

Deloitte.



Installation Guide

Version Dated: 07.2024

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Required Software

Maven

<https://maven.apache.org/download.cgi>

Tomcat Server

<https://tomcat.apache.org/download-90.cgi>

MySQL Server

<https://dev.mysql.com/downloads/installer/>

Git

[Git - Downloads](#)

GitHub

<https://github.com/>

Installation Guide

Maven

Overview

Maven, a potent project management tool based on the Project Object Model (POM), is used for project build, dependency, and documentation.

Installation Version: 3.6.3

Below are the steps to download and install Maven on your systems.

Step 1: Click [Maven](#) to navigate to the download page. Click either of the highlighted links to begin the download.

Index of /dist/maven/maven-3/3.6.3/binaries				
Name	Last modified	Size	Description	
Parent Directory	-			
apache-maven-3.6.3-bin.tar.gz	2019-11-19 21:50	9.1M		
apache-maven-3.6.3-bin.tar.gz.asc	2019-11-19 21:50	235		
apache-maven-3.6.3-bin.tar.gz.sha512	2019-11-19 21:50	128		
apache-maven-3.6.3-bin.zip	2019-11-19 21:50	9.2M		
apache-maven-3.6.3-bin.zip.asc	2019-11-19 21:50	235		
apache-maven-3.6.3-bin.zip.sha512	2019-11-19 21:50	128		

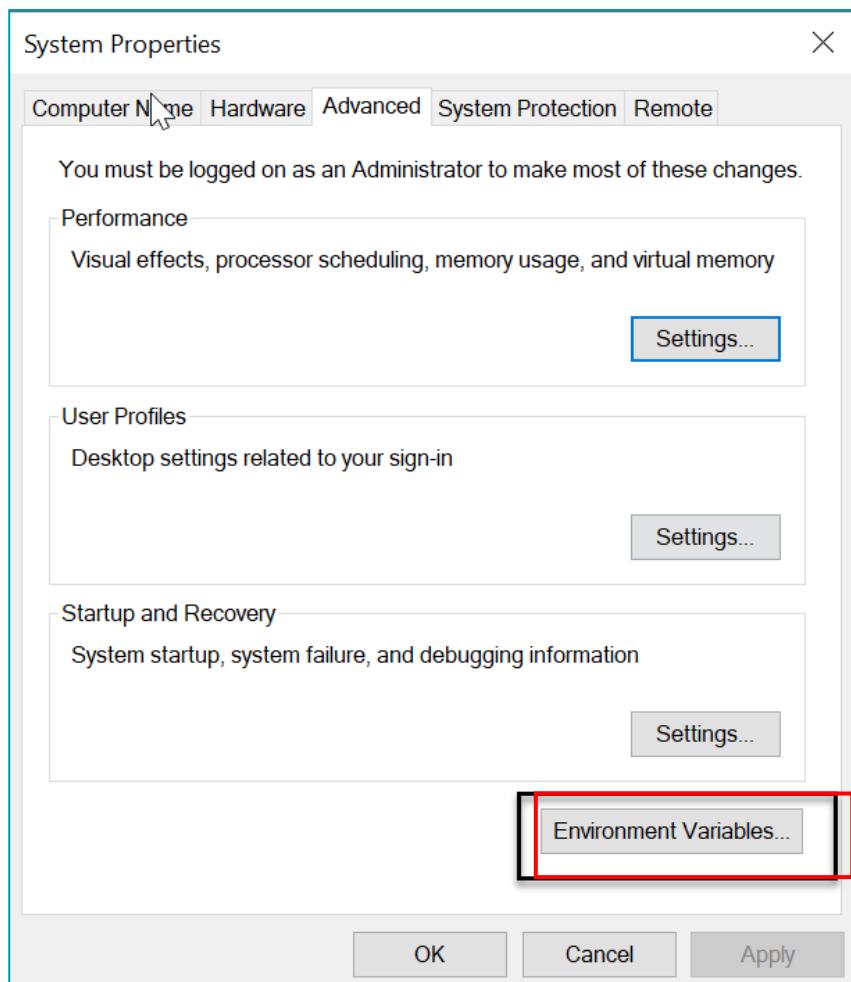
Step 2: Once Maven is downloaded, extract the ZIP file.

Desktop > maven > apache-maven-3.6.3			
Name	Date modified	Type	Size
bin	7/22/2020 1:04 PM	File folder	
boot	7/22/2020 1:04 PM	File folder	
conf	7/22/2020 1:04 PM	File folder	
lib	7/22/2020 1:04 PM	File folder	
LICENSE	11/7/2019 12:32 PM	File	18 KB
NOTICE	11/7/2019 12:32 PM	File	6 KB
README.txt	11/7/2019 12:32 PM	Text Document	3 KB

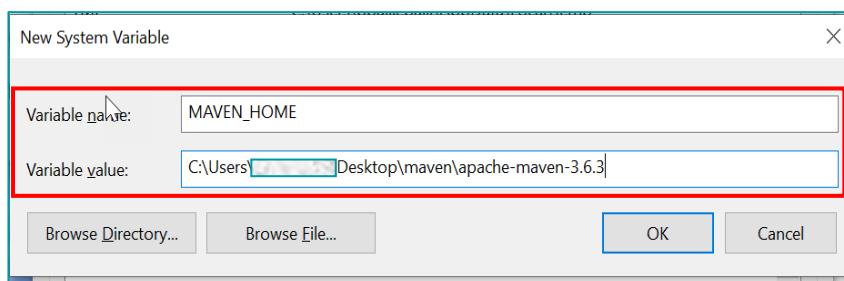
Step 3: Add ‘MAVEN_HOME’ in the environment variables path. Right-click **This PC** -> **Properties** -> **Advanced System Settings**.



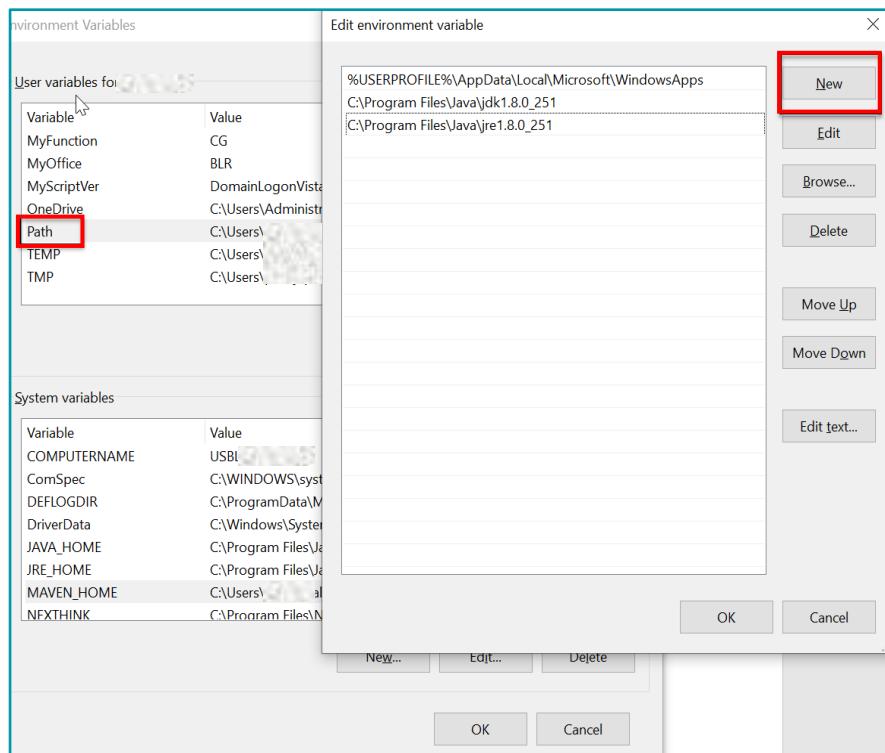
Step 4: Clicking **Advanced System Settings** displays the below pop-up. Click the **Environment Variables** button.



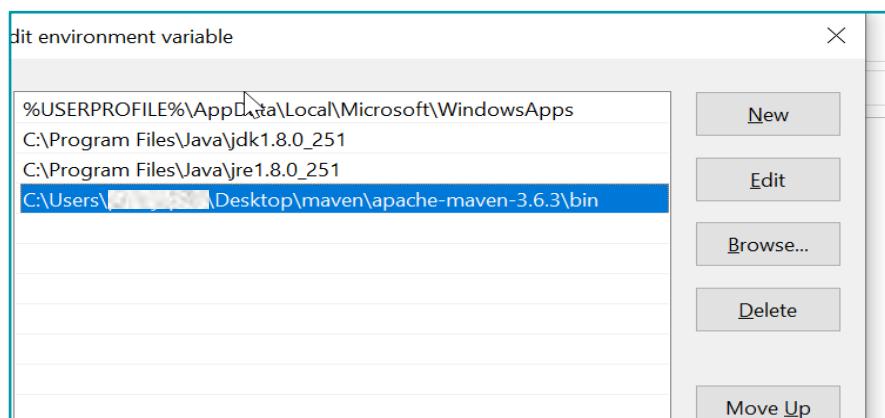
Step 5: On the **Environment Variables** screen, click **New System Variable**, and the New System Variable pop-up will display. Assign the value of **MAVEN_HOME** variable to the home directory of **Maven** (i.e., the outer folder of bin).



Step 6: Edit the **Path** variable under the User variables.



Step 7: Add the value as below, under the **bin** folder of **Maven** home directory.



Step 8: Open the command prompt, and type **mvn -version** to validate whether the latest version of Maven is successfully installed.

```
C:\> 2018 Microsoft Corporation. All rights reserved.

:C:\Users\[REDACTED]>mvn -version
Apache Maven 3.6.3 (cecedd343002696d0abb50b32b541b8a6ba2883f)
Maven home: C:\Users\[REDACTED]\Desktop\maven\apache-maven-3.6.3\bin\..
Java version: 1.8.0_251, vendor: Oracle Corporation, runtime: C:\Program Files\Java\jdk1.8.0_251\jre
Default locale: en_US, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"
```

Tomcat Server

Overview

Apache Tomcat is an open-source, pure-Java HTTP web server that integrates Java Servlet, JavaServer Pages, Java Expression Language, and WebSocket technologies.

Installation Version: 9.0.37

Please follow these steps to download and install Tomcat:

Step 1: Click the [Tomcat Server download](#) link to navigate to the Tomcat Server download page. Click the **64-bit Windows** link to begin the download. Once the download completes, unzip the file into a folder.

You are currently using <http://apachemirror.wuchna.com/>. If you encounter a problem with this mirror, please failing, there are *backup* mirrors (at the end of the mirrors list) that should be available.

Other mirrors: <http://apachemirror.wuchna.com/> [Change](#)

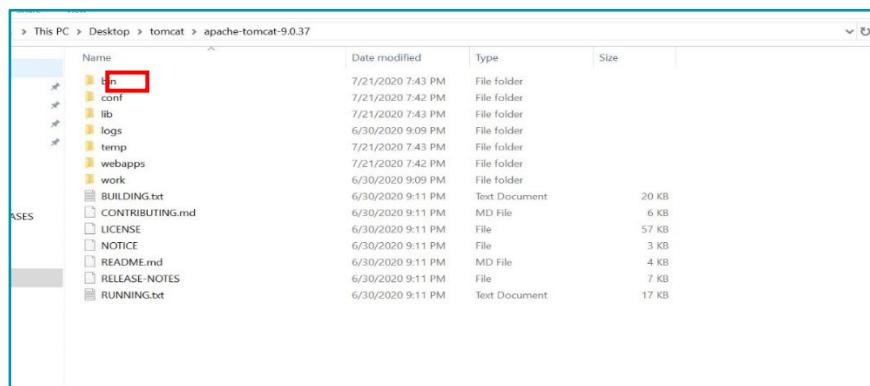
9.0.37

Please see the [README](#) file for packaging information. It explains what every distribution contains.

