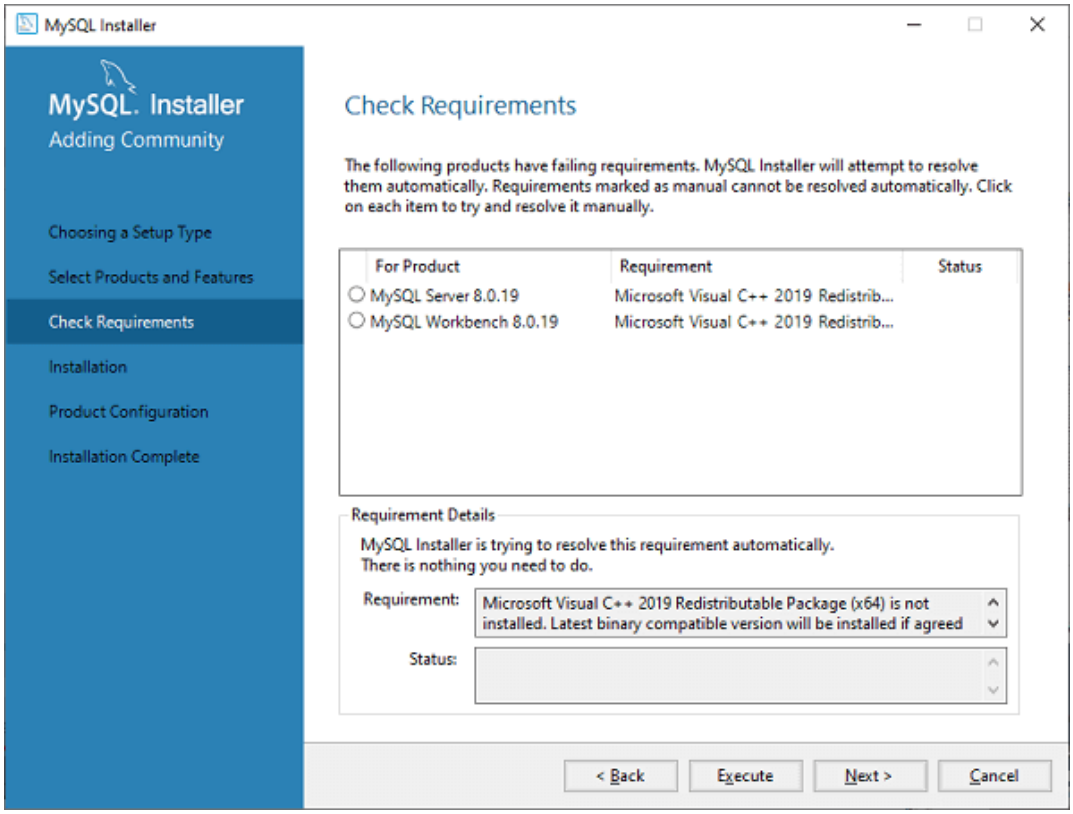
Step 3: When you click on the Next button, it will give the following screen.

Simple Add the Product which we have to install in the system.

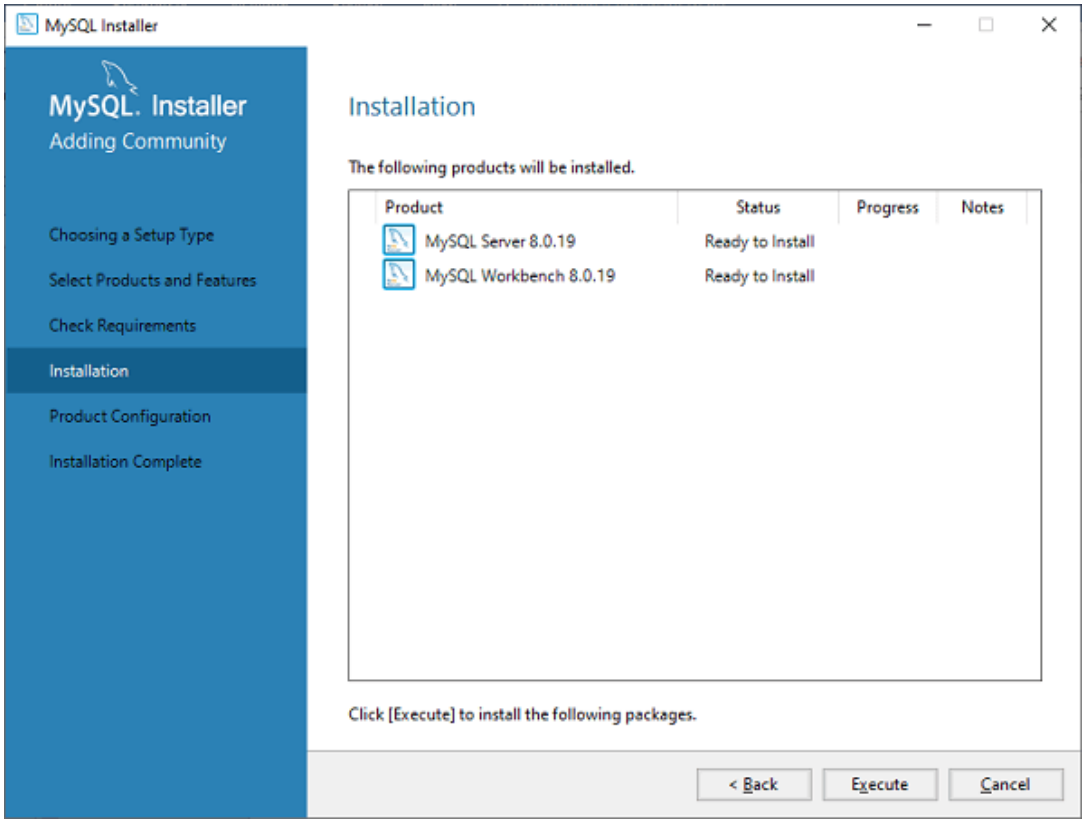
We will Select MySQL Sever and MySQL Workbench to install.



