SCS1309/ IS1210 Database Management

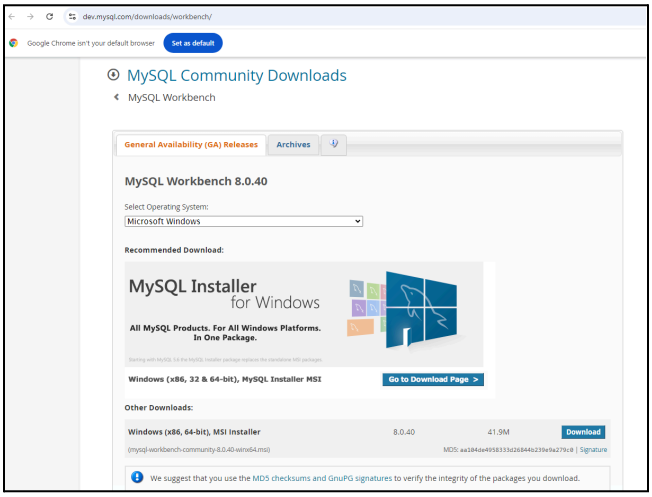
Practical – 05

Setting up the MySQL workbench and MySQL server

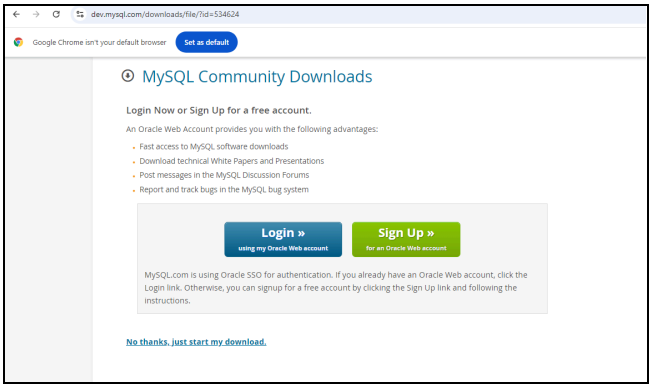
1. Install MySQL Workbench on Windows

Step 1: Download MySQL Workbench

- Go to the official MySQL website: MySQL Downloads
- Under the **MySQL Workbench** section, choose the **Windows** version. The page will auto-detect your OS.

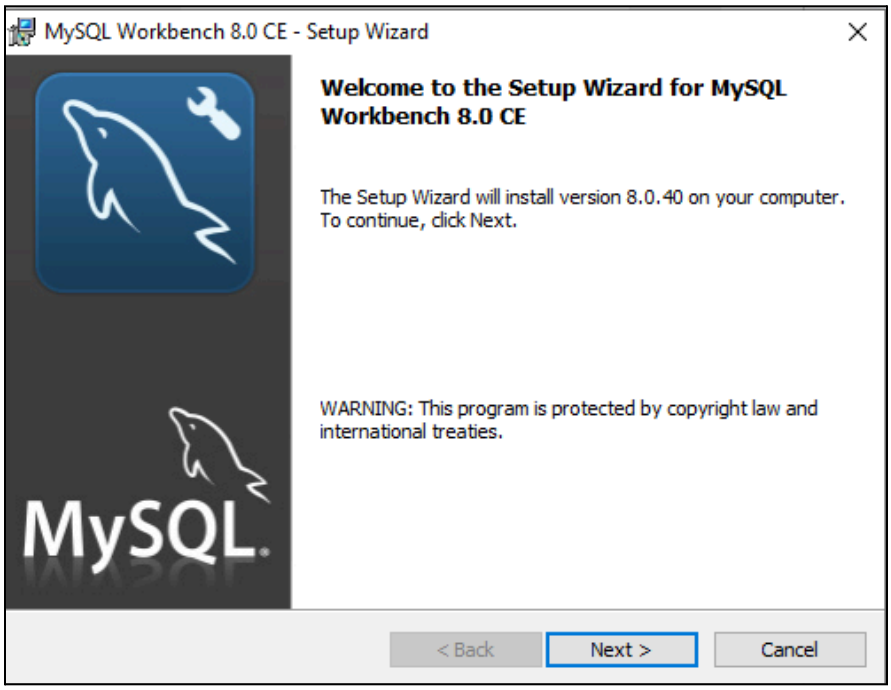


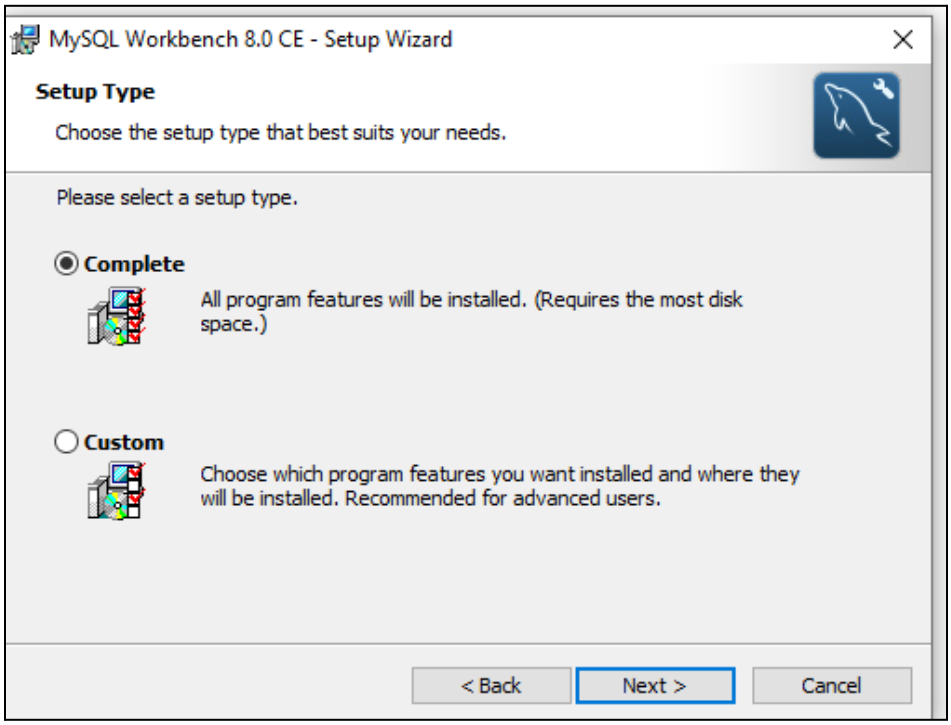
- Click on **Download** (or you can choose **Windows (x86, 32-bit), MSI Installer**).
- You'll be redirected to a page to either log in or **skip** this step and click **No thanks, just start my download** to begin the download.

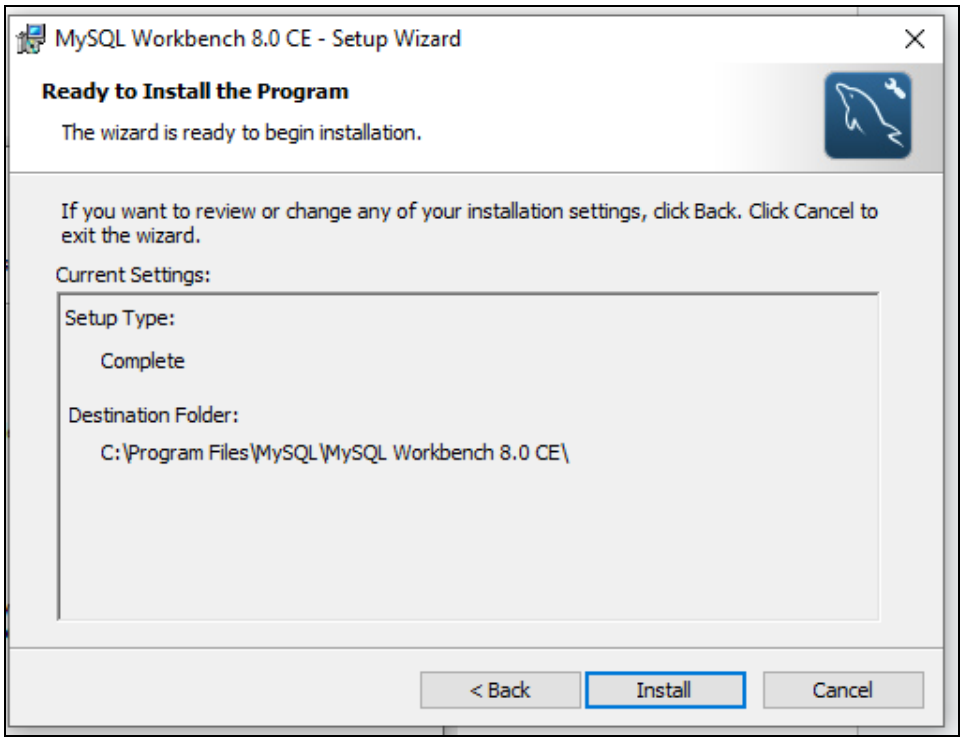


Step 2: Run the Installer

- After the download completes, locate the .msi file and double-click to run the installer.
- The MySQL Installer will launch. You can select the **Developer Default** setup type to install both MySQL Server and Workbench, or you can just select **MySQL Workbench** if you already have a MySQL server running.