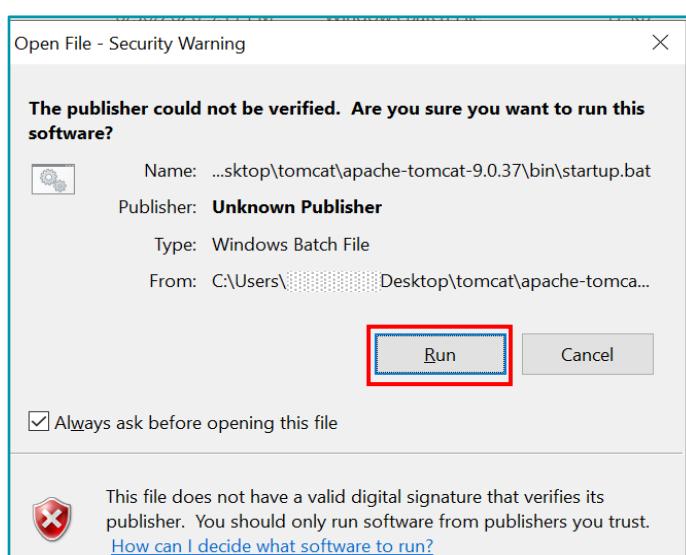
Binary Distributions

- Core:
 - [zip \(pgp, sha512\)](#)
 - [tar.gz \(pgp, sha512\)](#)
 - [32-bit Windows zip \(pgp, sha512\)](#)
 - **[64-bit Windows zip \(pgp, sha512\)](#)**
 - [32-bit/64-bit Windows Service Installer \(pgp, sha512\)](#)
- Full documentation:
 - [tar.gz \(pgp, sha512\)](#)
- Deployer:
 - [zip \(pgp, sha512\)](#)
 - [tar.gz \(pgp, sha512\)](#)
- Embedded:
 - [tar.gz \(pgp, sha512\)](#)

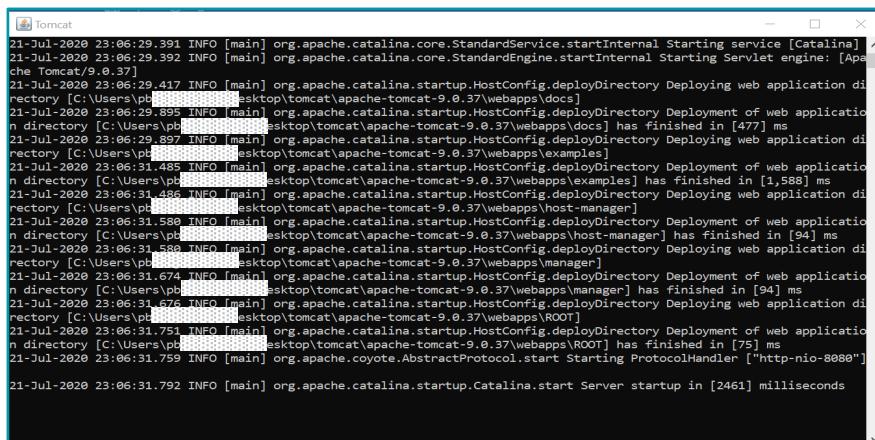
Step 2: Open the **bin** folder and double-click the **startup.bat** file.



Step 3: Click Run when the **Open File -> Security Warning** pop-up appears.



Step 4: Clicking the **startup.bat** file will initiate the Tomcat Server. The following screen will display when Tomcat Server is successfully installed in your system.

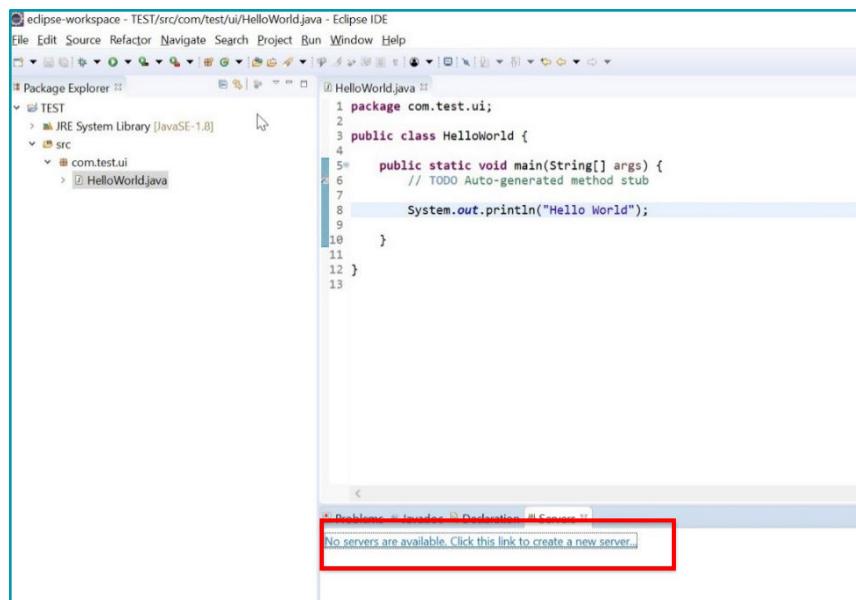


```

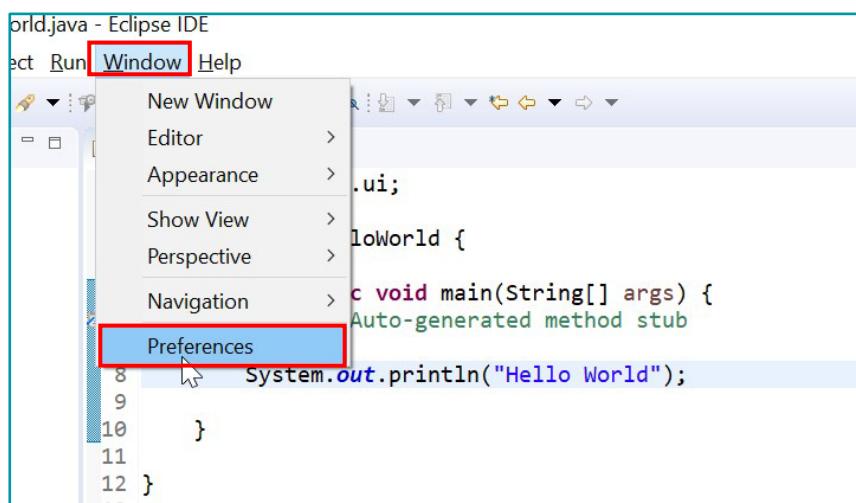
21-Jul-2020 23:06:29.391 INFO [main] org.apache.catalina.core.StandardService.startInternal Starting service [Catalina]
21-Jul-2020 23:06:29.392 INFO [main] org.apache.catalina.core.StandardEngine.startInternal Starting Servlet engine: [Apache Tomcat/9.0.37]
21-Jul-2020 23:06:29.417 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\docs]
21-Jul-2020 23:06:29.895 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\docs] has finished in [477] ms
21-Jul-2020 23:06:29.897 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\examples]
21-Jul-2020 23:06:31.485 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\examples] has finished in [1,588] ms
21-Jul-2020 23:06:31.486 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\host-manager]
21-Jul-2020 23:06:31.580 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\host-manager] has finished in [94] ms
21-Jul-2020 23:06:31.580 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\manager]
21-Jul-2020 23:06:31.674 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\manager] has finished in [94] ms
21-Jul-2020 23:06:31.676 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\ROOT]
21-Jul-2020 23:06:31.751 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\Users\pb\Downloads\Desktop\tomcat\apache-tomcat-9.0.37\webapps\ROOT] has finished in [75] ms
21-Jul-2020 23:06:31.759 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8080"]
21-Jul-2020 23:06:31.792 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in [2461] milliseconds

```

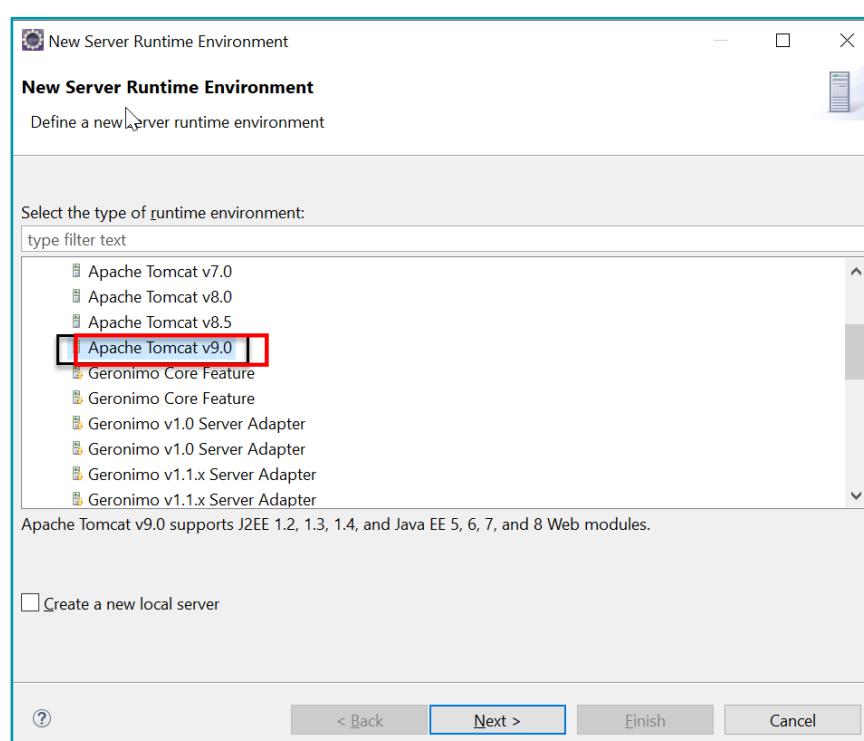
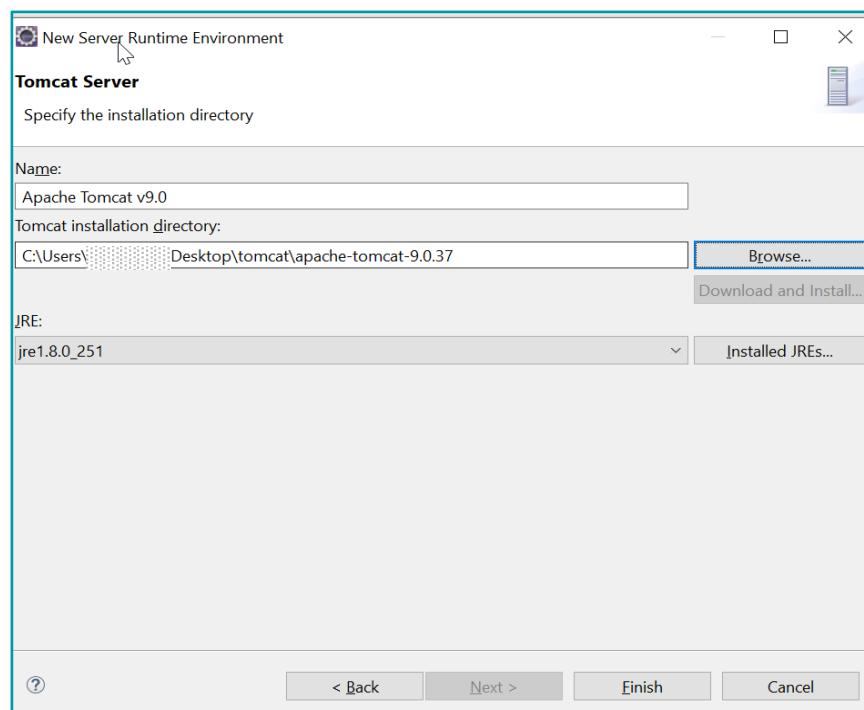
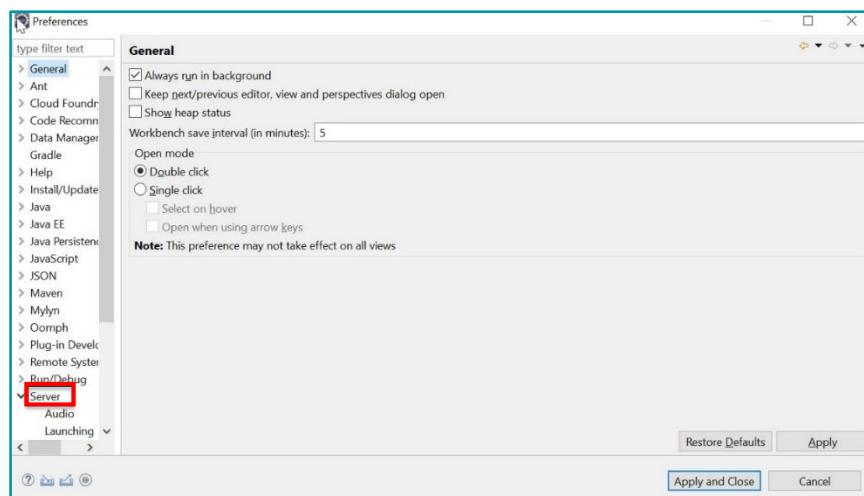
Step 5: Select **Click this link to create a new server...** link on the Servers tab in Eclipse IDE. This will help to integrate Tomcat with Eclipse IDE.



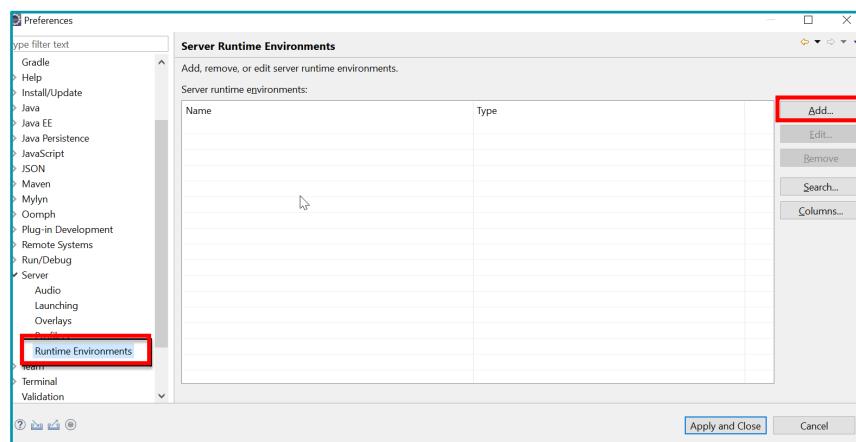
Step 6: Click **Windows -> Preferences**.