Step 4: When you click on Next, it will give the following screen. This screen checks all the requirements for installing MySQL Server and Workbench. As soon as you click on the **Execute** button, it will install all requirements automatically. Now, click on the Next button.

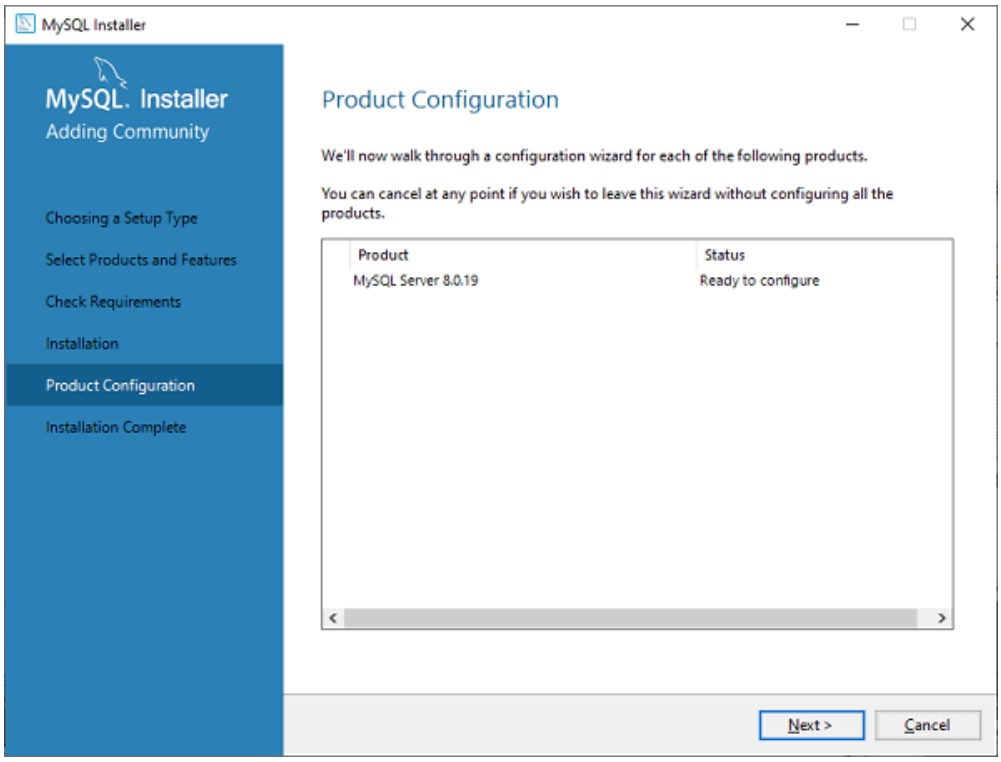


Step 5: In this screen, click on the Execute button to download and install the MySQL Server and Workbench.

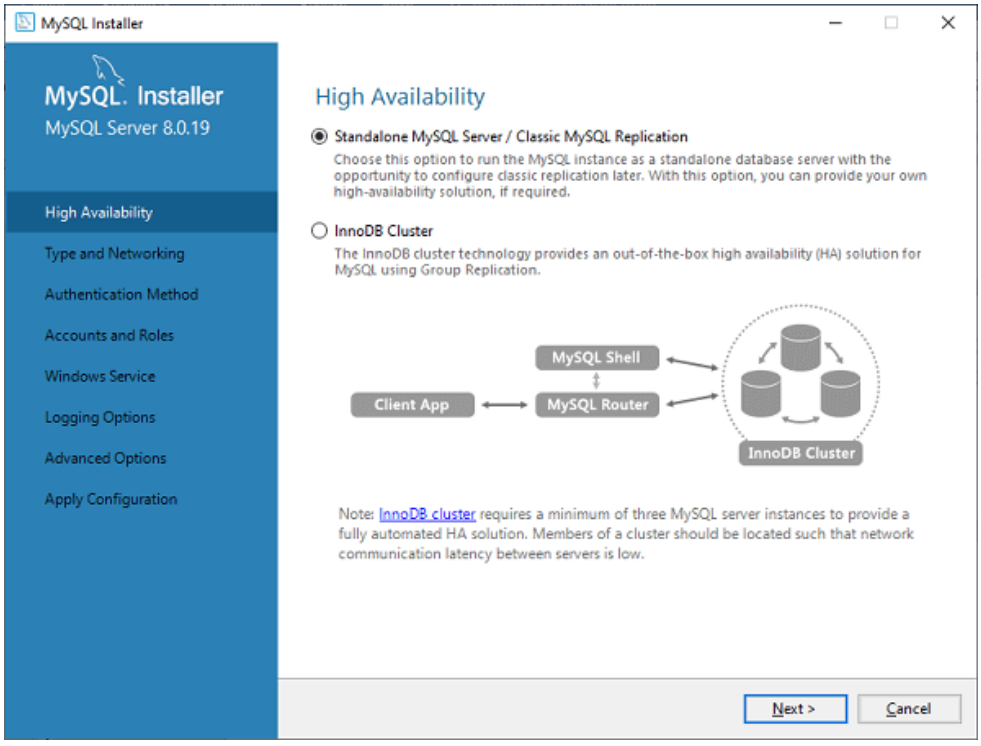


When the downloading and installation is complete, click on Next button.