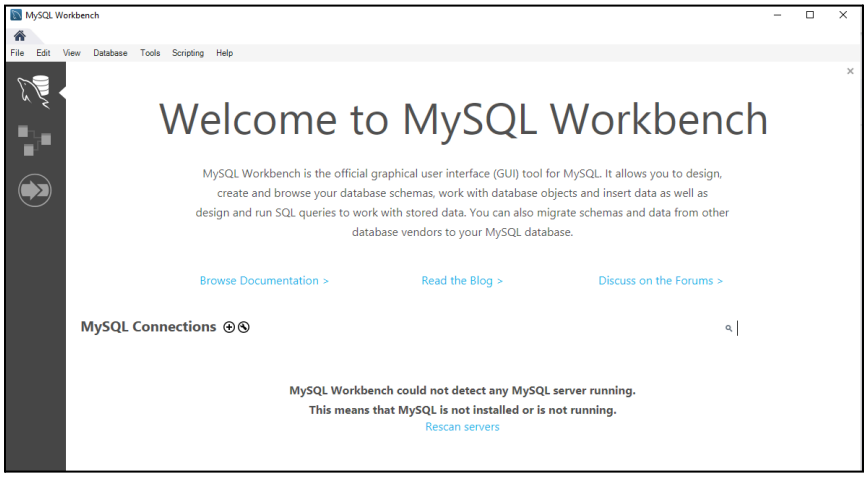
Step 3: Follow the Installation Wizard

- **Click Next** through the installation steps.
- The installer will check for prerequisites (such as Visual C++ Redistributables) and will prompt you to install any missing components.
- Follow the prompts to install the required components and continue.
- Once installation is complete, click **Next** and then **Finish**.
-

Step 4: Launch MySQL Workbench

- After installation, you can launch MySQL Workbench by searching for it in the Start menu or finding it in the program list.

- Once launched, you'll be able to connect to a MySQL server by providing your server's hostname, port (default: 3306), username, and password. (Since we have not yet installed MySQL server, this step cannot be done at the moment. In the next section we will look into how to install MySQL server)

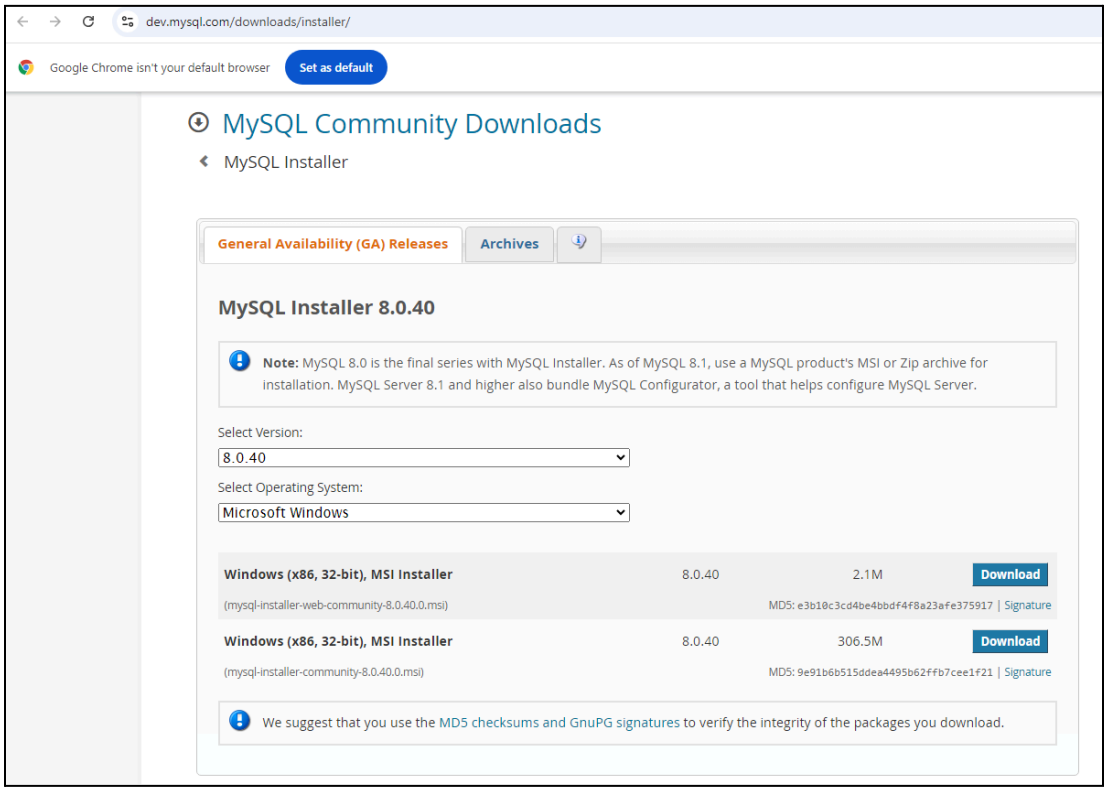


2. Install MySQL Server on Your Local Machine

Since you installed MySQL Workbench but not the MySQL Server, you'll need to install the **MySQL Server** package as well. Here's how to do that:

Step 1: Download MySQL Server

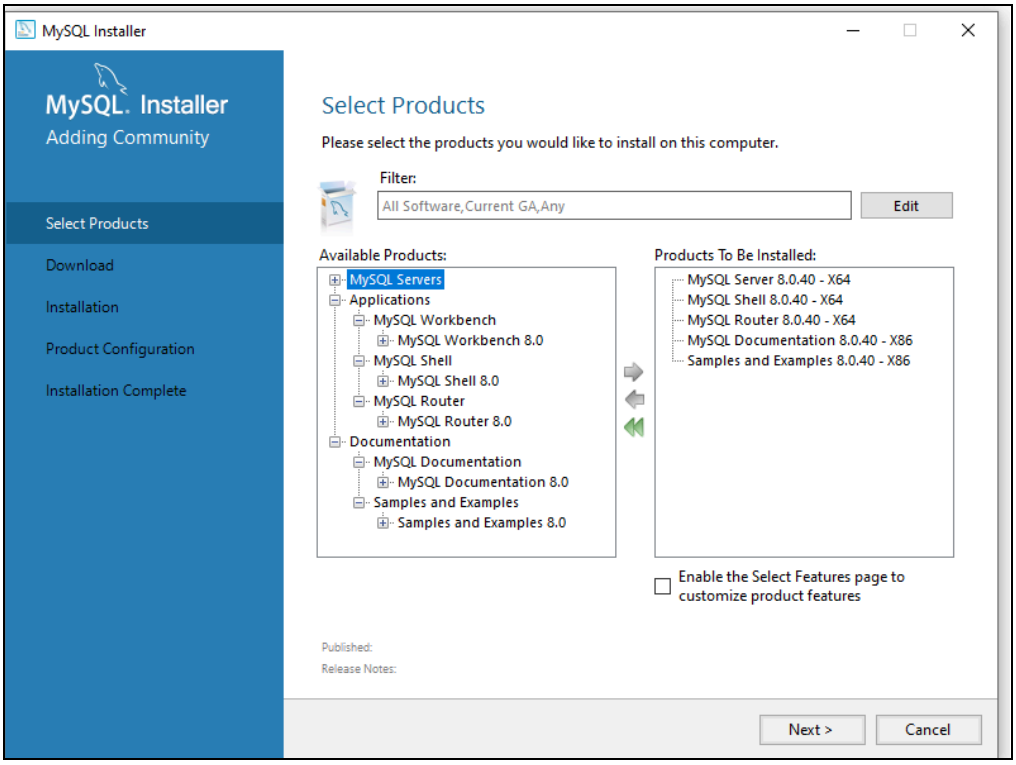
- Go to the MySQL Downloads page.
- Under **MySQL Installer**, select the **Windows (x86, 64-bit), MSI Installer** option.