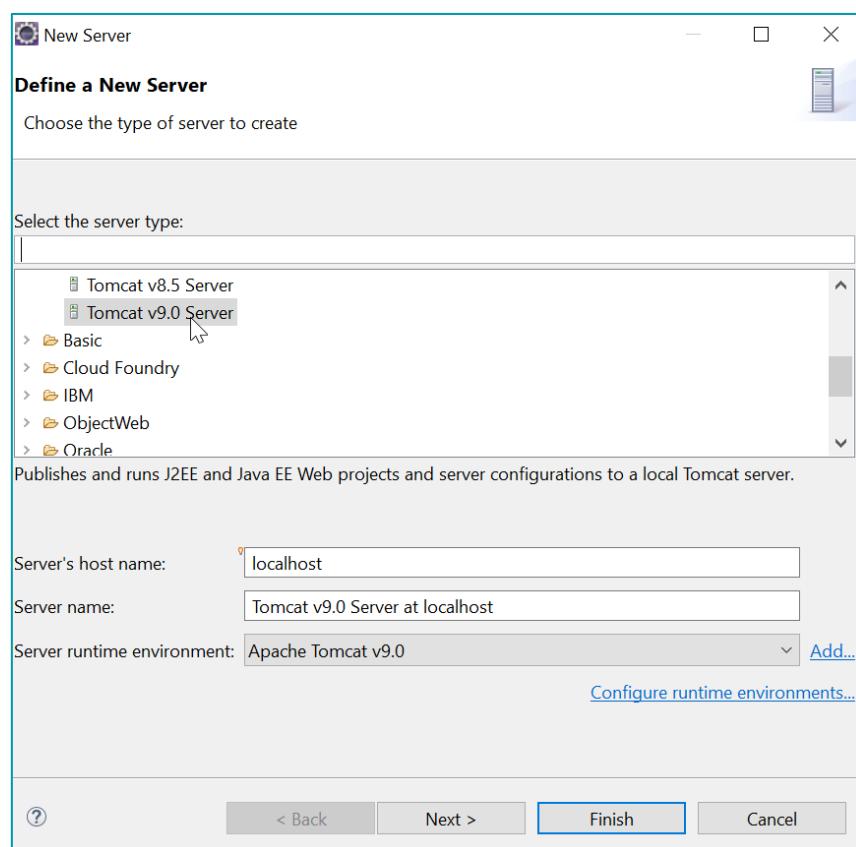
Step 7: The Preferences window will display. Click **Server** from the left pane -> Specify the installation directory and define a new Server Runtime Environment.



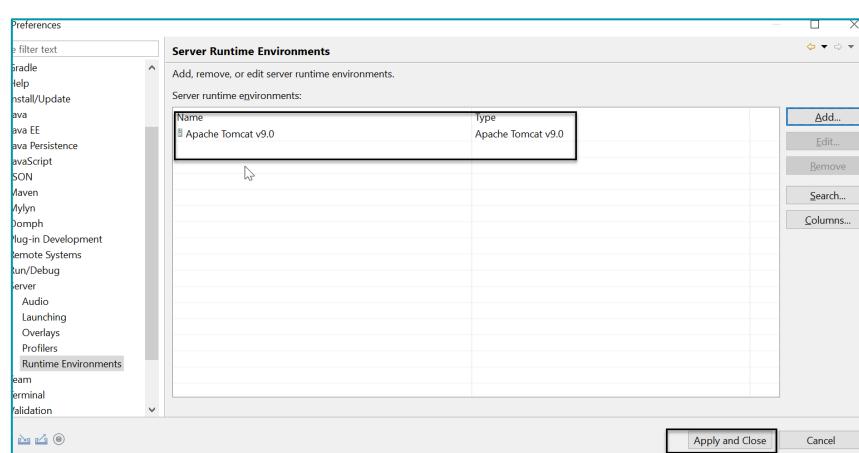
Step 8: Click **Runtime Environments** from the **Server** section. Click the **Add** button on the right pane.



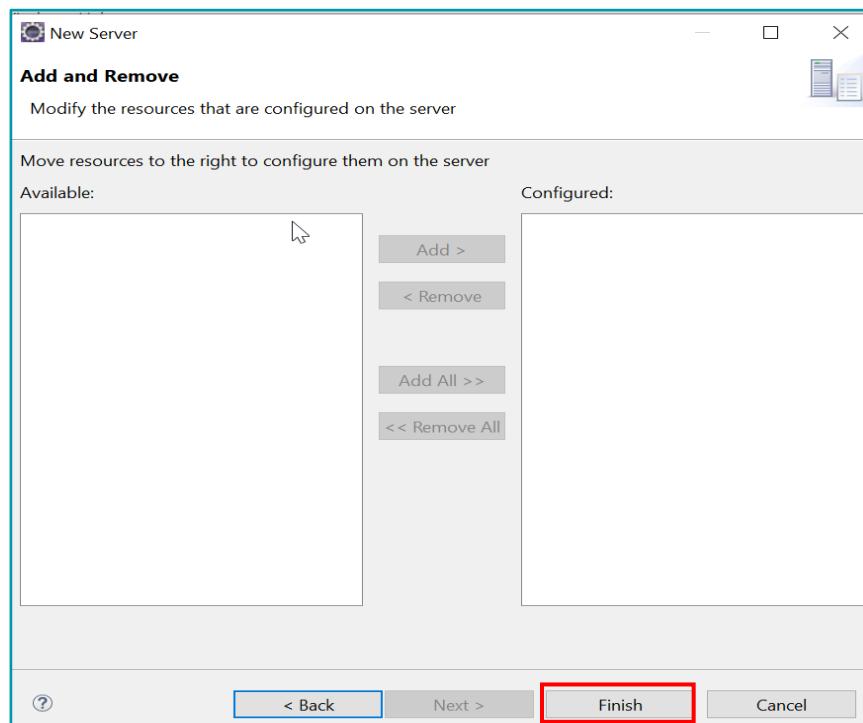
Step 9: Select **Tomcat v9.0 Server** and Click **Next** in the **New Server** window. Enter the values as displayed in the screenshot below. Click the **Finish** button.



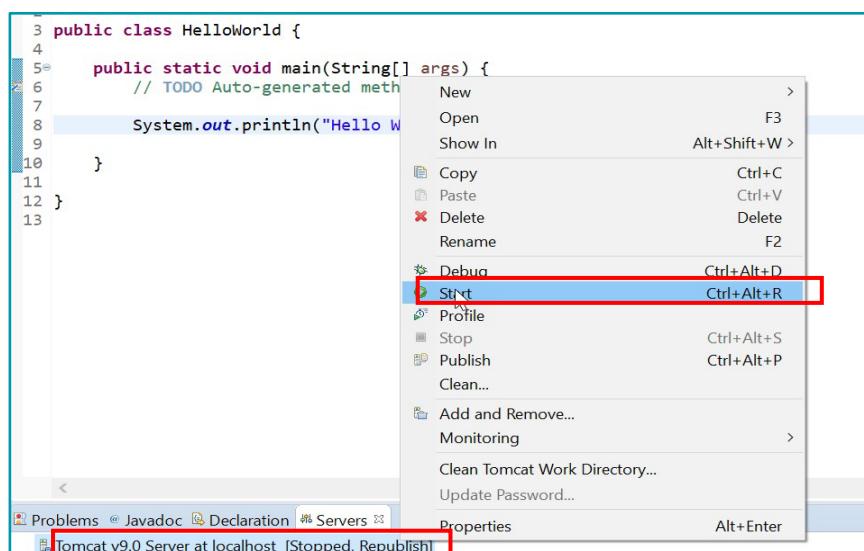
Step 10: Once the server is added, click the **Apply and Close** button.



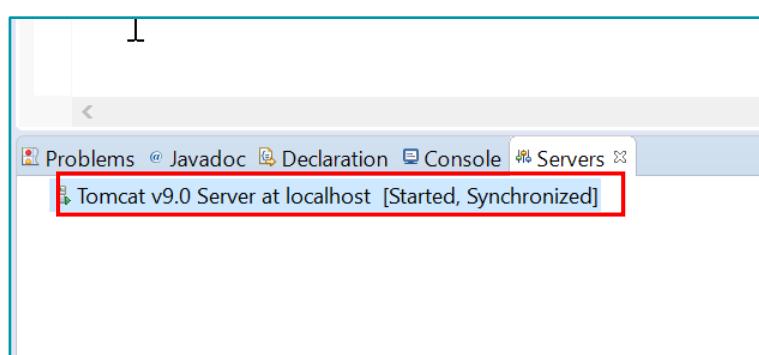
Step 11: Go back to the **Server** tab on the **Preferences window** and click the link to add a new server. The **New Server** pop-up will display. Click the **Next** button. If there are any resources that need to be deployed on the server, they get added to this window. This is blank because we currently do not have any resources. Click **Finish**.



Step 12: Start the Tomcat Server. Right-click the new server that has been added and select **Start**.



Step 13: Verify server startup. The status of the server will change to **Started, Synchronized** after it starts. Tomcat Server is now successfully integrated with Eclipse IDE.



MySQL Server

Overview

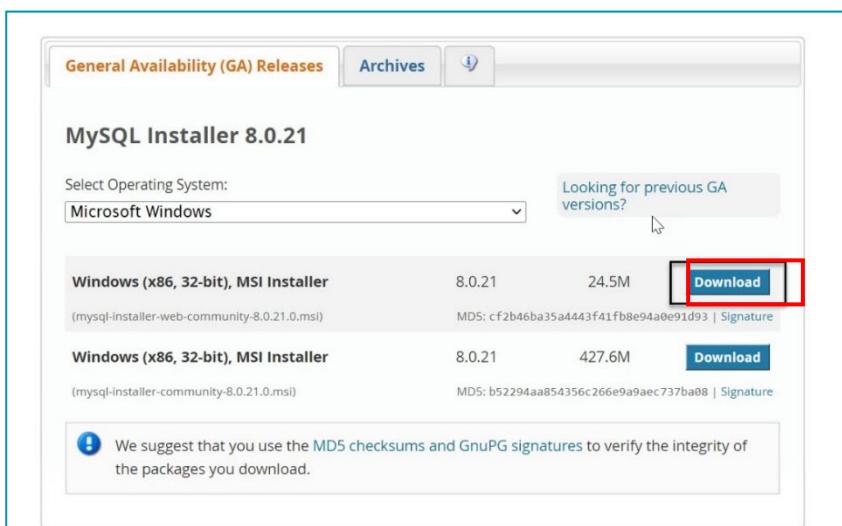
MySQL creates a database for storing and working with data. It also defines the relationship of every table in the database. Clients can request information from the database by typing specific SQL statements or queries.

The server-side application will respond with the requested information, which will appear on the client-side.

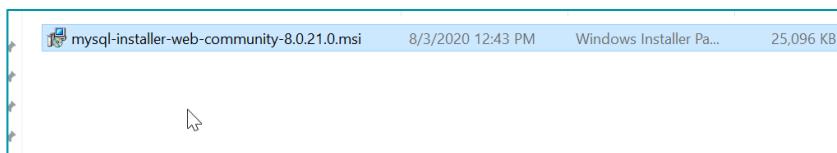
Installation Version: 8.0.21

Below are the steps to download and install MySQL Server:

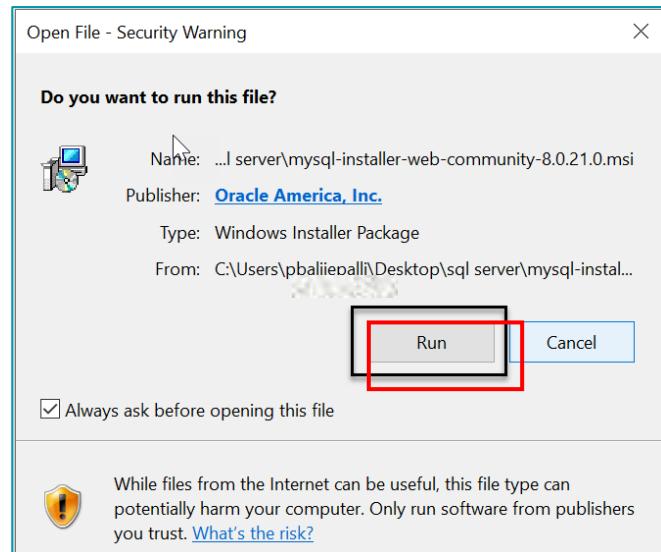
Step 1: Click the [MySQL Server](#) link to navigate to the download page. Click the **Download** button as highlighted in the screenshot below.



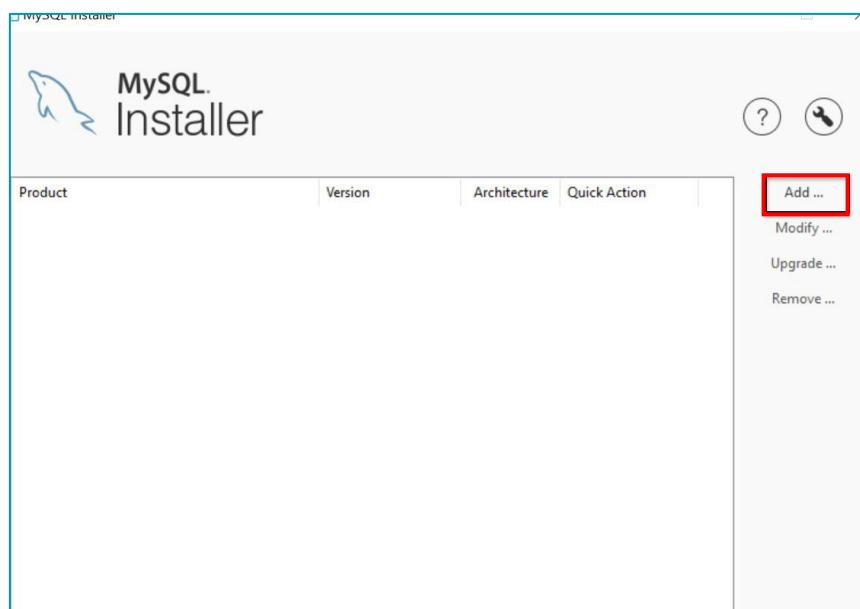
Step 2: The installation file will be downloaded.