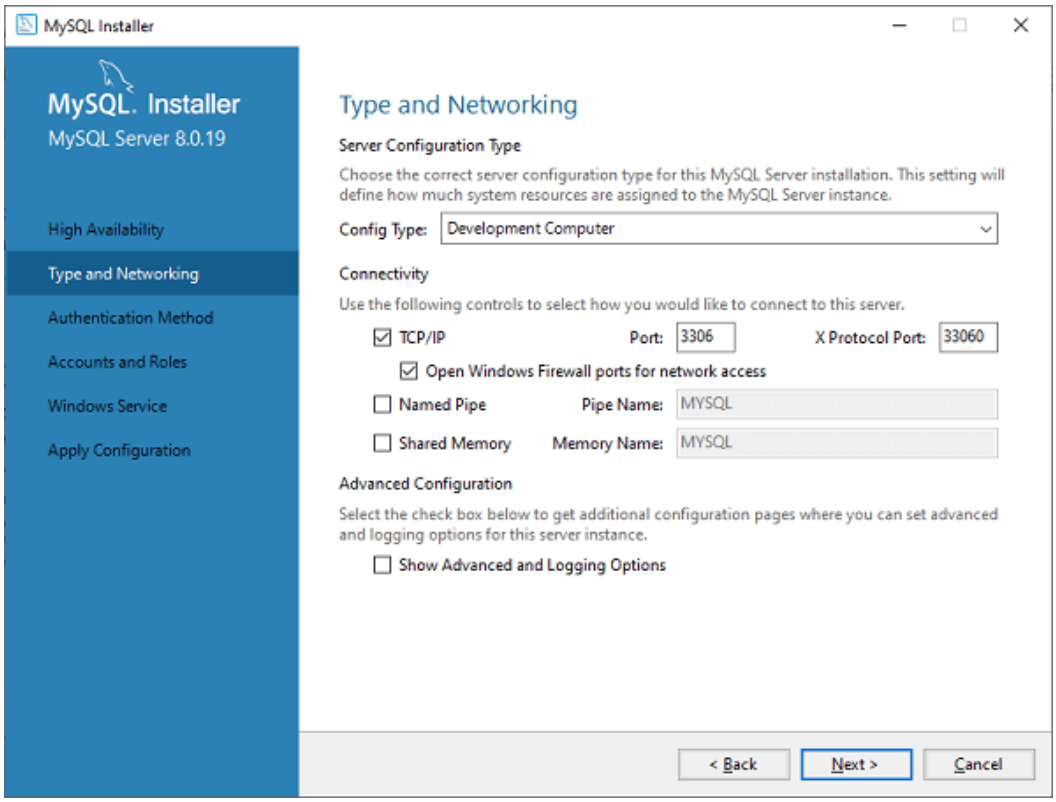
Step 6: In the next screen, we need to configure the MySQL Server and click on Next button.



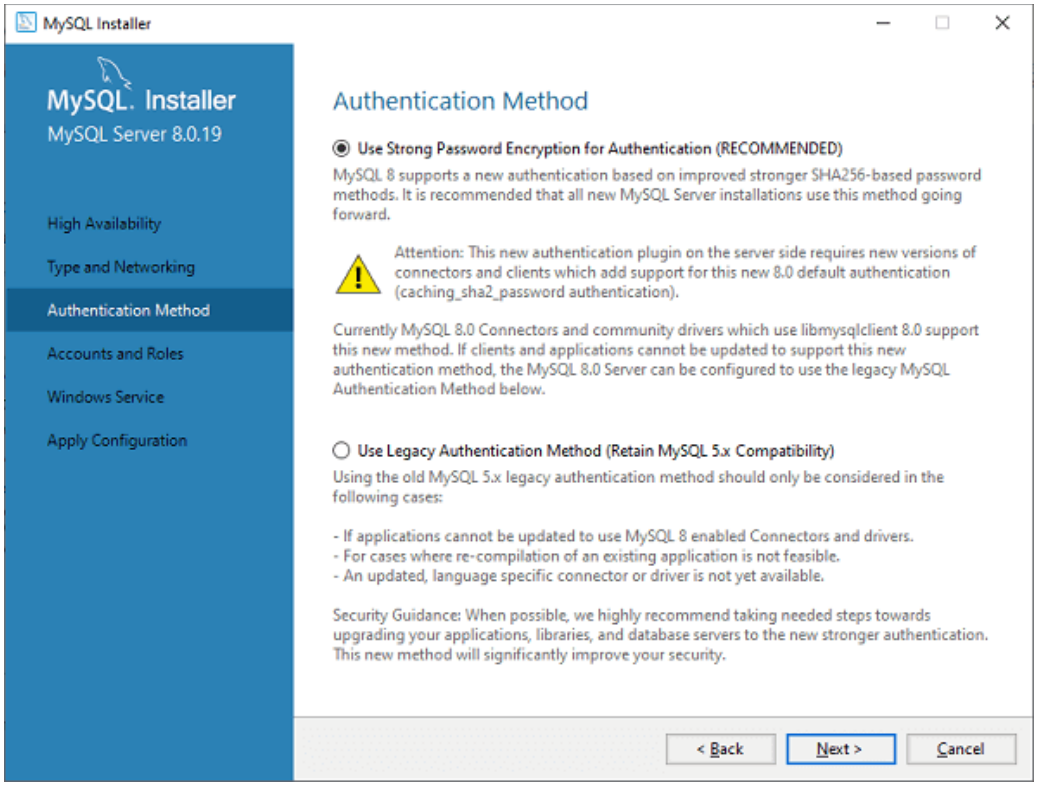
Step 7: As soon as you will click on the Next button, you can see the screen below. Here, we have to configure the MySQL Server. Now, choose the Standalone MySQL Server/Classic MySQL Replication option and click on Next.