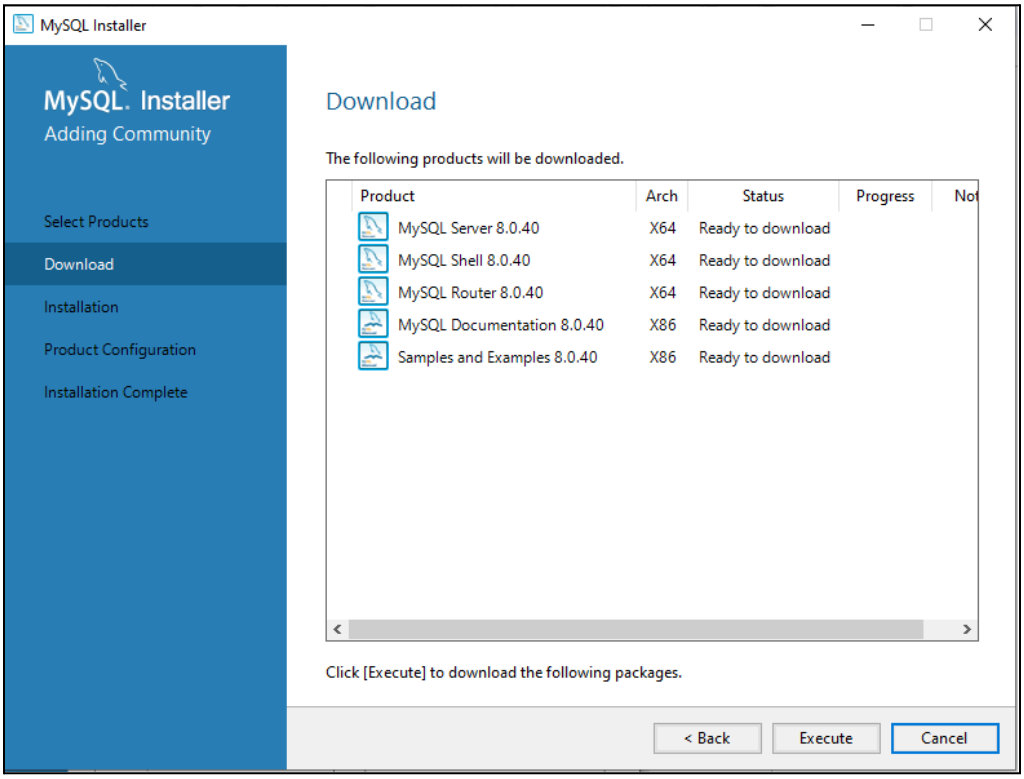


- Click on the **Download** button. You may choose to log in or skip the login and click **No thanks, just start my download**.

Step 2: Run the Installer

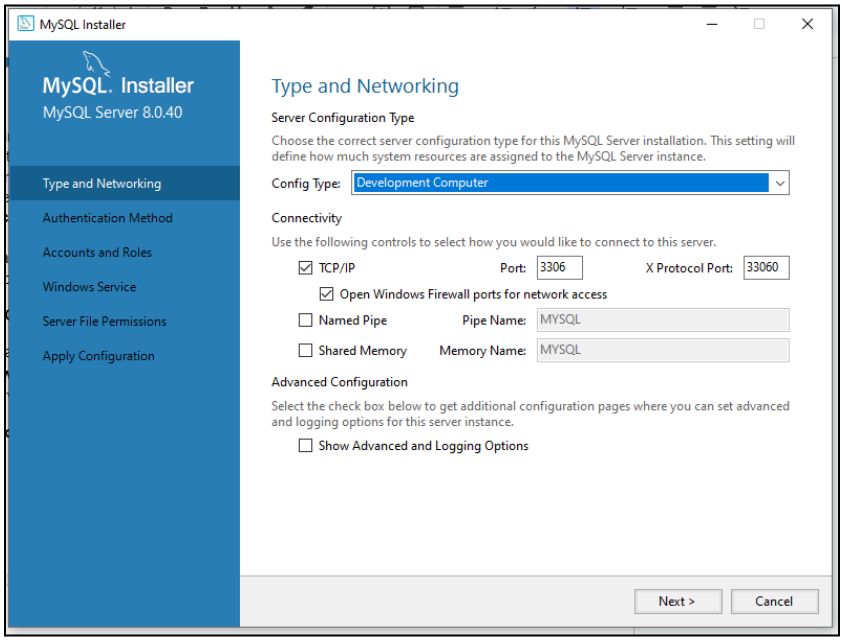
- Once the download is complete, run the .msi installer.
- The installer will open and provide several installation options. You can choose the **Developer Default** or **Server Only** installation.
    - **Developer Default**: Installs MySQL Server, Workbench, and other tools commonly used by developers.
    - **Server Only**: Only installs the MySQL Server.
- Click **Next** and follow the steps. If you choose **Developer Default**, MySQL Workbench and MySQL Server will be installed together.

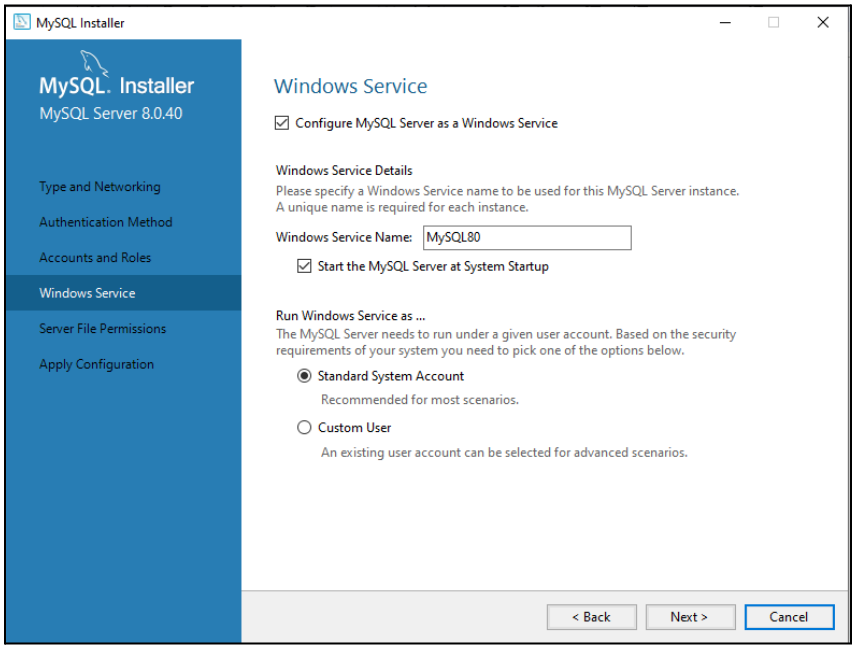

MySQL Installer
MySQL. Installer
Adding Community
Select Products
Download
Installation
Product Configuration
Installation Complete
Select Products
Please select the products you would like to install on this computer.
Filter:
All Software,Current GA,Any
Edit
Available Products:
MySQL Servers
Applications
MySQL Workbench
MySQL Workbench 8.0
MySQL Shell
MySQL Shell 8.0
MySQL Router
MySQL Router 8.0
Documentation
MySQL Documentation
MySQL Documentation 8.0
Samples and Examples
Samples and Examples 8.0
Products To Be Installed:
MySQL Server 8.0.40 - X64
MySQL Shell 8.0.40 - X64
MySQL Router 8.0.40 - X64
MySQL Documentation 8.0.40 - X86
Samples and Examples 8.0.40 - X86
Enable the Select Features page to customize product features
Published:
Release Notes:
Next >
Cancel