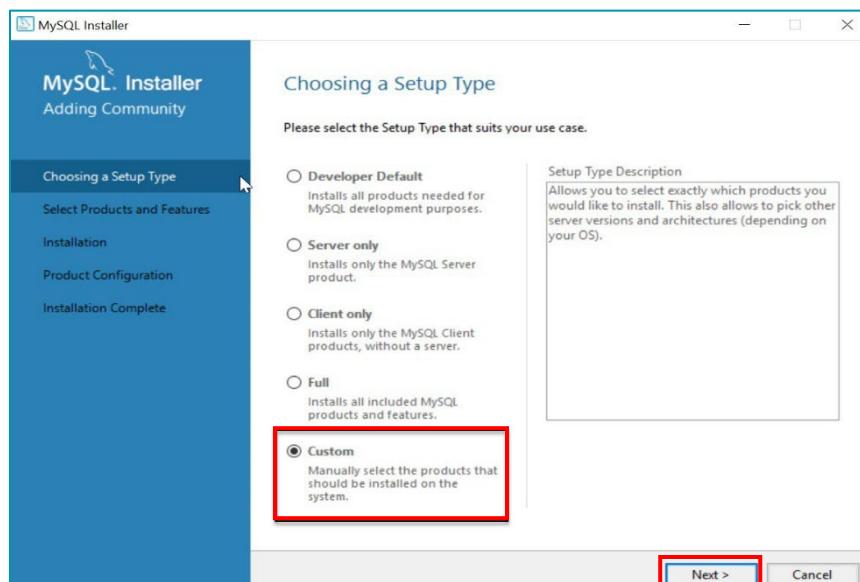
Step 3: Double-click the downloaded file, and click **Run** when the **Open File -> Security Warning** pop-up appears.



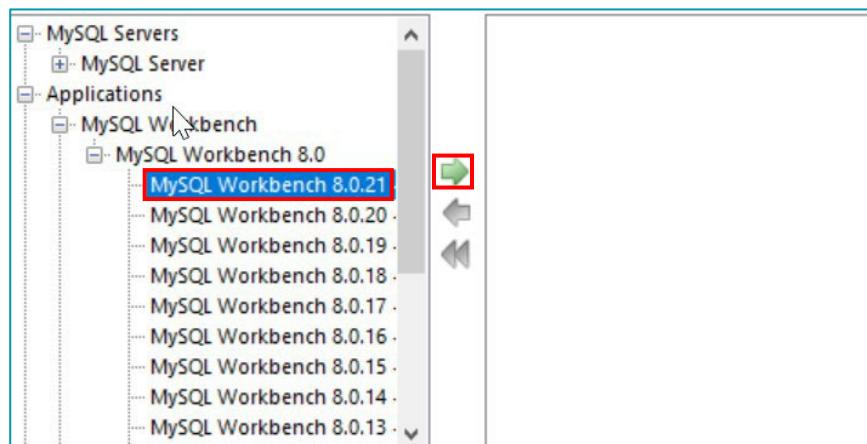
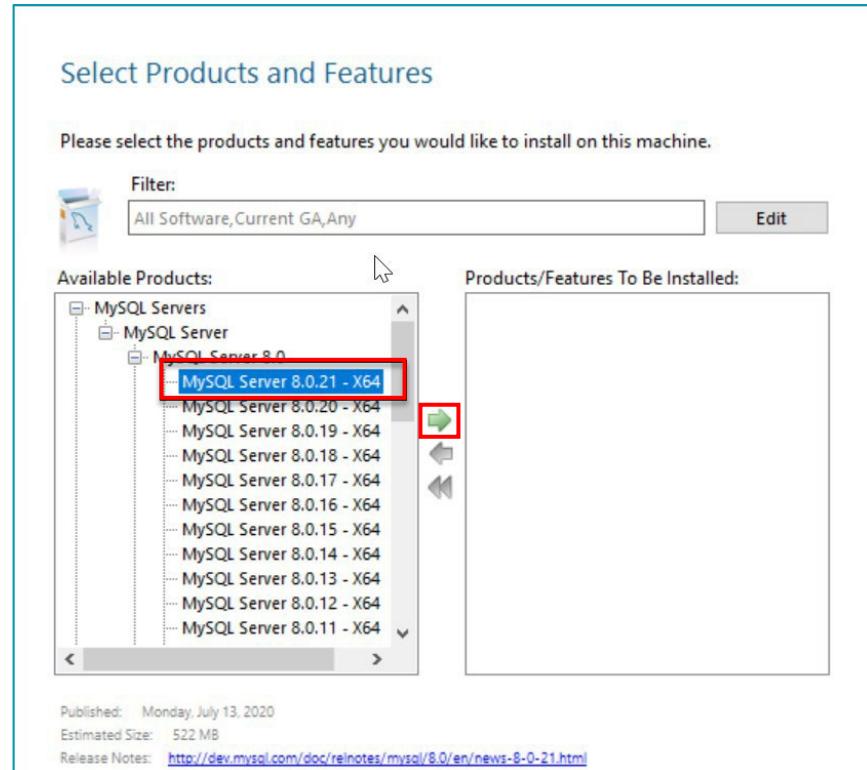
Step 4: On the MySQL Installer window, click the **Add...** button.



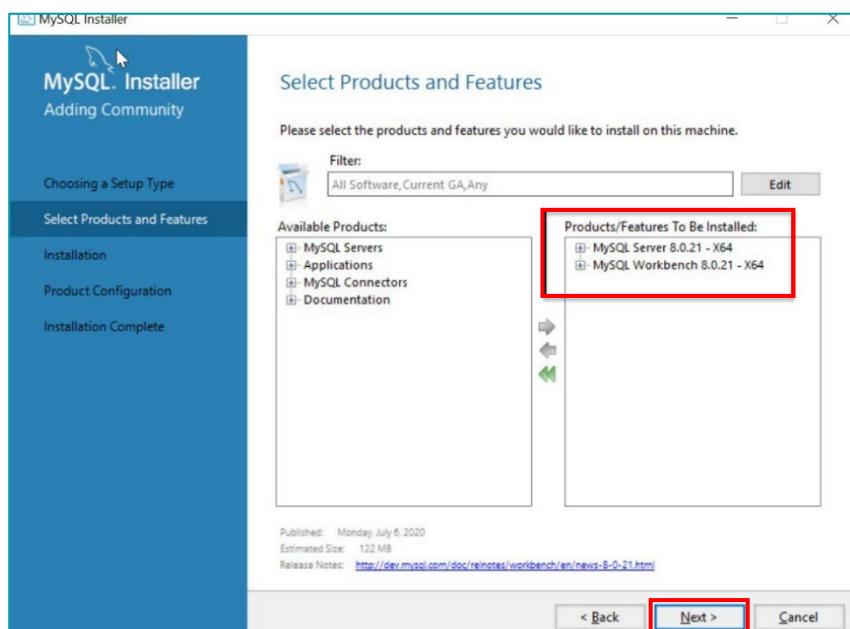
Step 5: Select the **Custom** setup type and click the **Next** button.



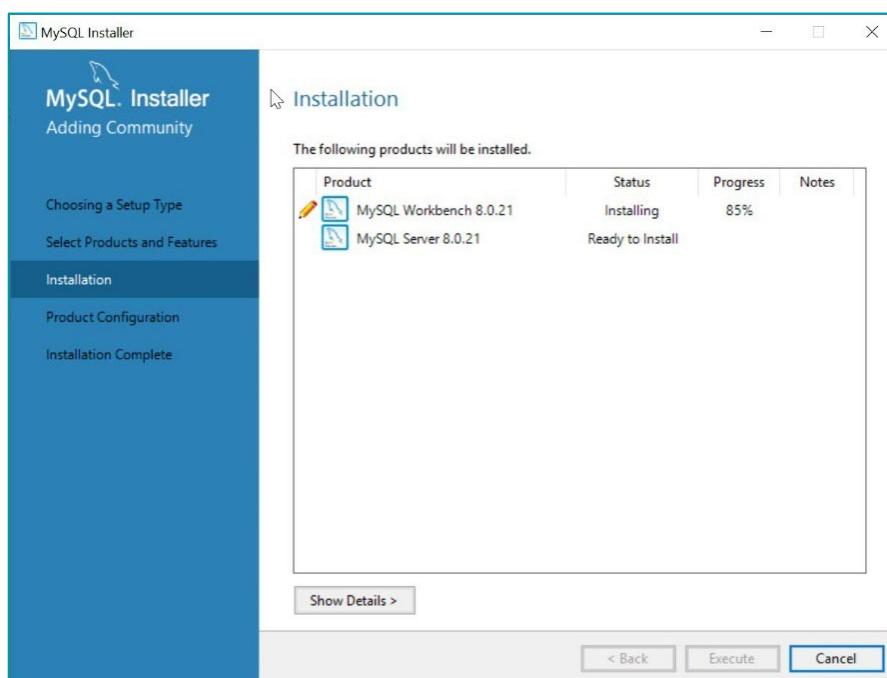
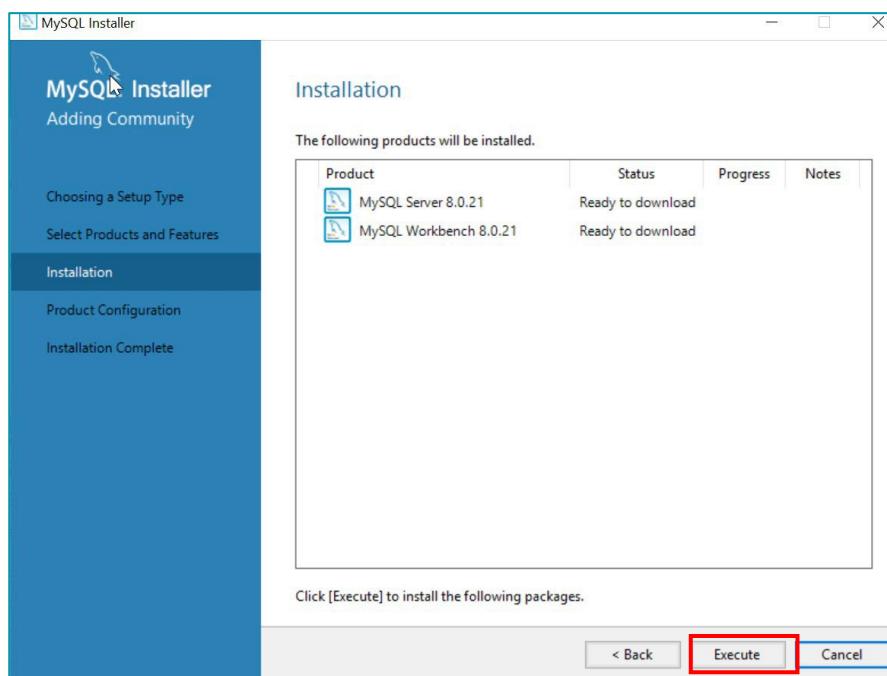
Step 6: On the **Select Products and Features** window, select **MySQL Server 8.0.21** and **MySQL Workbench 8.0.21** as displayed in the screens below and add them to the right pane using the arrow buttons.



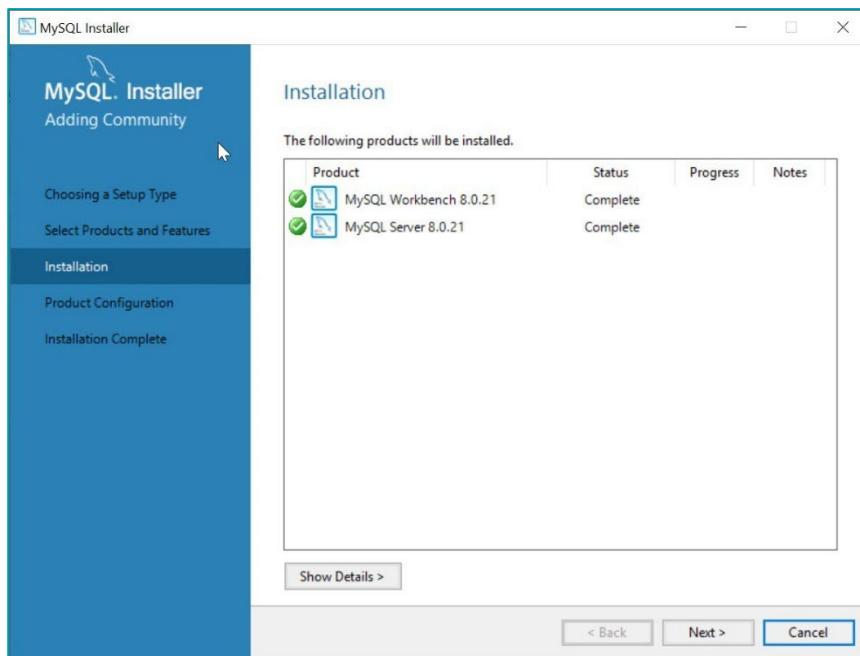
Step 7: Click Next on the next screen.