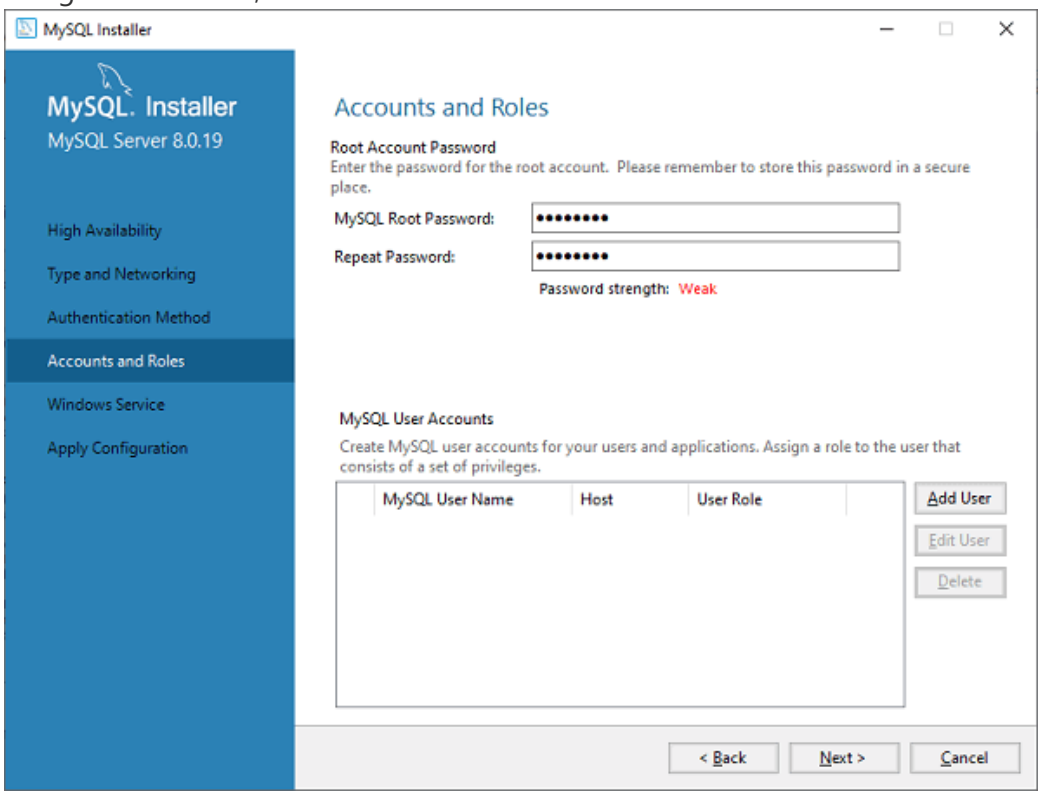
Step 8: In the next screen, the system will ask you to choose the Config Type and other connectivity options. Here, we are going to select the Config Type as '**Development Machine**' and Connectivity as **TCP/IP,** and **Port Number** is 3306, then click on Next.