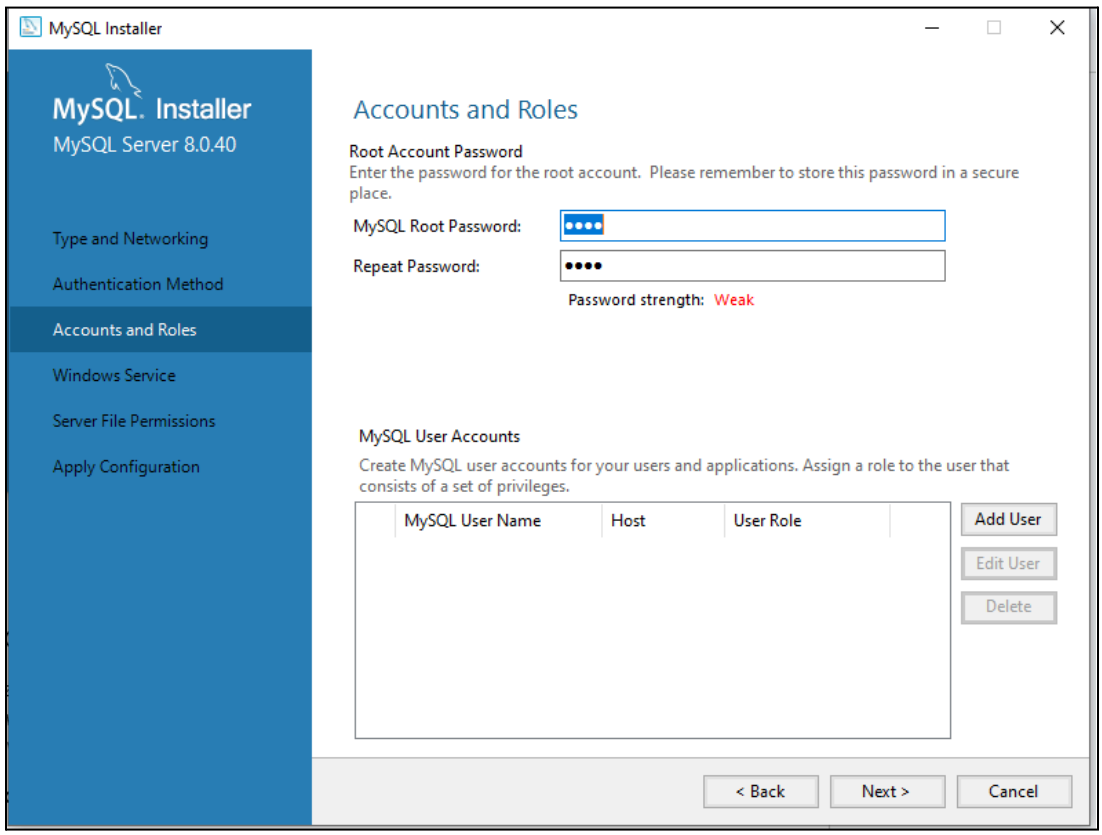

MySQL Installer
MySQL. Installer
Adding Community
Select Products
Download
Installation
Product Configuration
Installation Complete
Download
The following products will be downloaded.
Product
Arch
Status
Progress
MySQL Server 8.0.40
X64
Ready to download
MySQL Shell 8.0.40
X64
Ready to download
MySQL Router 8.0.40
X64
Ready to download
MySQL Documentation 8.0.40
X86
Ready to download
Samples and Examples 8.0.40
X86
Ready to download
Click [Execute] to download the following packages.
< Back
Execute
Cancel

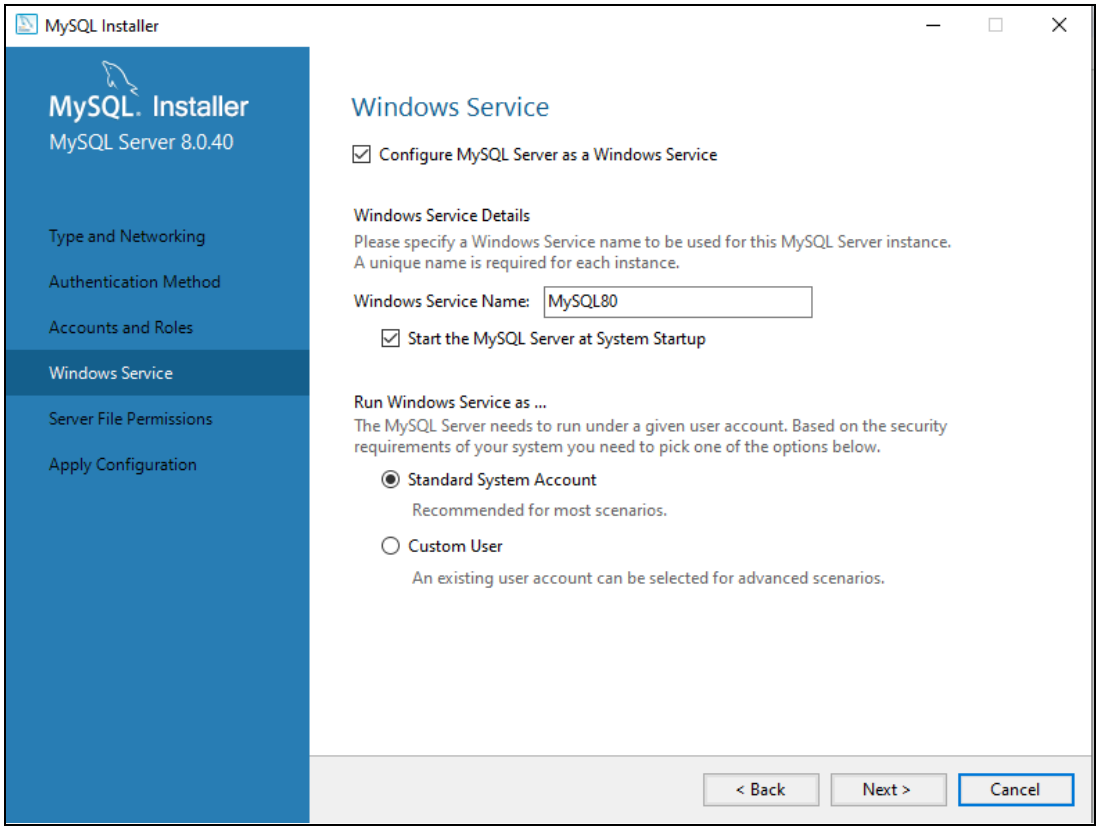
Step 3: Configure MySQL Server

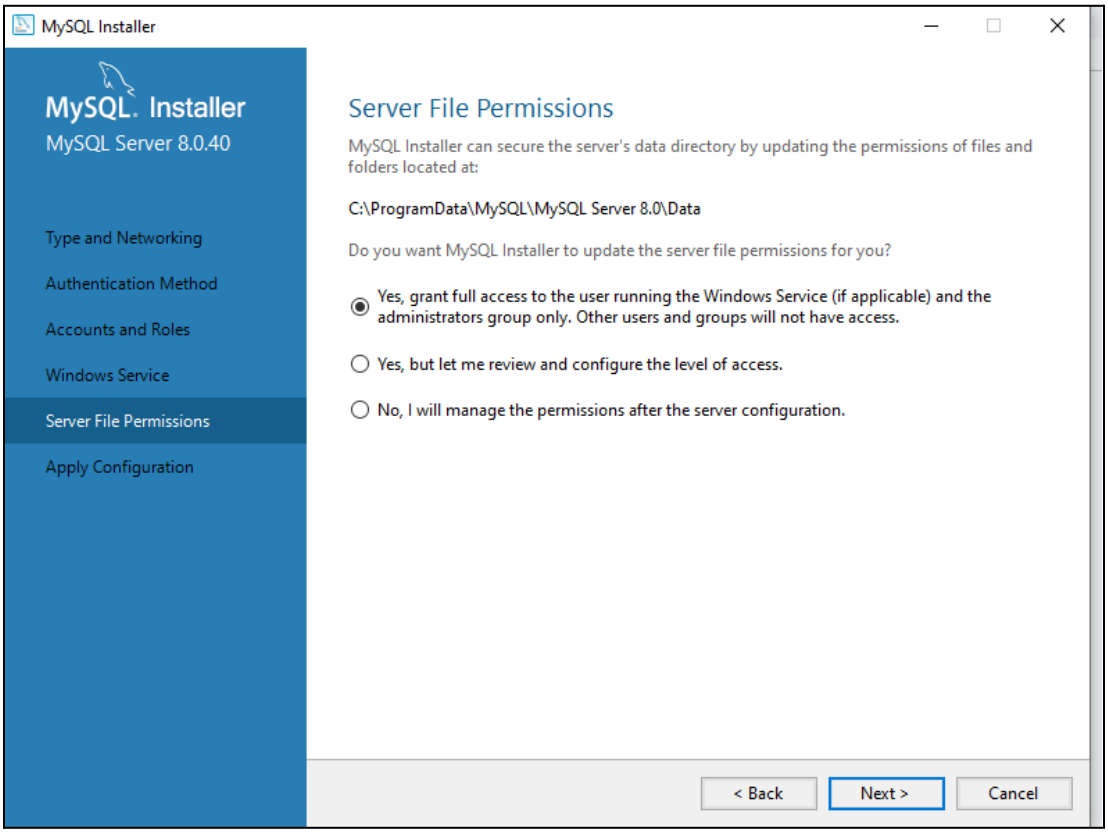
- During the installation, you'll need to configure the MySQL Server.
    - Set the **root password** (make sure to remember this, as you'll need it later to connect to the server).
    - Select the **server configuration type** (for most people, the default **Development Machine** setting will work).
    - You can choose to enable the **MySQL Server as a Windows Service**, which means MySQL will start automatically whenever you start your computer.
- Once the configuration is complete, click **Next** to finish the installation.