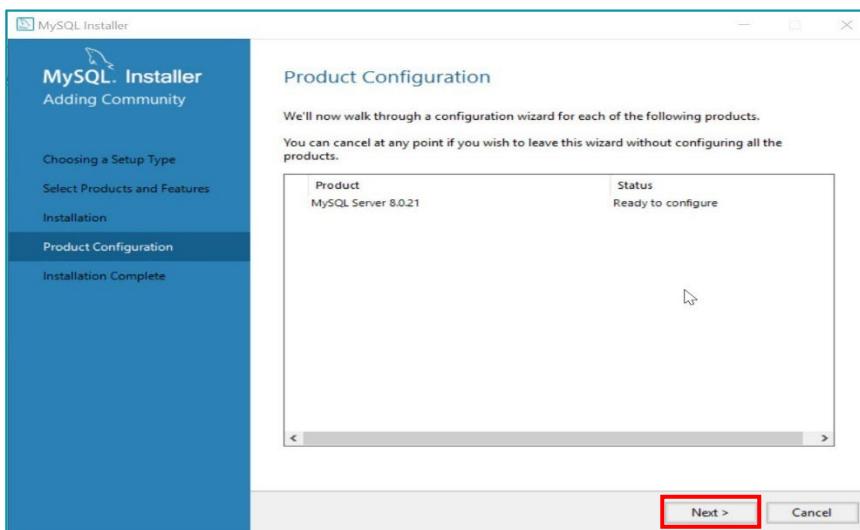
Step 8: Click **Execute** on the **Installation** screen. MySQL Server and MySQL Workbench will be installed.



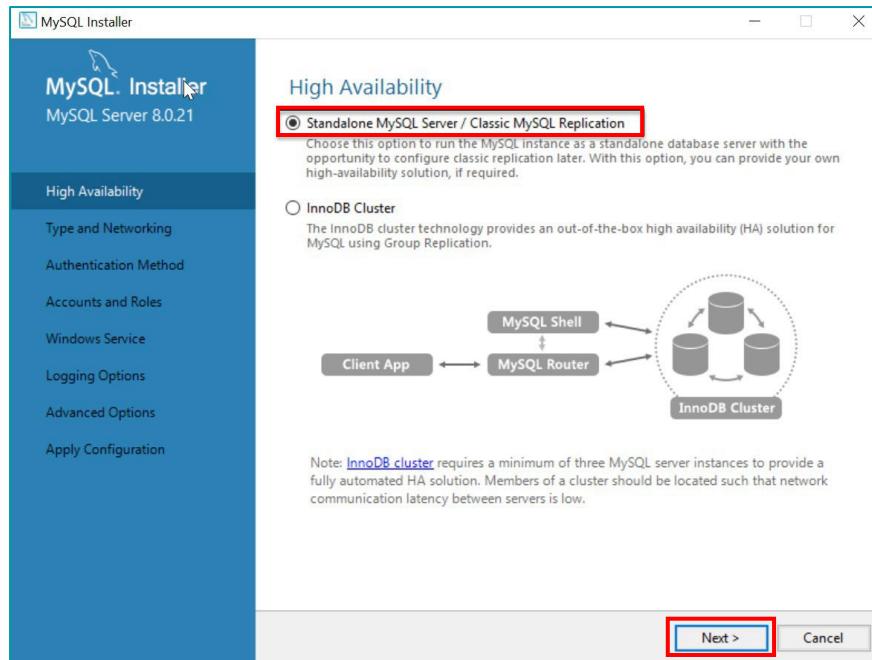
Step 9: The installation is complete.



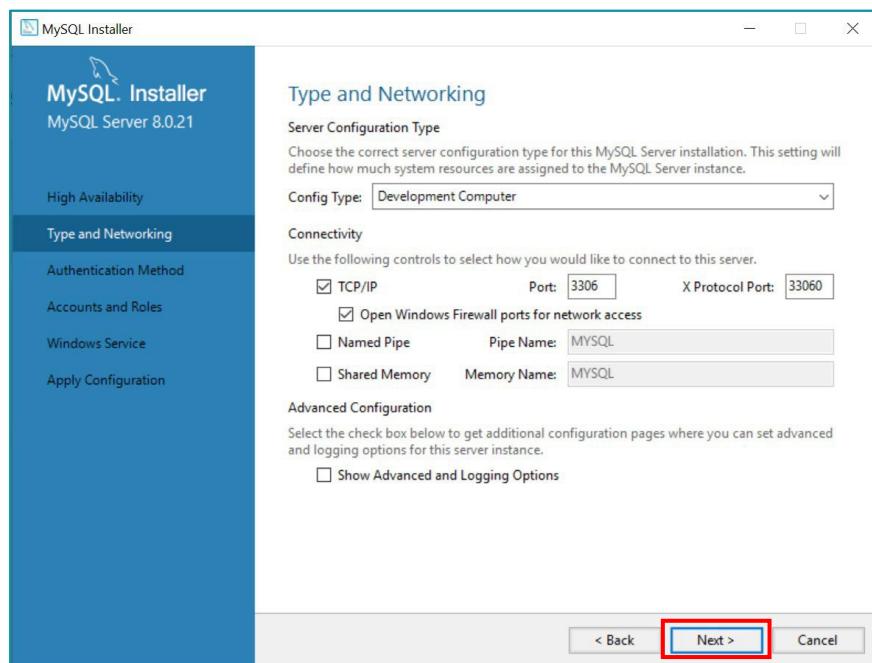
Step 10: On the **Product Configuration** screen, click the **Next** button to configure the server.



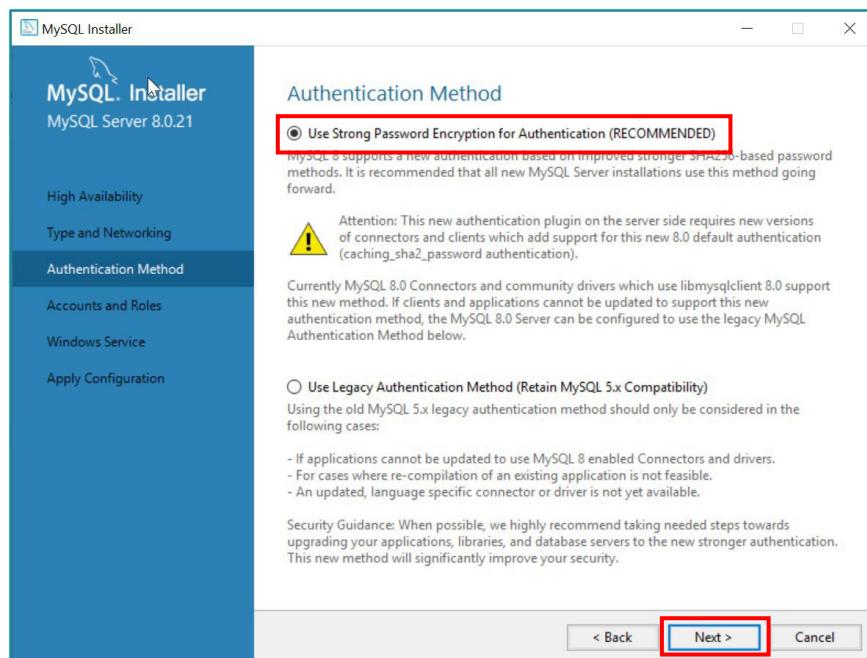
Step 11: Select the **Standalone MySQL Server/Classic MySQL Replication** option in the **High Availability** screen and click **Next**.



Step 12: Click **Next** on the **Type and Networking** screen as well.

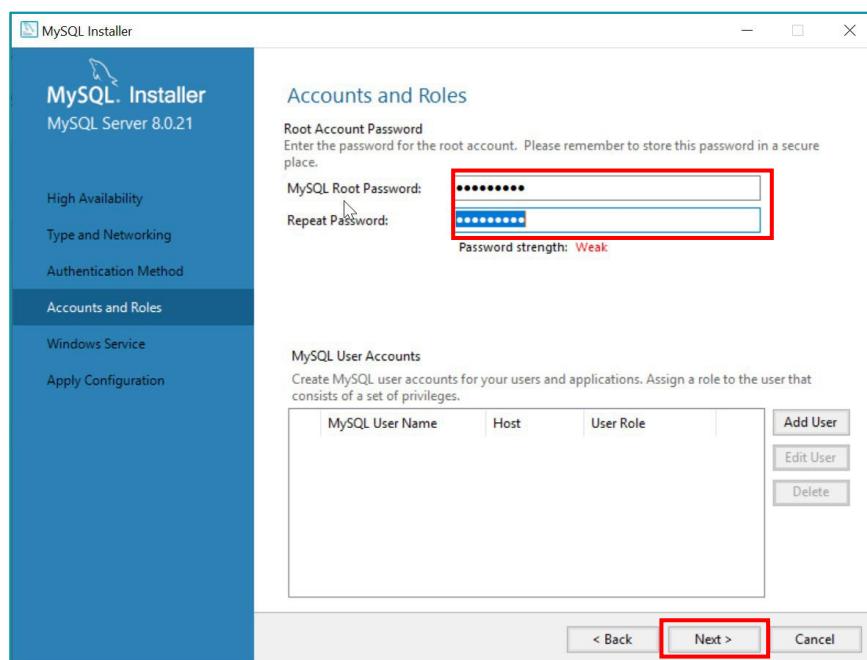


Step 13: On the **Authentication Method** screen, select the **Use Strong Password Encryption for Authentication** option and click **Next**.

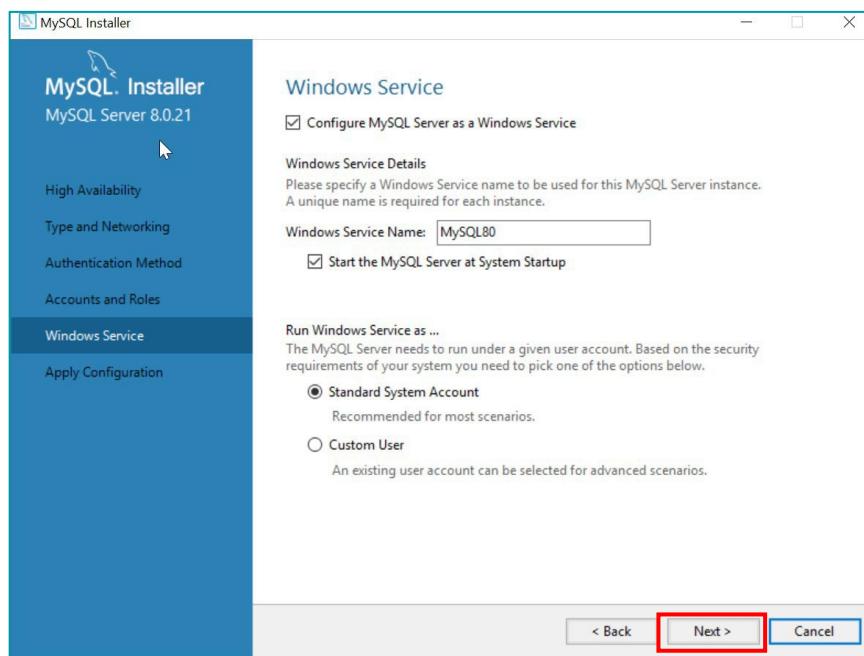


Step 14: Enter the password and click **Next**.

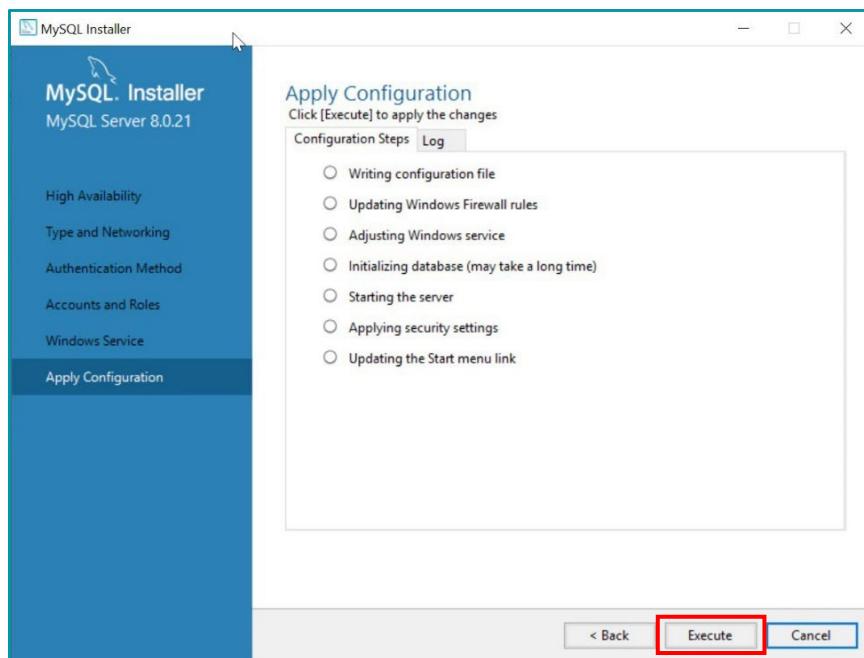
Important: Please remember the password entered on this screen.