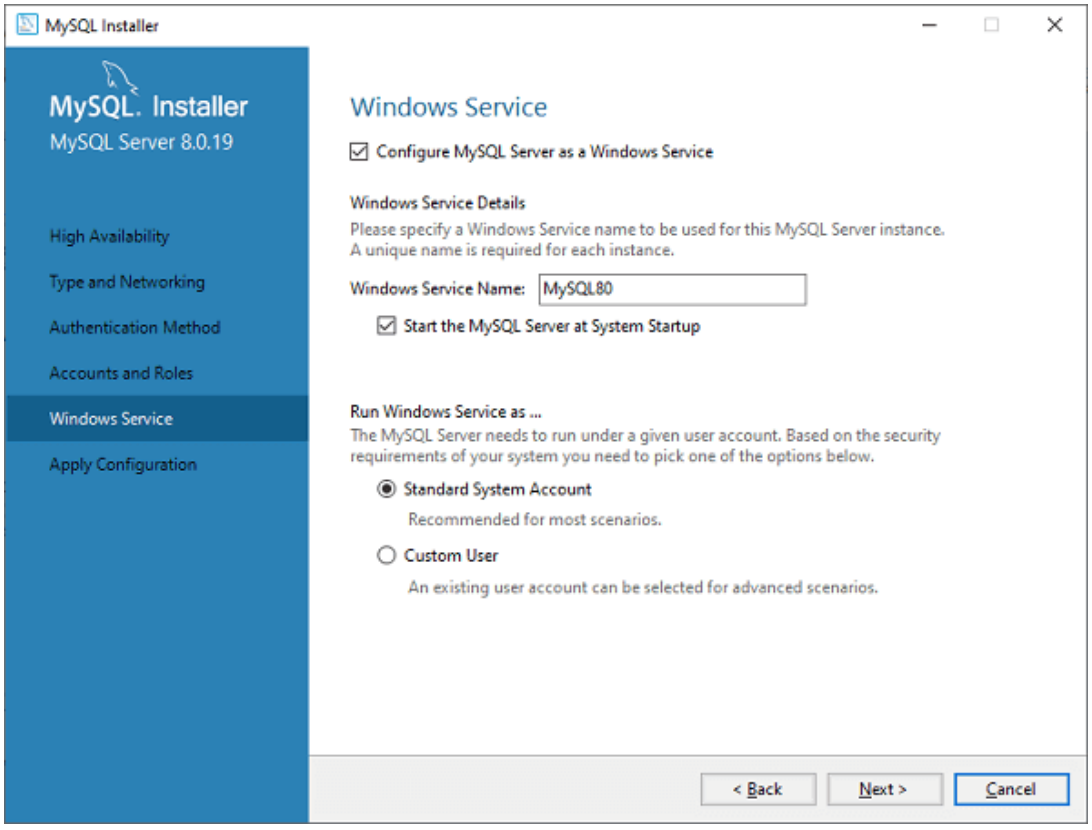
Step 9: Now, select the Authentication Method and click on Next.



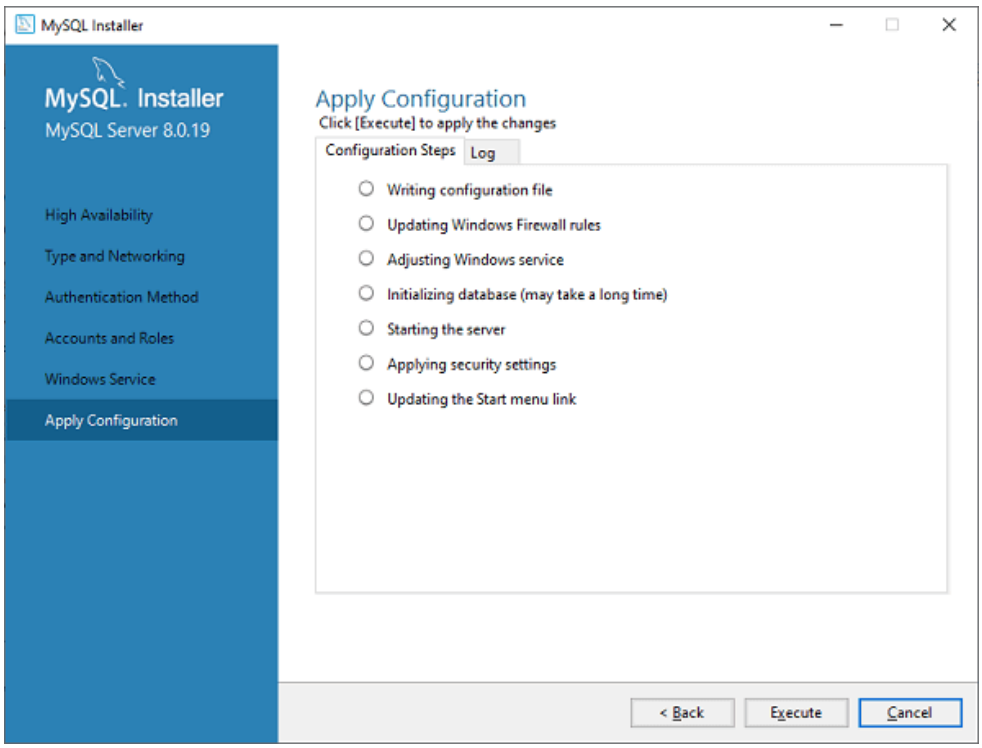
Step 10: The next screen will ask you to choose the account, username, and password. After filling all the details, click on the Next button.



Step 11: The next screen will ask you to configure the Windows Service. Keep the default setup and click on Next.