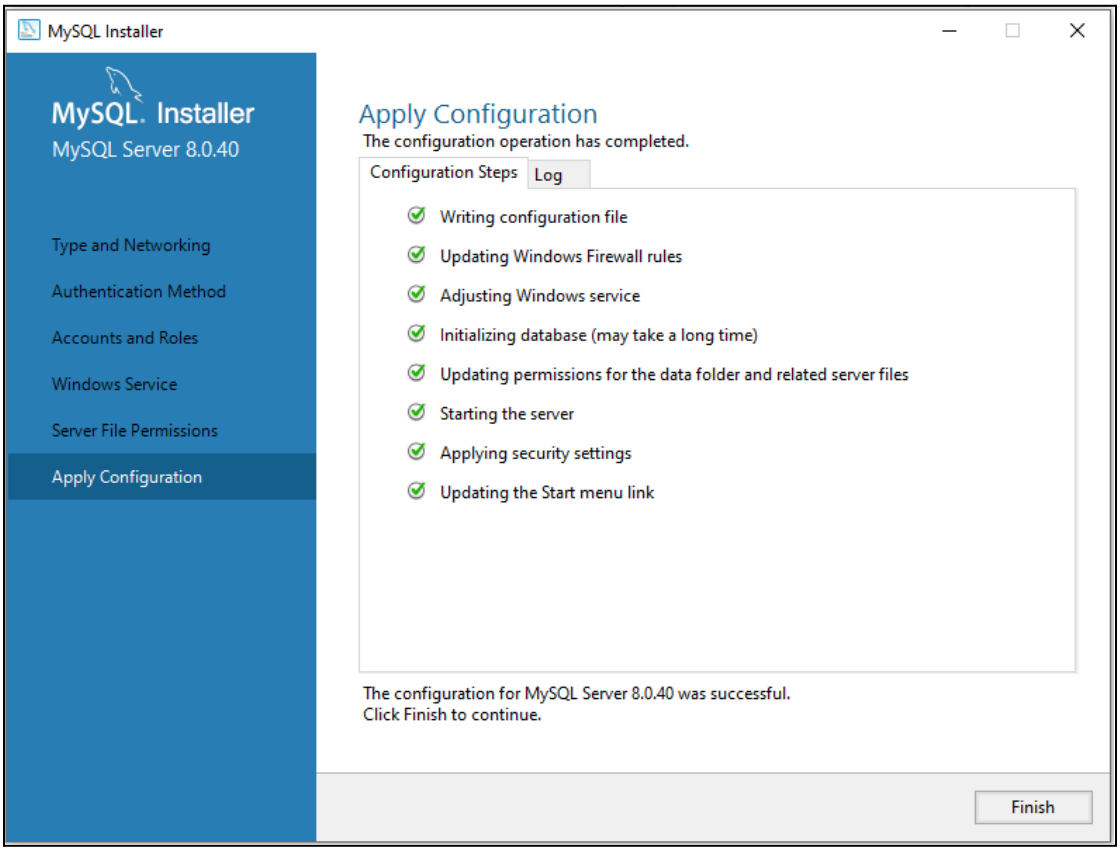





MySQL Installer
MySQL. Installer
MySQL Server 8.0.40
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Server File Permissions
Apply Configuration
Accounts and Roles
Root Account Password
Enter the password for the root account. Please remember to store this password in a secure place.
MySQL Root Password:
Repeat Password:
Password strength: Weak
MySQL User Accounts
Create MySQL user accounts for your users and applications. Assign a role to the user that consists of a set of privileges.
MySQL User Name
Host
User Role
Add User
Edit User
Delete
< Back
Next >
Cancel

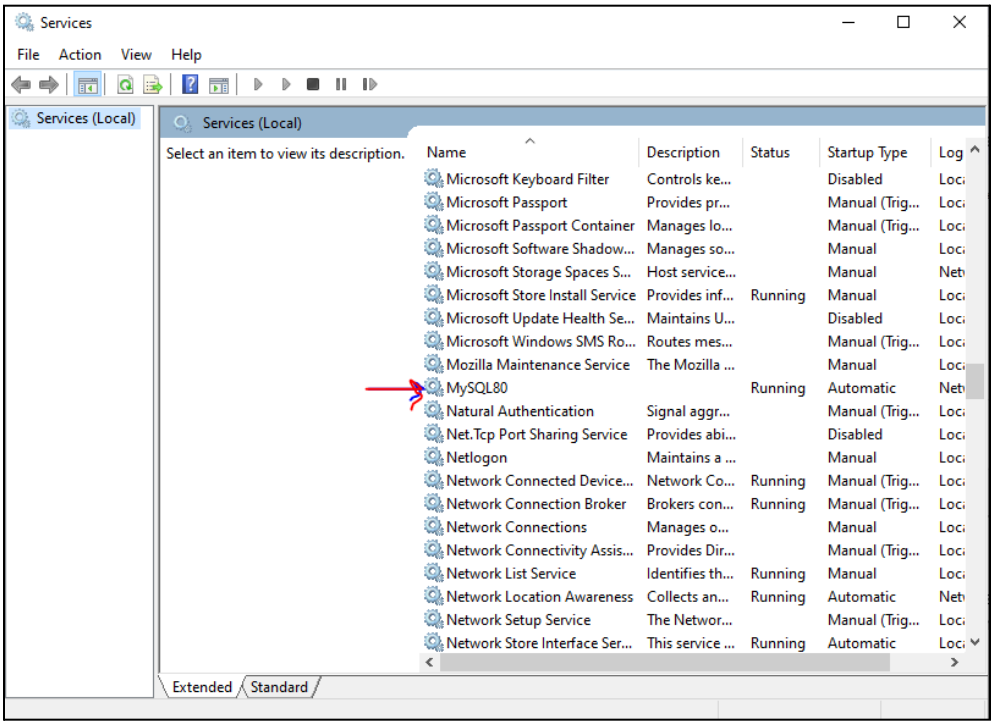

MySQL Installer
MySQL. Installer
MySQL Server 8.0.40
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Server File Permissions
Apply Configuration
Windows Service
Configure MySQL Server as a Windows Service
Windows Service Details
Please specify a Windows Service name to be used for this MySQL Server instance.
A unique name is required for each instance.
Windows Service Name:
MySQL80
Start the MySQL Server at System Startup
Run Windows Service as ...
The MySQL Server needs to run under a given user account. Based on the security requirements of your system you need to pick one of the options below.
Standard System Account
Recommended for most scenarios.
Custom User
An existing user account can be selected for advanced scenarios.
< Back
Next >
Cancel


MySQL Installer
MySQL. Installer
MySQL Server 8.0.40
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Server File Permissions
Apply Configuration
Server File Permissions
MySQL Installer can secure the server's data directory by updating the permissions of files and folders located at:
C:\ProgramData\MySQL\MySQL Server 8.0\Data
Do you want MySQL Installer to update the server file permissions for you?
Yes, grant full access to the user running the Windows Service (if applicable) and the administrators group only. Other users and groups will not have access.
Yes, but let me review and configure the level of access.
No, I will manage the permissions after the server configuration.
< Back
Next >
Cancel


MySQL Installer
MySQL. Installer
MySQL Server 8.0.40
Type and Networking
Authentication Method
Accounts and Roles
Windows Service
Server File Permissions
Apply Configuration
Apply Configuration
The configuration operation has completed.
Configuration Steps
Log
Writing configuration file
Updating Windows Firewall rules
Adjusting Windows service
Initializing database (may take a long time)
Updating permissions for the data folder and related server files
Starting the server
Applying security settings
Updating the Start menu link
The configuration for MySQL Server 8.0.40 was successful.
Click Finish to continue.
Finish