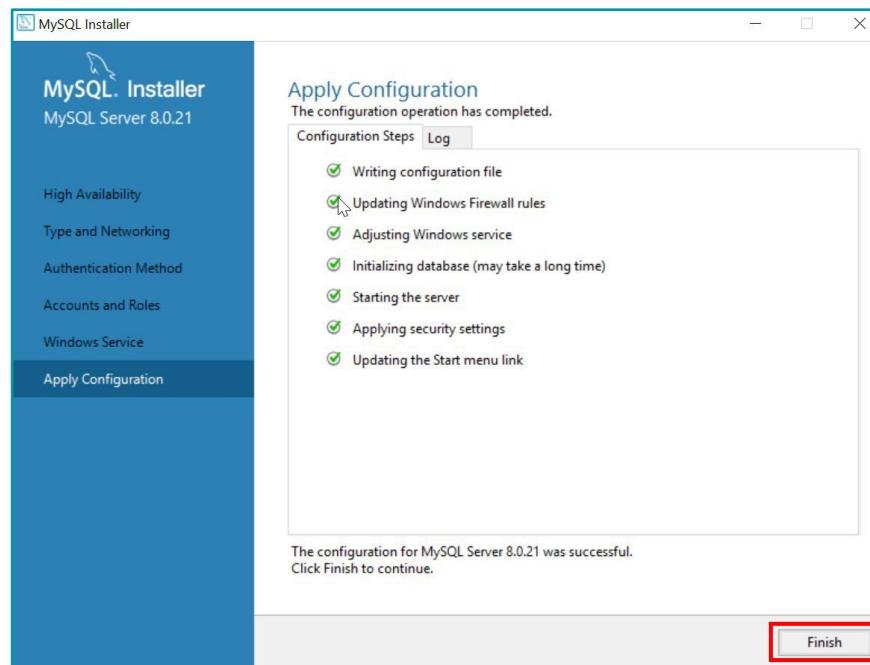
Step 15: On the Windows Service screen, click **Next**.



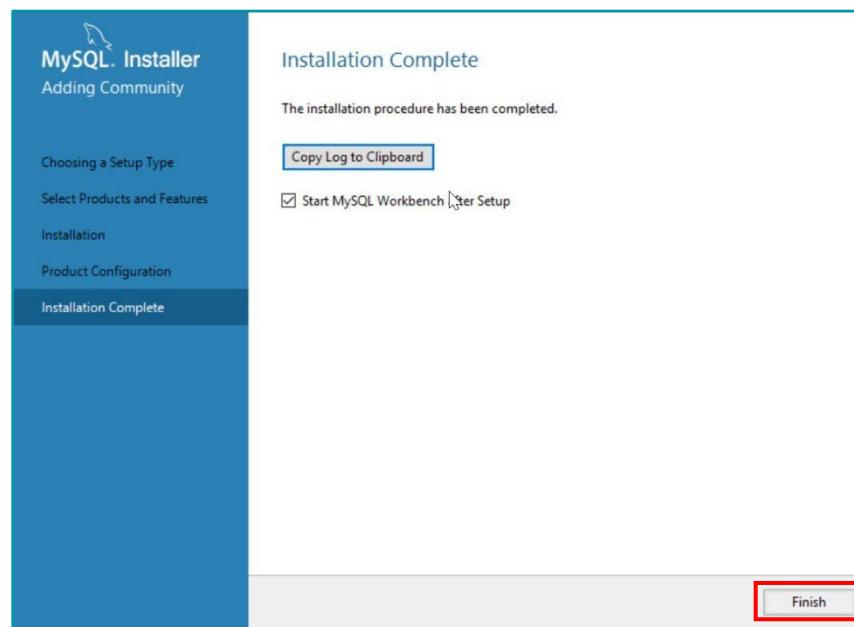
Step 16: On the Apply Configuration screen, click **Execute**.



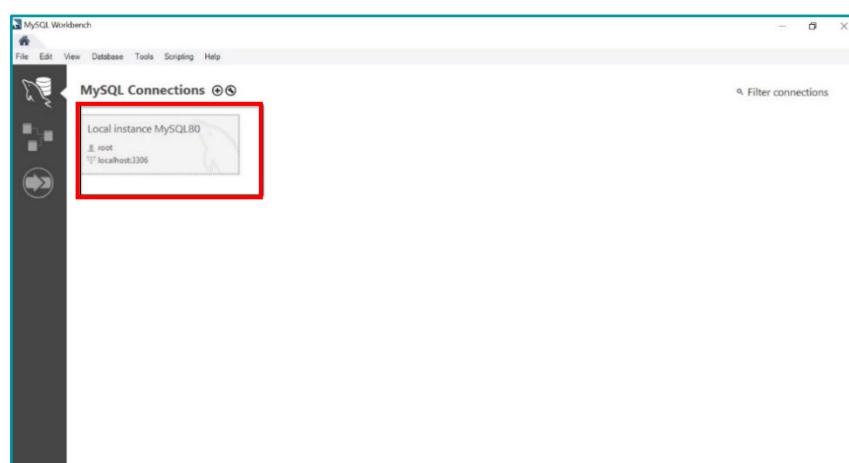
Step 17: Once the execution is complete, click the **Finish** button. MySQL Server and MySQL Workbench are now successfully installed.



Step 18: Click the **Finish** button after the installation is complete.



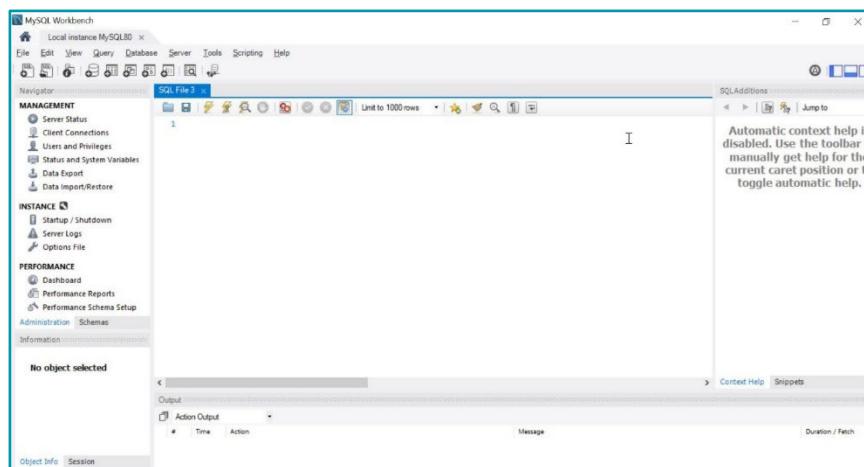
Step 19: Once the installation is complete, MySQL Workbench will open. It can also be opened from the Start menu. Click the local instance created during the installation.



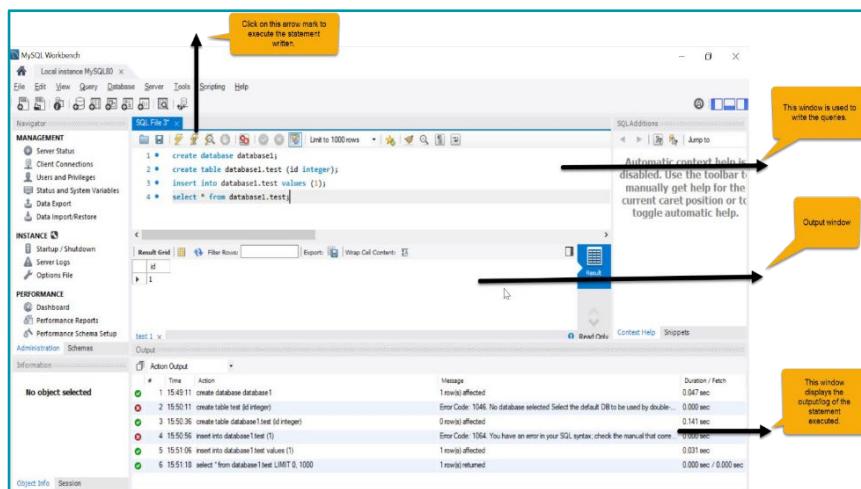
Step 20: Enter the password you configured during the installation.



Step 21: Once the user is authenticated, you will be redirected to the MySQL Workbench home screen.

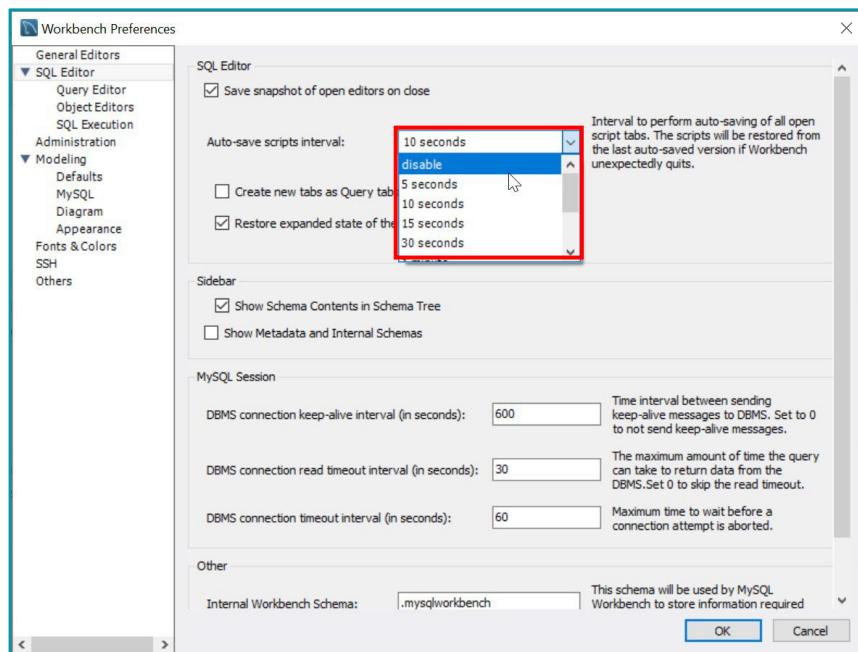


Step 22: Below are the descriptions of each of these tiles on the MySQL Server tab.



Step 23: MySQL Workbench is now ready to be used. The database and the tables can be created.

Note: To prevent files from being automatically saved continuously, go to **Workbench Preferences**, select **General Editors** from the left pane, and select **SQL Editor**. Select the **disable** option from the **Auto-save scripts interval** drop-down menu. Alternatively, we can set the timer to the desired duration.



Git

Overview

Git is an open-source distributed version control system designed to handle projects of any size with efficacy and lightning-fast performance. It allows developers to:

- Track changes to their code, revert to a previous version, or experiment with new features without changing the main codebase.
- Keep a record of all the changes made to the code for auditing and debugging purposes.
- Enable developers to collaborate with others on the same codebase.

Below are the steps to download and install Git for Windows:

Step 1: Click the [Git](#) link to navigate to the Downloads web page.

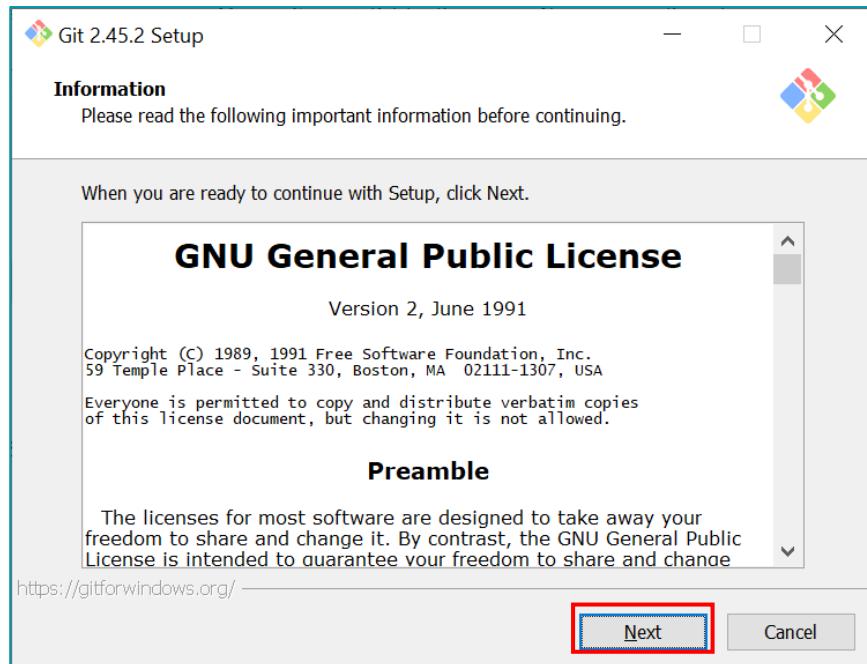
The screenshot shows the official Git website's 'Downloads' section. At the top right is a search bar. Below it, there are three main download categories: 'macOS', 'Windows', and 'Linux/Unix'. A large image on the right displays a computer monitor with the text 'Latest source Release 2.45.2' and a 'Download for Windows' button. Below the main categories, there are sections for 'GUI Clients' and 'Logos'.

Step 2: Select the appropriate OS for the relevant versions. The following screenshot represents available versions for the Windows setup.