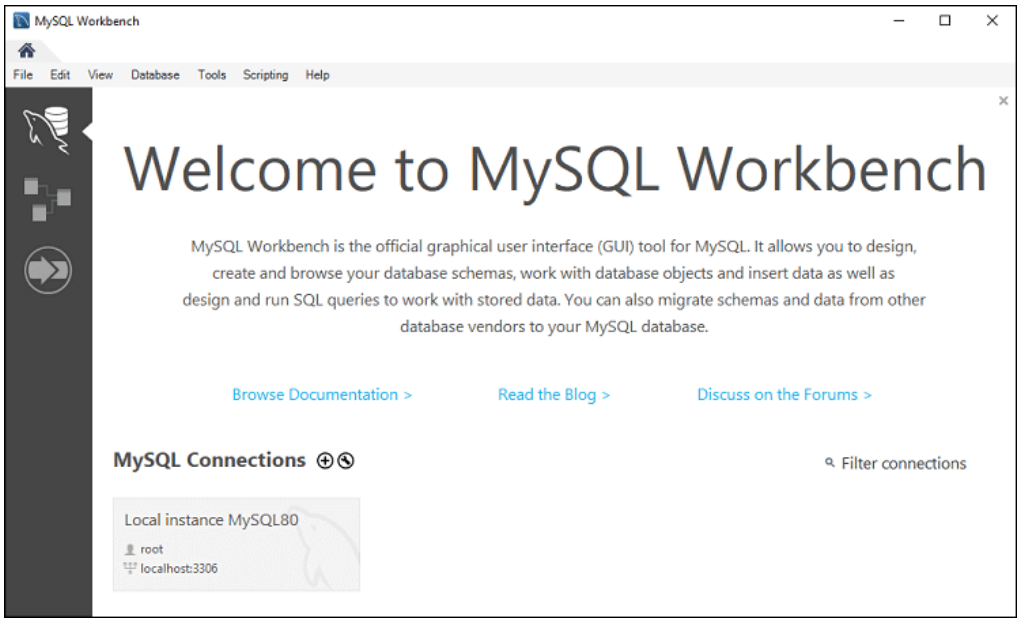
Step 12: In the next screen, the system will ask you to apply the Server Configuration. For this configuration, click on the Execute button.



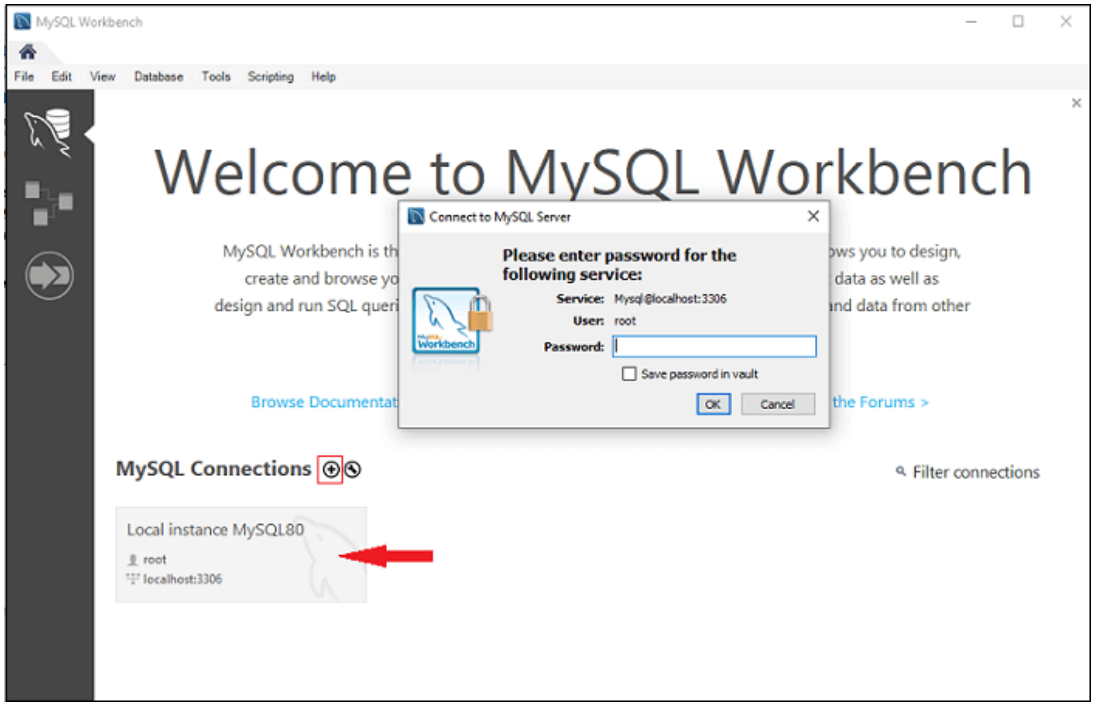
Step 13: Once the configuration has completed, you will get the screen below. Now, click on the **Finish** button to continue.

Step 14: In the next screen, you can see that the Product Configuration is completed. Keep the default setting and click on the Next-> Finish button to complete the MySQL package installation.

Step 15: Once you click the Finish button, the MySQL Workbench should be open on your system, as shown in the screen below.