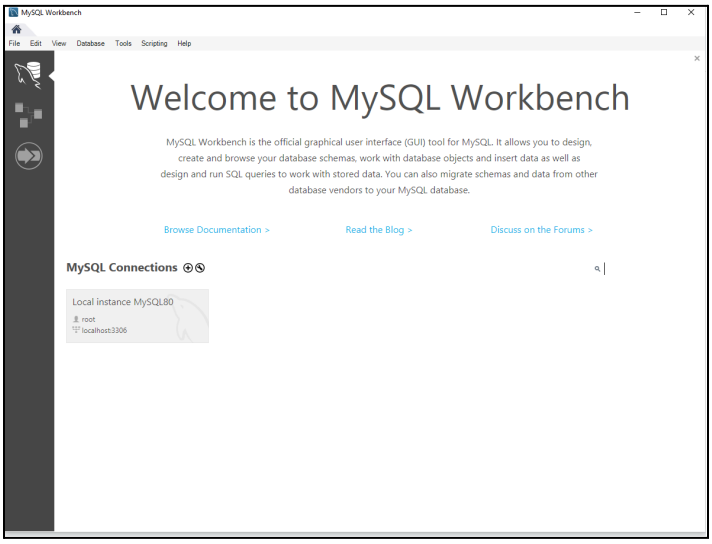
Step 4: Start MySQL Server

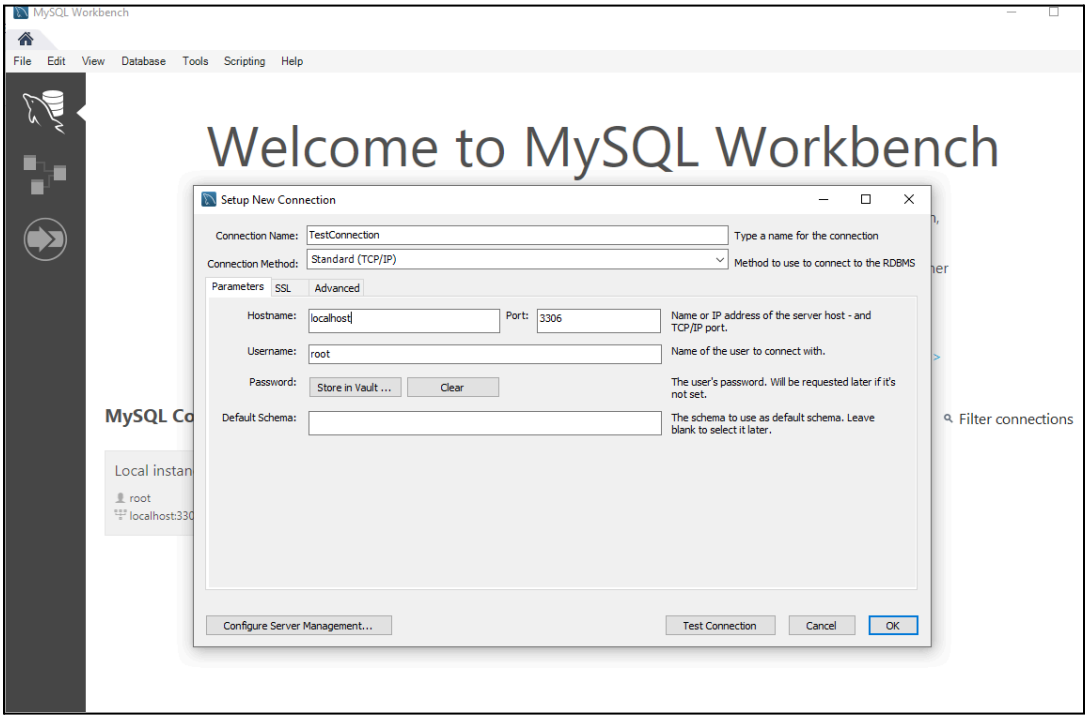
- After installation, the MySQL Server should be running. You can check this by looking in the **Windows Services** (type services.msc in the Start menu search box) to see if the **MySQL** service is listed and running.



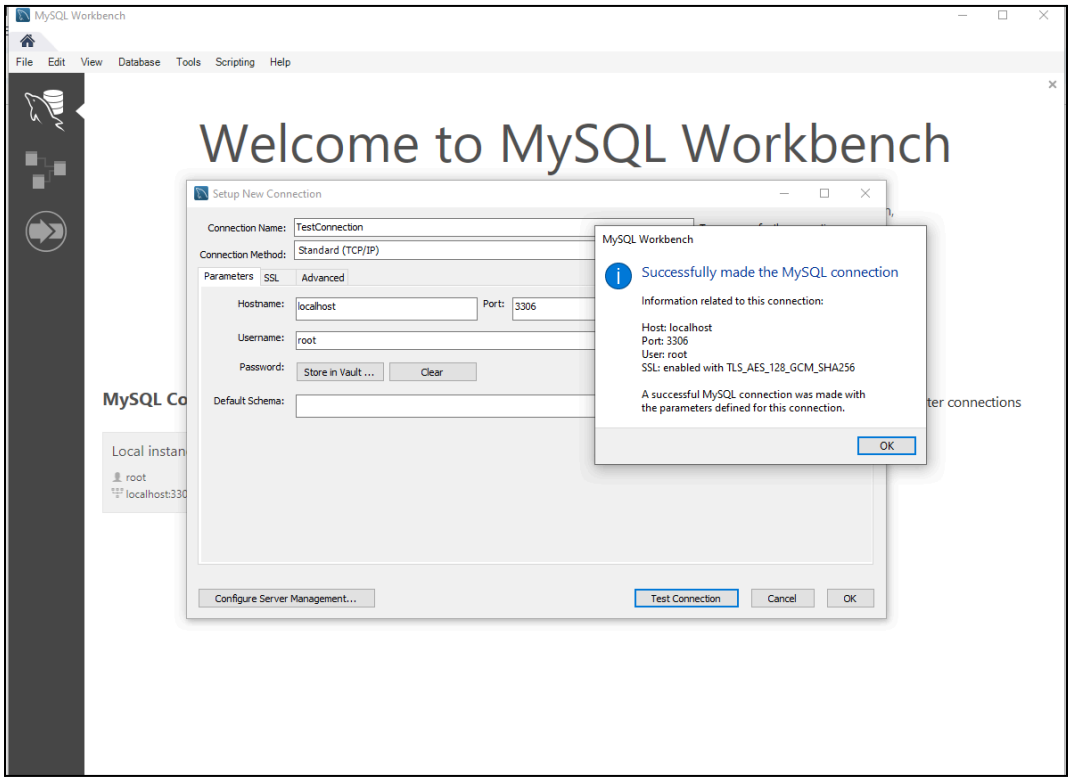
Step 5: Connect to MySQL Server using MySQL Workbench

- Open **MySQL Workbench** again.
- Click the + icon to create a new connection.
- In the **Hostname** field, type localhost (this means you are connecting to MySQL running on your own computer).
- For **Port**, leave it as the default 3306.
- In the **Username** field, type root (or any other MySQL user you set up during installation).
- Enter the **root password** (the one you set during installation).





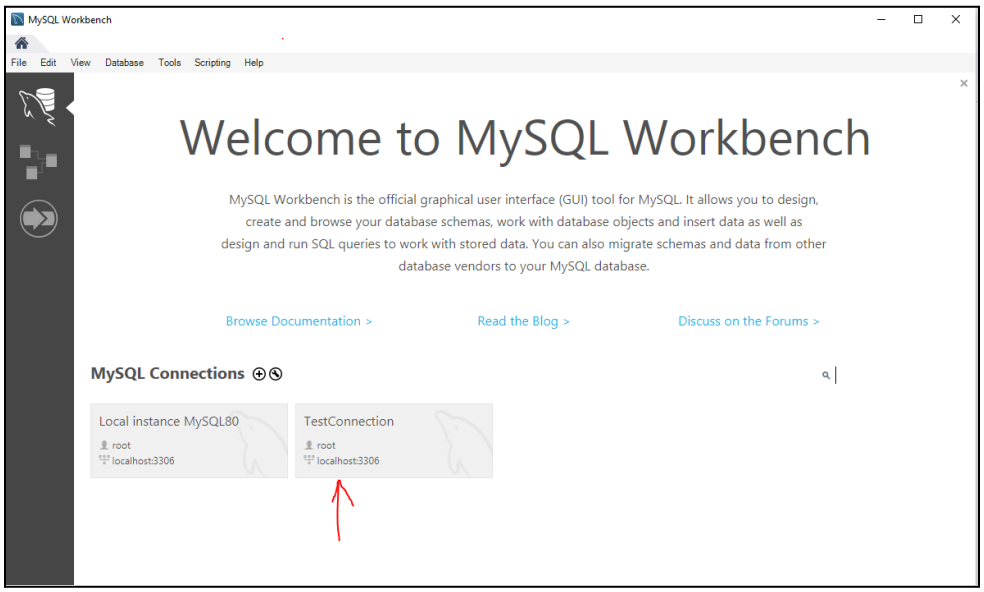
- Click the "**Test Connection**" button to verify that the connection works.