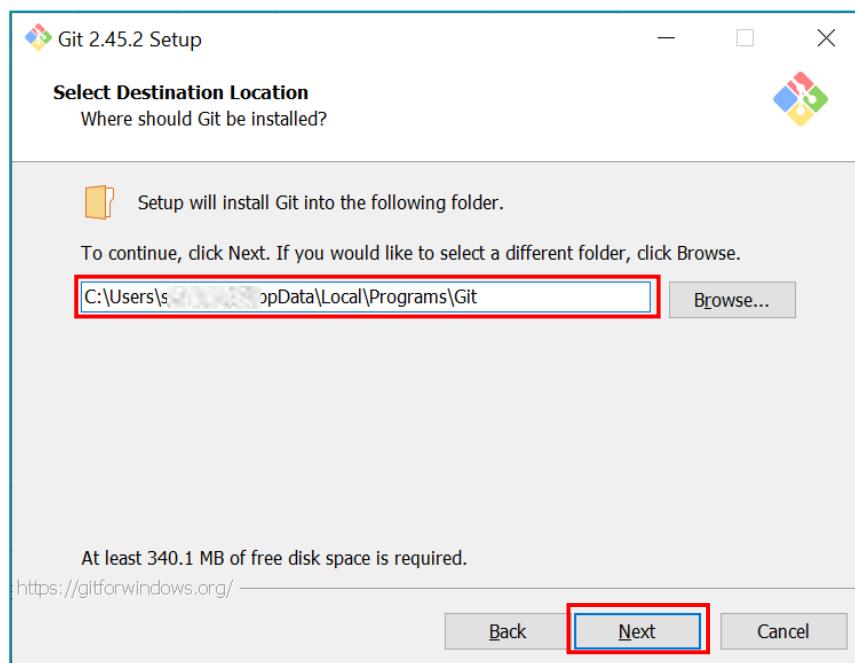
Step 3: Click the **64-bit Git for Windows Setup** link under the **Standalone Installer** section. This will download the **Git-2.45.2-64-bit.exe** file in the Downloads folder. Double-click the setup file to start the installation.

This screenshot shows the 'Download for Windows' section of the Git website. It includes a note about the latest 64-bit version, download links for 'Portable' and 'Standalone Installer', and specific links for '32-bit Git for Windows Setup' and '64-bit Git for Windows Setup'. The '64-bit Git for Windows Setup' link is highlighted with a red box.

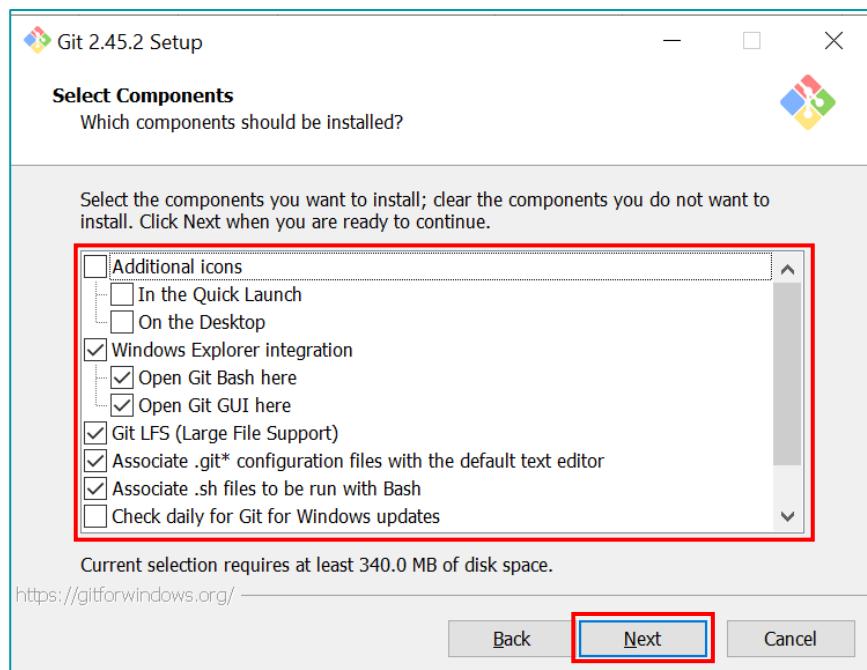
Step 4: Click **Next** to accept the GNU General Public License.



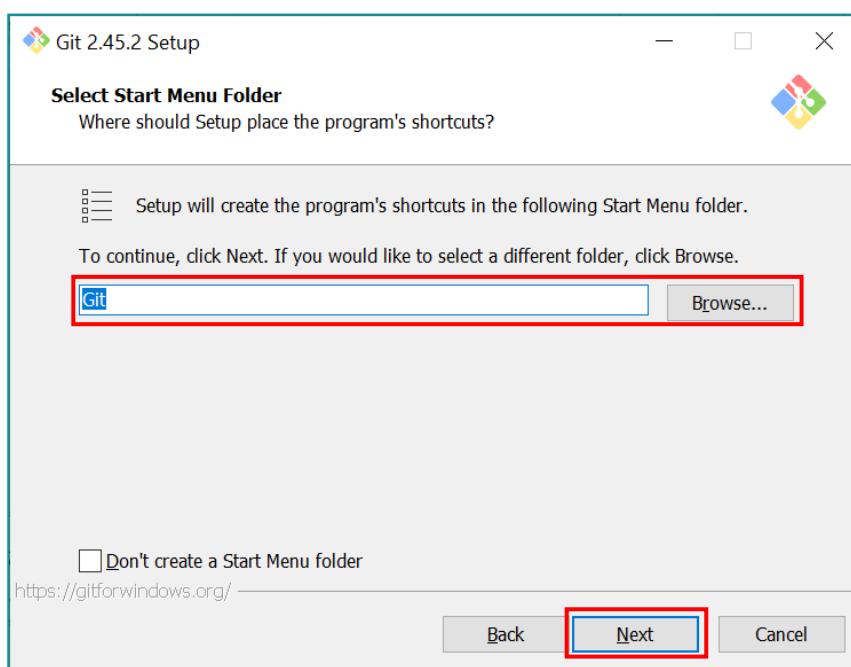
Step 5: Specify the destination location and click **Next**.



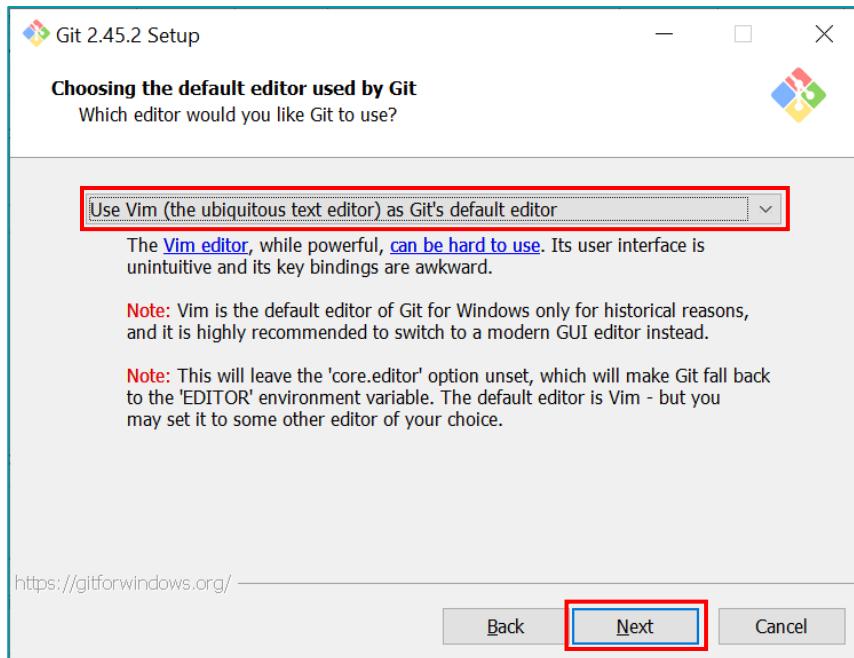
Step 6: Select the required components to be installed and then click **Next**.



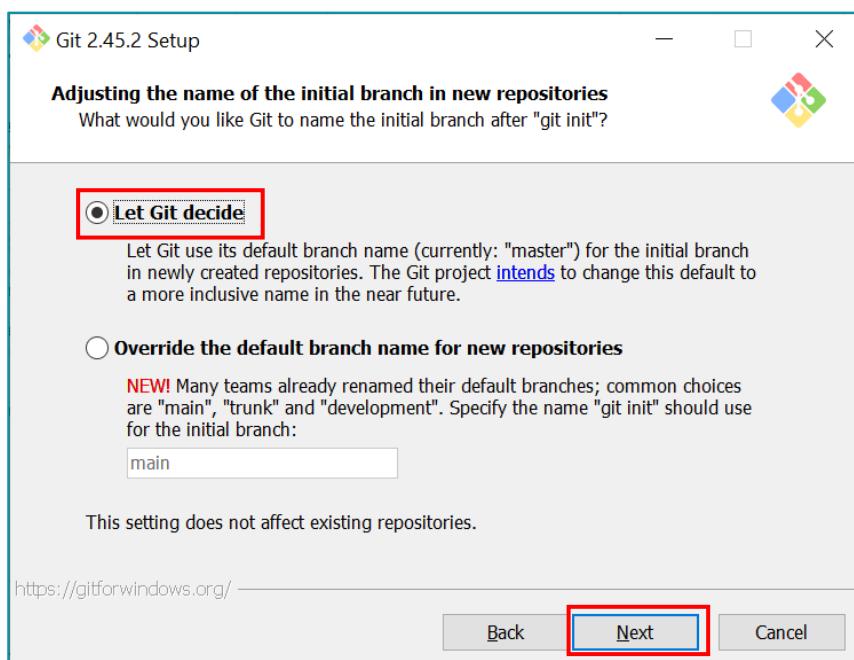
Step 7: Specify the Start Menu folder location (if required) and click **Next**.



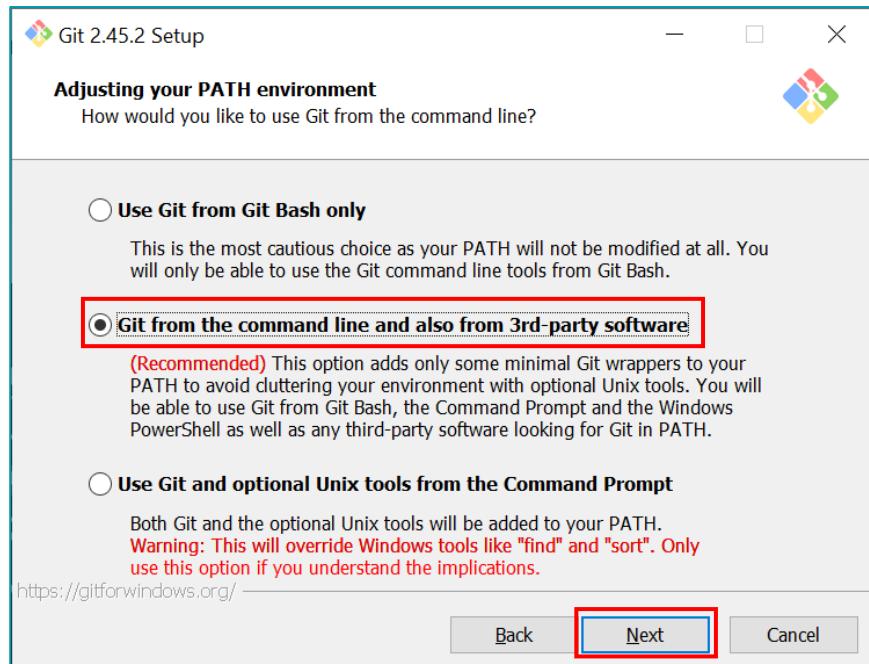
Step 8: Select the default text editor (preferably Visual Studio Code) and click **Next**.



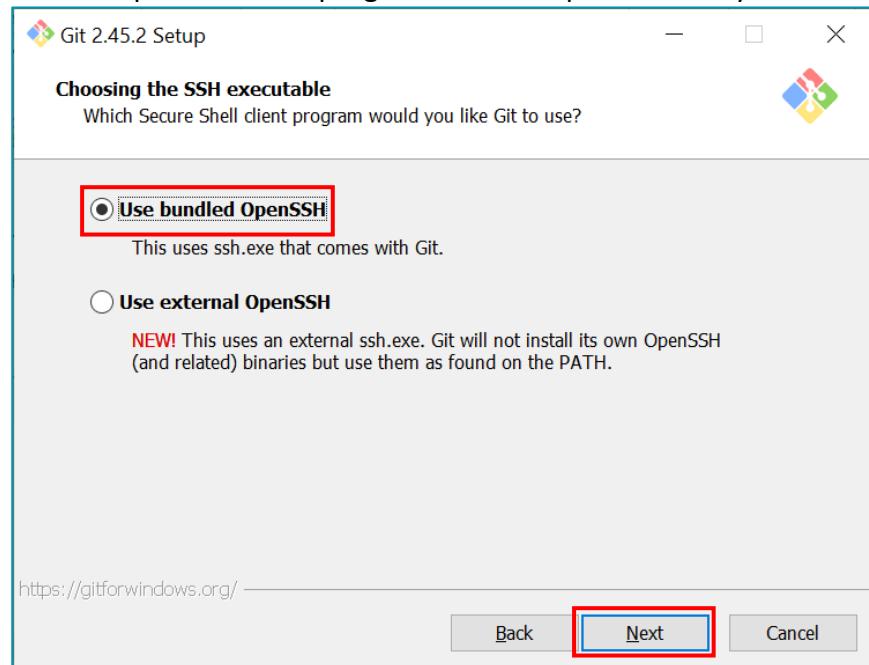
Step 9: Select the appropriate option for specifying default branch names in the new repositories and click **Next**.