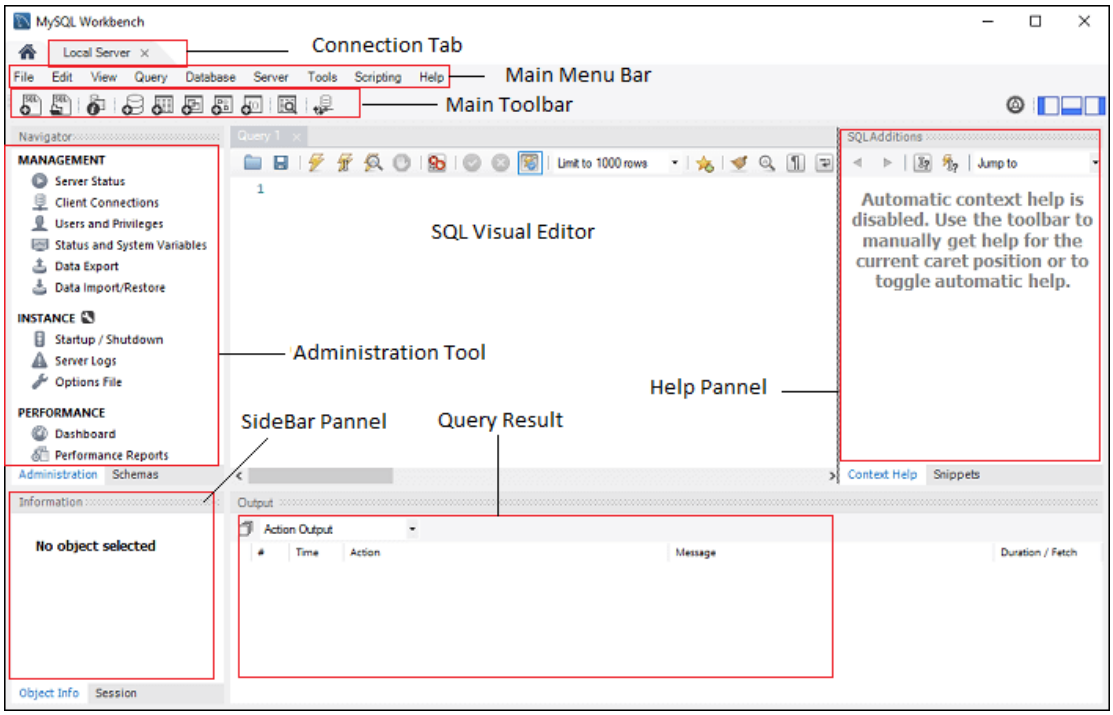


Step 16: In the above screen, you need to make a connection. To do this, double click the box designated by the **red arrow**. Here, you will get the popup screen that asks to enter the password created earlier during the installation. After entering the password, you are able to connect with the Server.



So Now We are Connect to the server.

Step 17: Once you have finished all the setup, it will open the MySQL Workbench screen. Now, double click on the newly created connection, you will get the following screen where the SQL command can be executed.

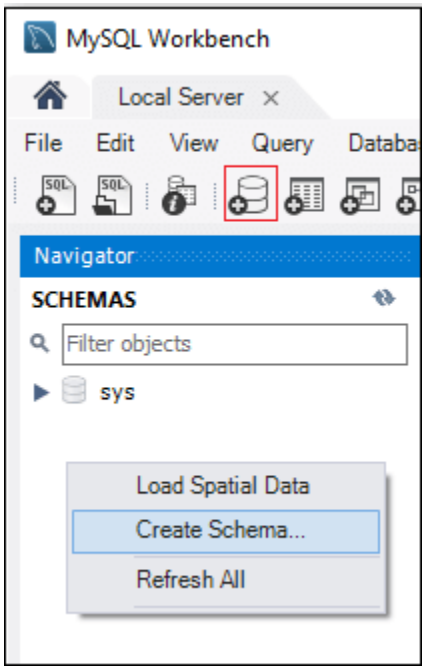


MySQL Workbench Create, Alter, Drop Database

Create Database

1. Open the MySQL Workbench and logged in using username and password. Then, go to the Navigation tab and click on the **Schema menu**. Here, you can see all the previously created databases.

2. If you want to create a new database, right-click under the Schema menu and select **Create Schema** or click the database icon (red rectangle), as shown in the following screen.



3. The new Schema window screen open. Enter the new database name (for example, mytestdb) and use default **Collation**. Collation is used to store specific data characters, mainly useful for storing foreign languages.

4. A new popup window appears, click Apply->Finish button to create a new database.

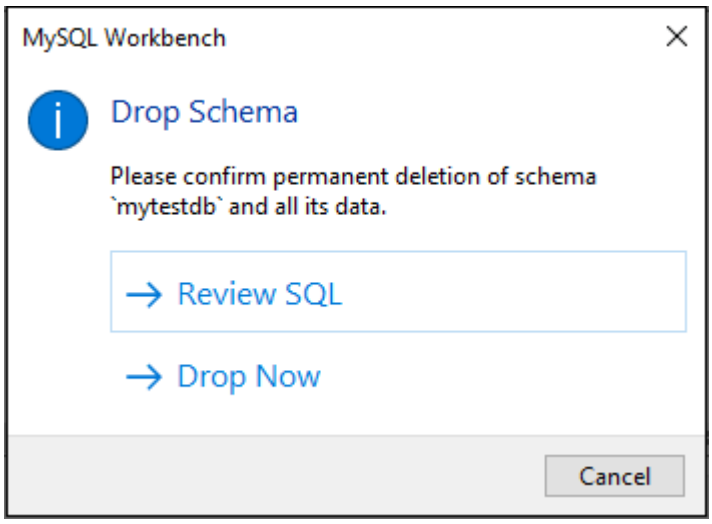
5. After the successful creation of the database, you can see this new database in the Schema menu. If you do not see this, click on the refresh icon into the Schema menu.

6. If you want to see more information about the database, select mytestdb database, and click on the 'i' icon. The information window displays several options, like Table, Column, Functions, Users, and many more.