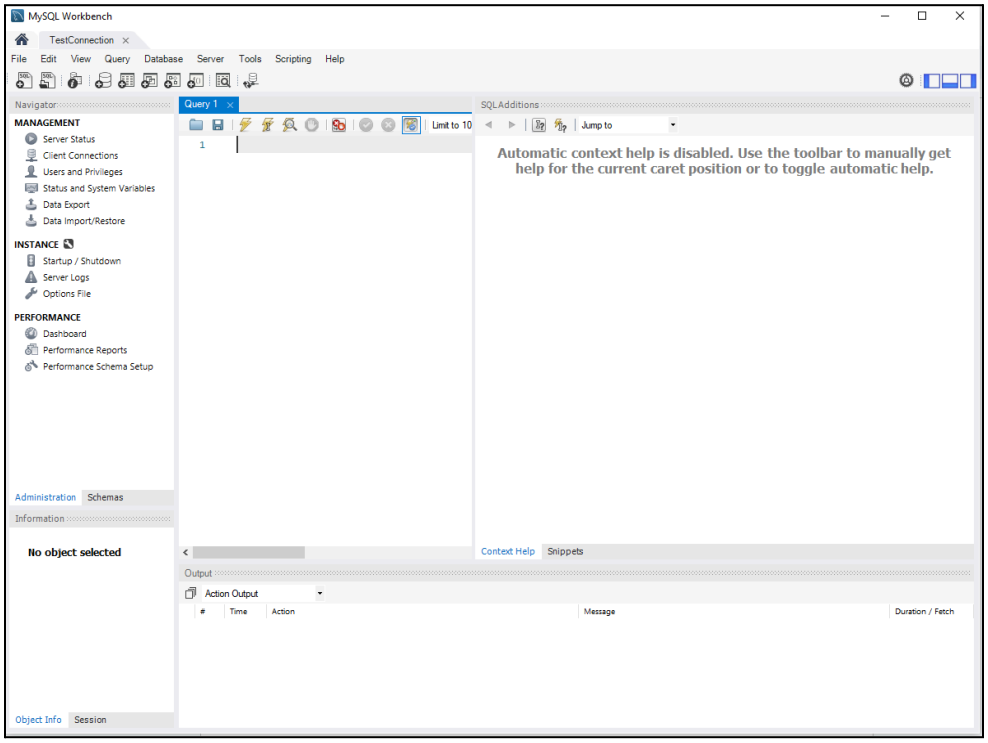


3. How to create a Database and Table in MySQL Workbench

Step 1: Open MySQL Workbench and Connect to Your MySQL Server

1. Open **MySQL Workbench**.
2. In the **MySQL Connections** section, click on the connection you created (e.g., Local MySQL).
3. Enter the **root password** (or the password you set) if prompted and click **OK** to connect.



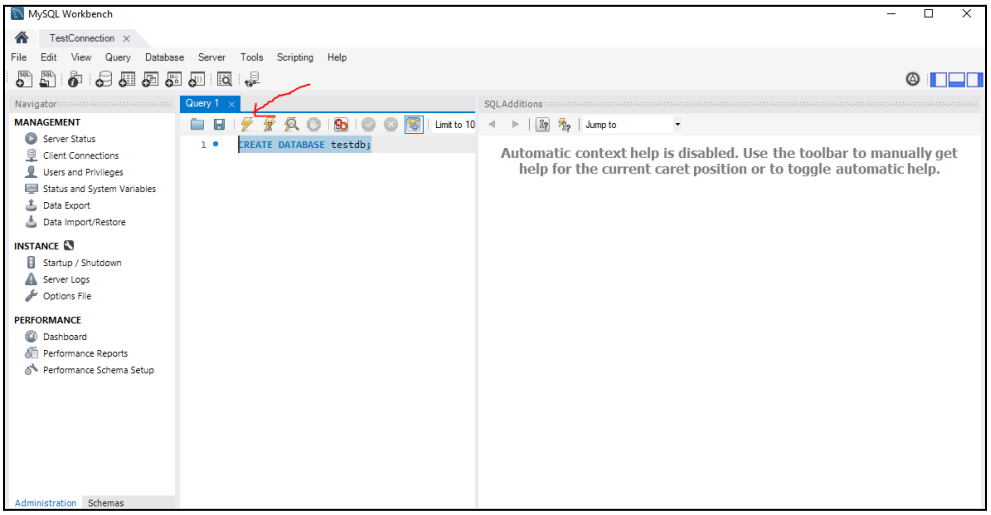


Step 2: Create a New Database

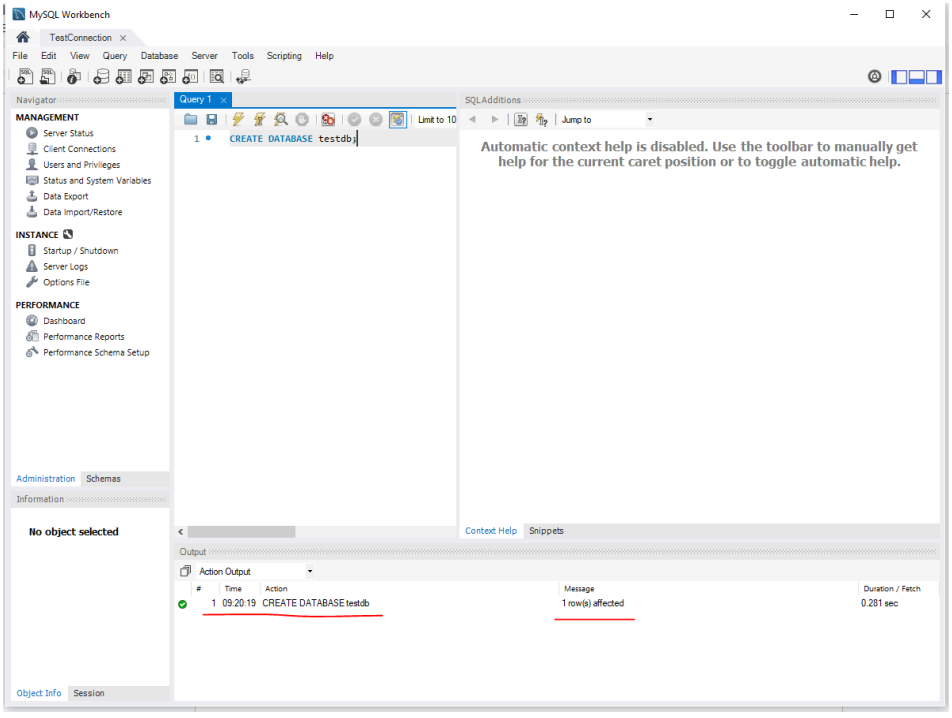
1. Once you're connected, you'll see the **SQL Editor** window, which allows you to execute SQL commands.
2. In the SQL Editor, you can write SQL queries directly. Let's start by creating a new database. In the SQL query box, type the following command to create a database called testdb:

   CREATE DATABASE testdb;