7. MySQL Workbench does not provide an option to rename the database name, but we can create, update, and delete the table and data rows from the database.

Drop Database

1. To delete a database, you need to choose the database, right-click on it, and select the **Drop Schema** option. The following screen appears:



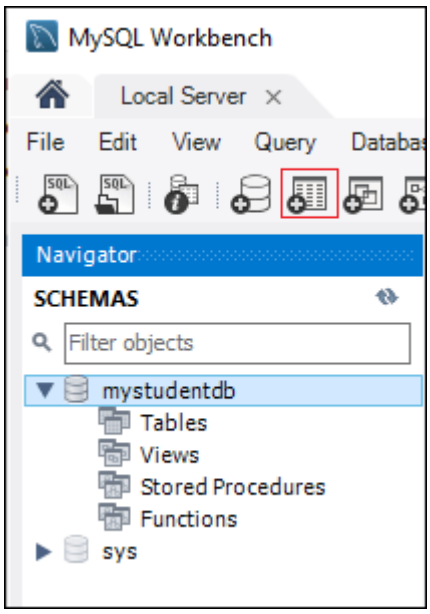
2. Select **Drop Now** option in the popup window and the database including table, data rows will be deleted from the database Server.

Create Table

To create a table, do the following steps:

1. Open the MySQL Workbench and logged in using username and password. Then, go to the Navigation tab and click on the Schema menu. Here, you can see all the previously created databases. You can also create a new database.

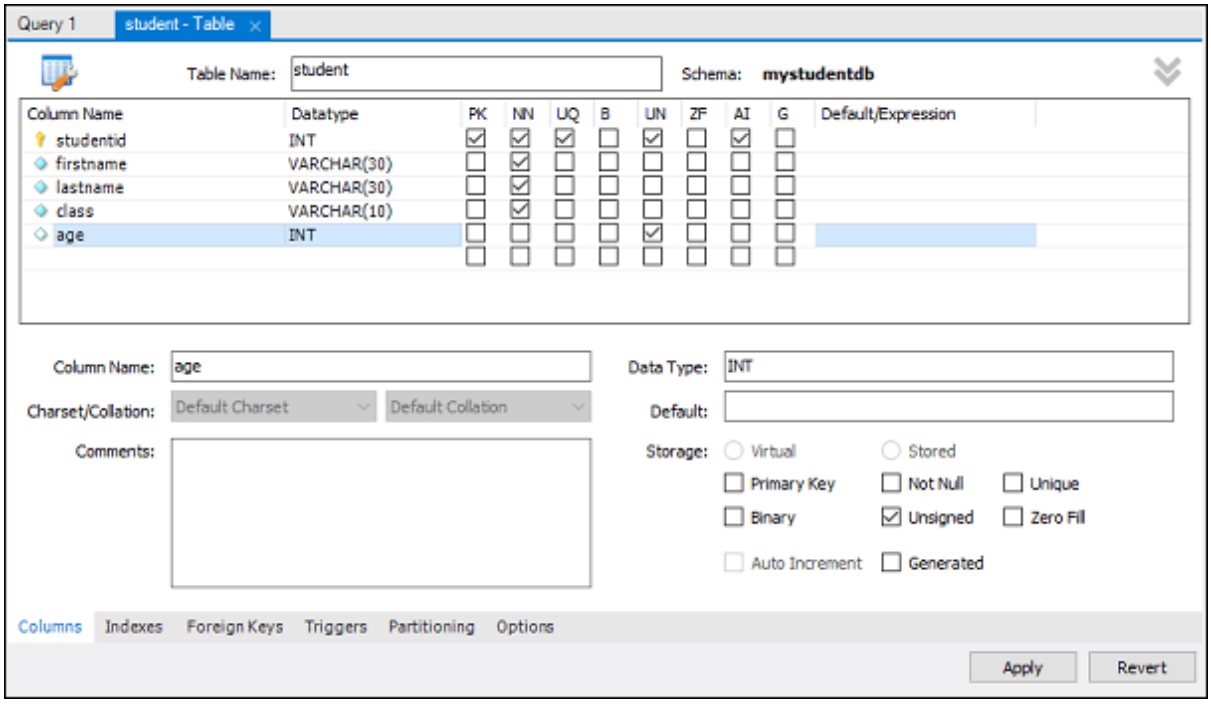
2. Select the newly created database, double click on it, and you will get the sub-menu under the database. The sub-menu under the database are Tables, Views, Functions, and Stored Procedures, as shown in the below screen.



3. Select Tables sub-menu, right-click on it and select **Create Table** option. You can also click on create a new table icon (shown in red rectangle) to create a table.

4. On the new table screen, you need to fill all the details to create a table. Here, we are going to enter the table name (for example, student) and use default collation and engine.

5. Click inside the middle window and fill the column details. Here, the column name contains many attributes such as Primary Key(PK), Not Null (NN), Unique Index (UI), Binary(B), Unsigned Data type(UN), Auto Incremental (AI), etc. The following screen explains it more clearly. After filling all the details, click on the **Apply** button.



6. As soon as you click on the Apply button, it will open the SQL statement window. Again, click on the Apply button to execute the statement and Finish button to save the changes.

7. Now, go to the Schema menu and select the database which contains the newly created table.