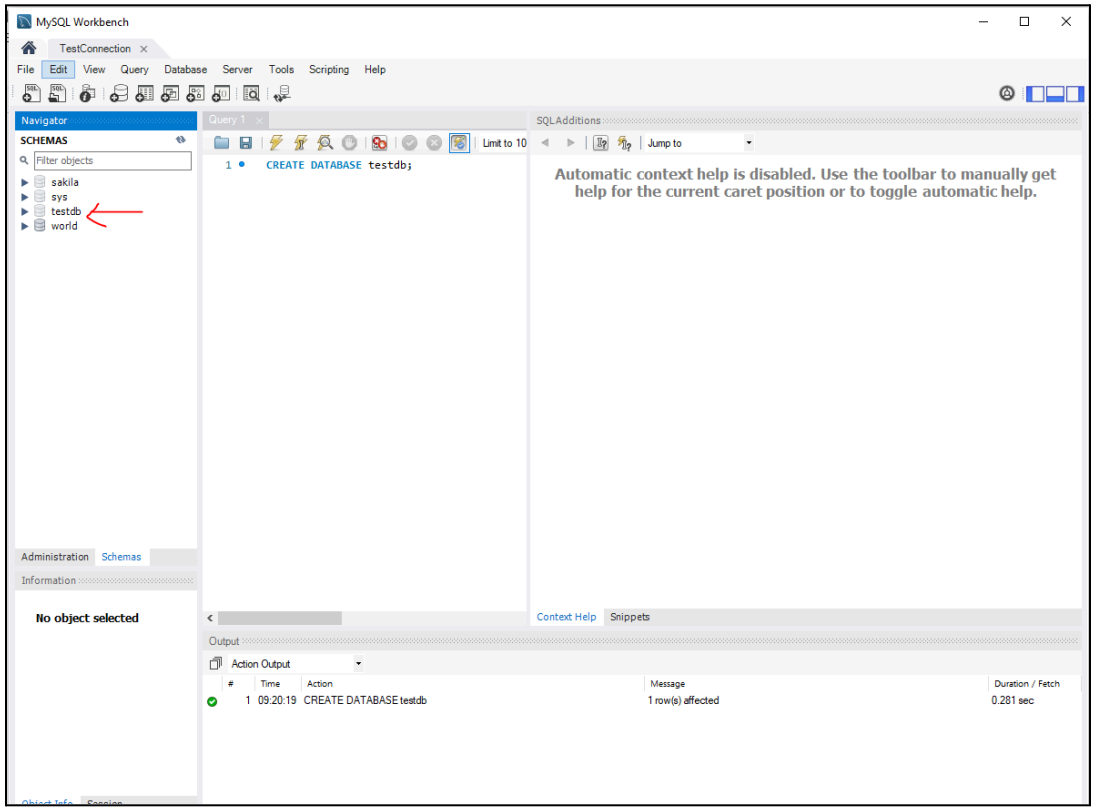
3. **Execute the query**:
   - Click the **lightning bolt** icon (Execute button) in the toolbar or press Ctrl + Shift + Enter to run the query.



   - If successful, you'll see a message like **Query OK, 1 row affected**.



4. **Refresh the Schemas**:
    - In the **left sidebar**, under **Schemas**, right-click and select **Refresh**. This will show the newly created database testdb.

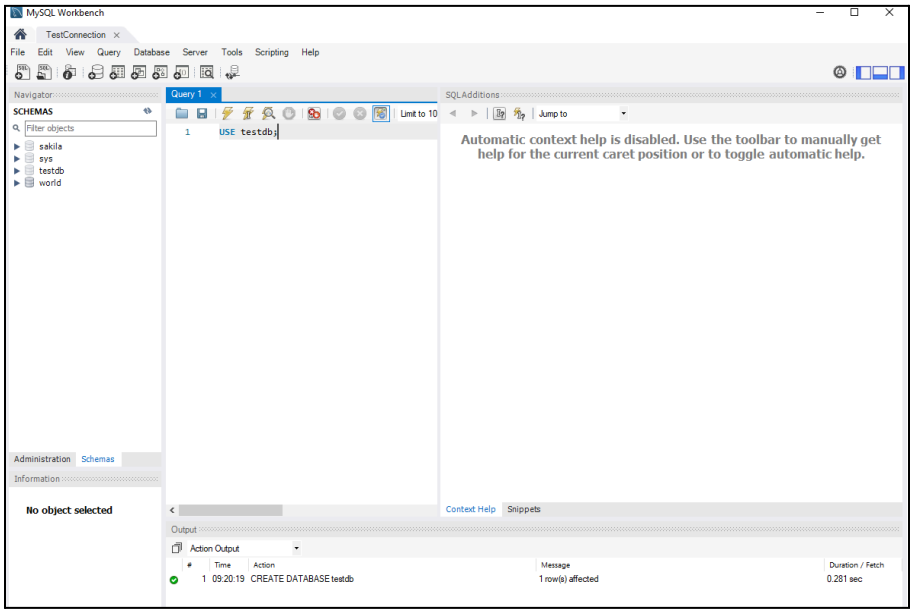


Step 3: **Select the Database**

1. To work with the testdb database, you first need to select it. In the SQL query window, type the following command:

    USE testdb;

2. Execute the query as you did earlier by clicking the **Execute** button or pressing Ctrl + Shift + Enter.



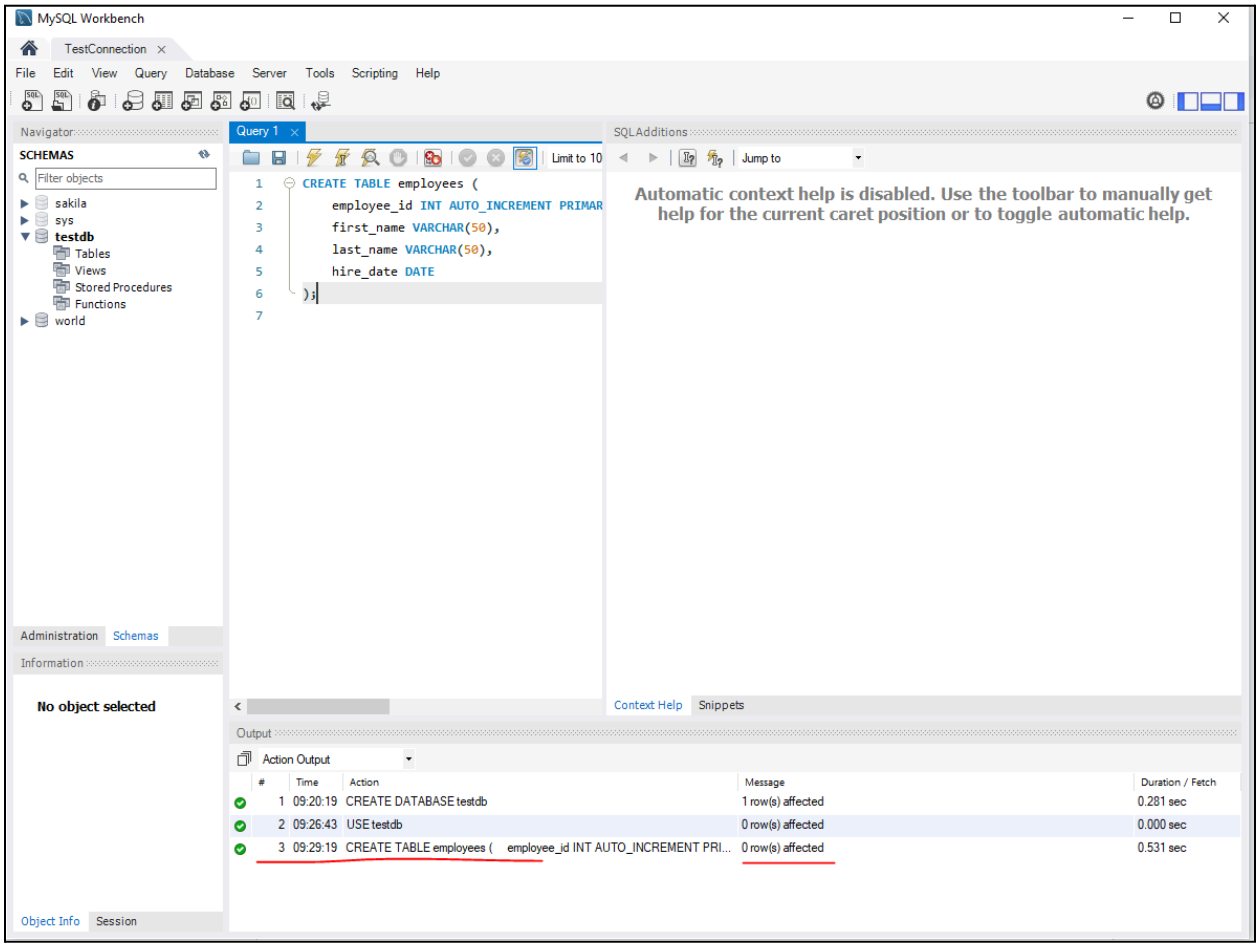
Step 4 : Create a Table in the Database

Now that we have a database selected, let's create a simple table within it. We'll create a table called employees that will hold basic information like employee IDs, names, and hire dates.

- In the **SQL Editor** window, type the following SQL command to create the table:

```
CREATE TABLE employees (
    employee_id INT AUTO_INCREMENT PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    hire_date DATE
);
```

- **Execute the query** by clicking the **Execute** button or pressing Ctrl + Shift + Enter.
- If successful, you should see **Query OK, 0 rows affected**.



Step 5: Insert Data into the Table

Let's now insert some data into the employees table. For this, you'll use the INSERT INTO statement. Here's how you can add a few employee records:

In the SQL query window, type the following command:

INSERT INTO employees (first_name, last_name, hire_date)

VALUES

('John', 'Doe', '2022-01-15'),

('Jane', 'Smith', '2021-06-10'),

('Sam', 'Brown', '2023-03-05');