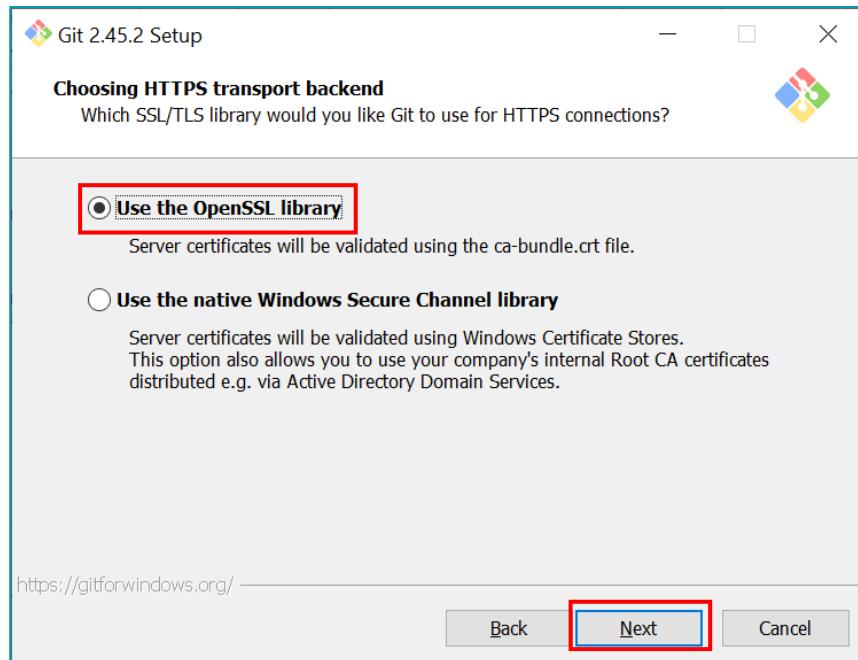


Step 10: Select **Git from the command line and also from 3rd-party software** and click **Next**. This will allow you to use Git from Git Bash (default) and Visual Studio Code.

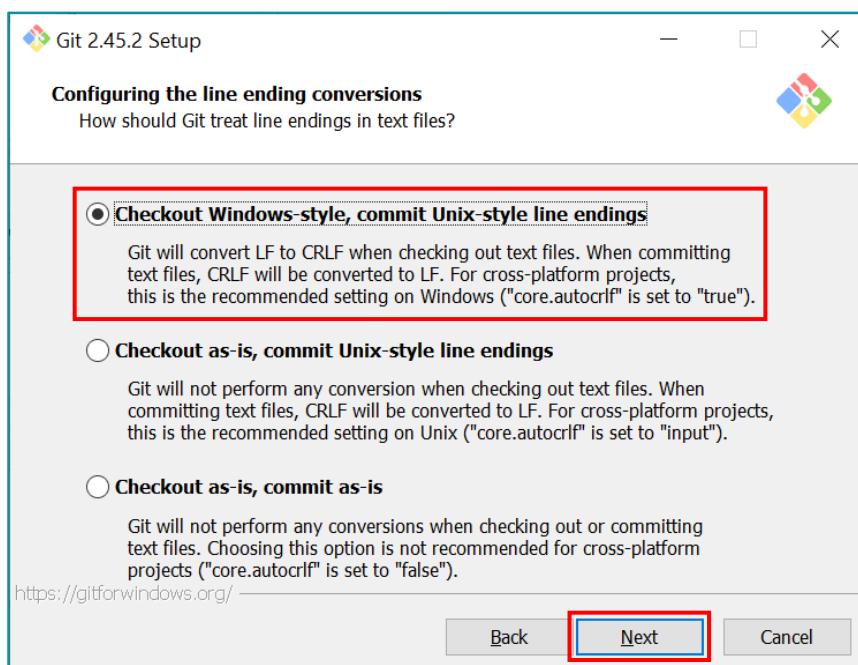


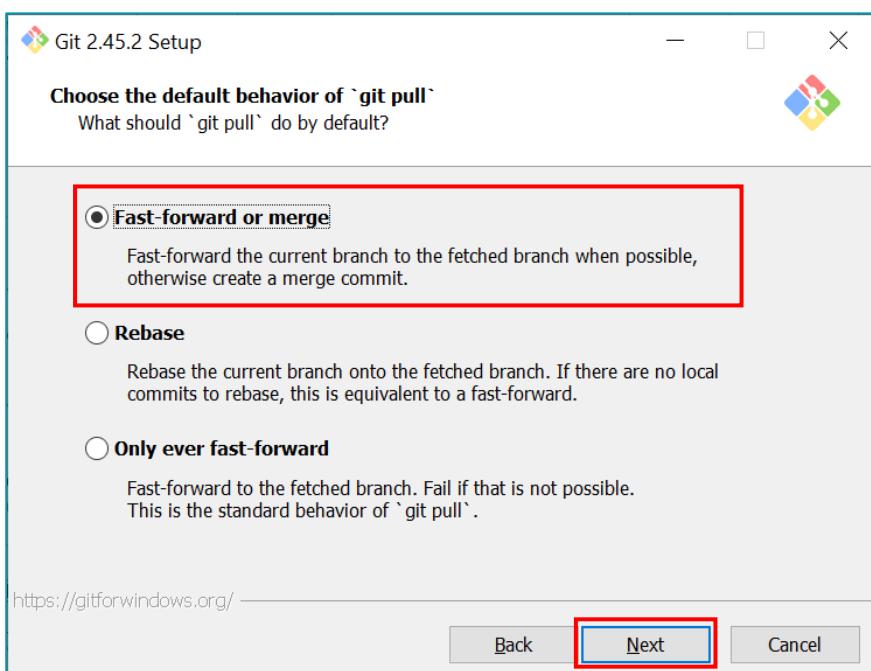
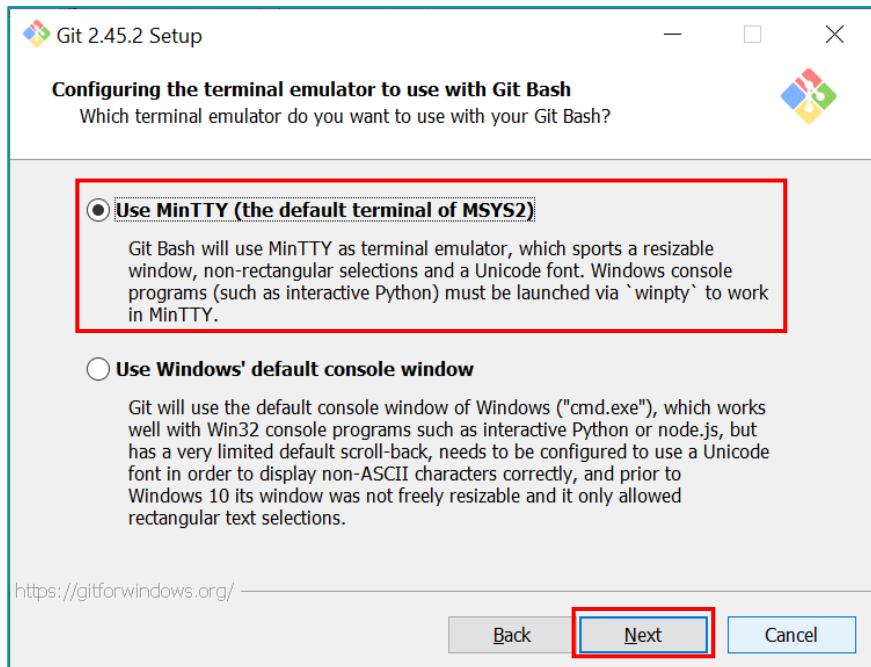
Step 11: Select the bundled OpenSSH client program and the OpenSSL library for HTTP connections.



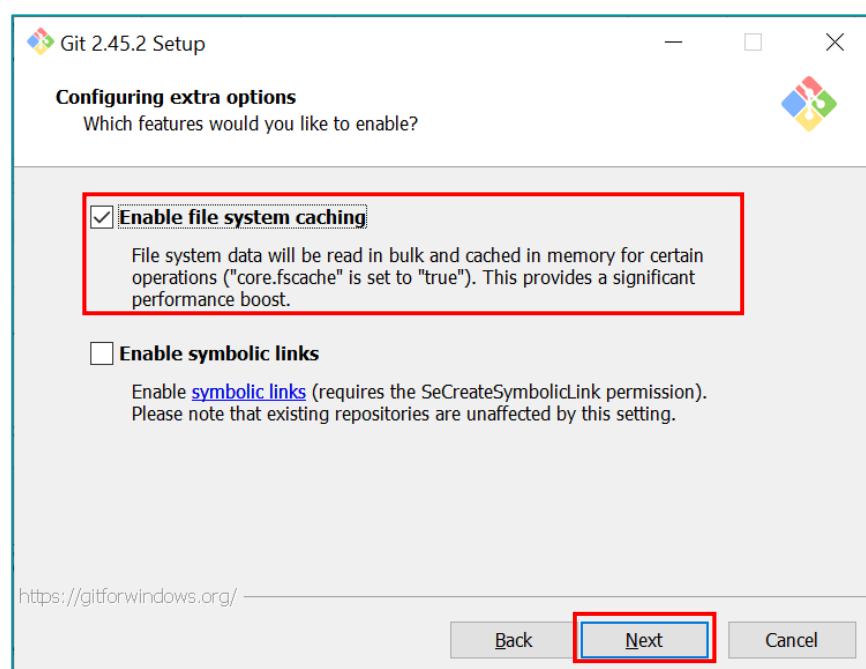
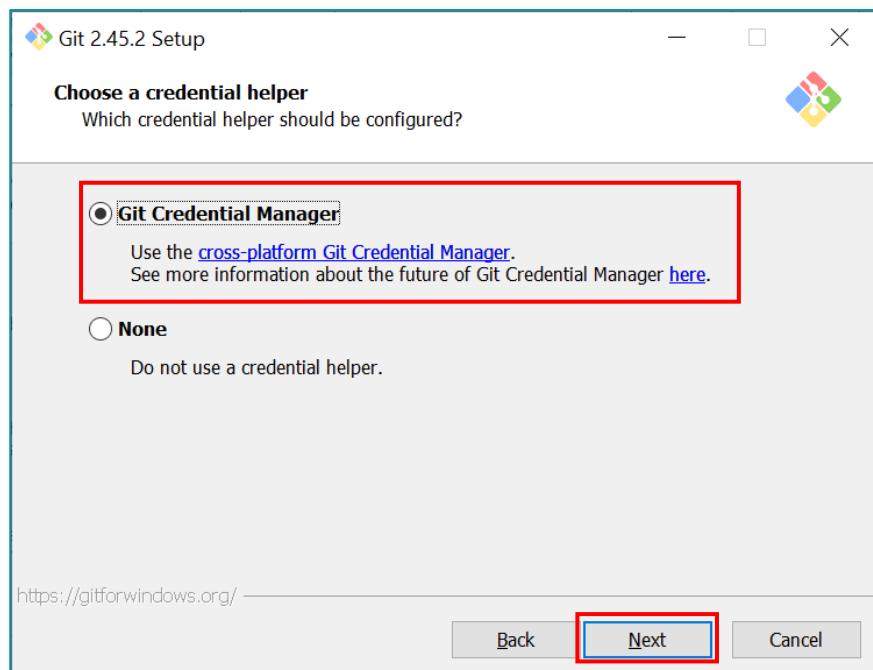


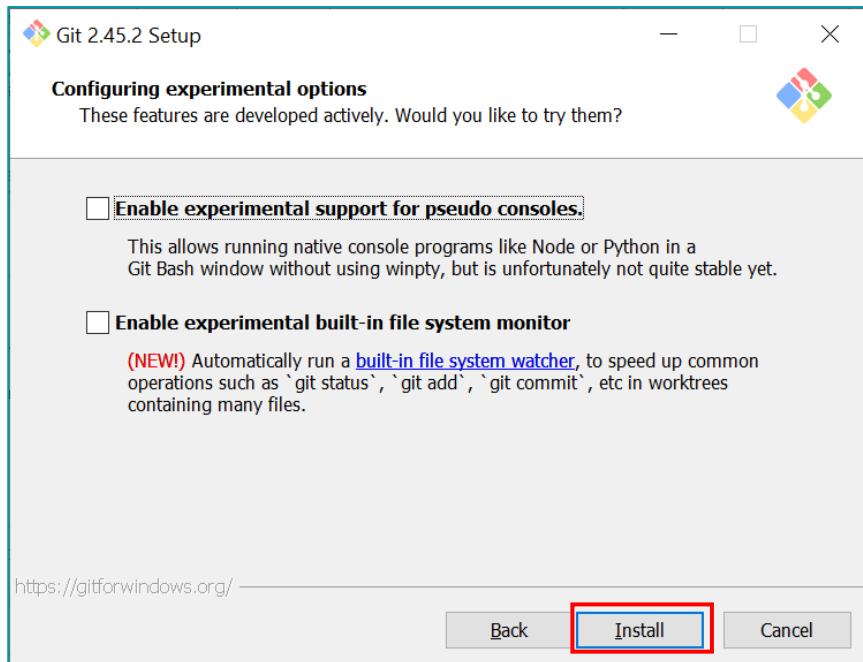
Step 12: Select the recommended option for line ending conversions in text files on Windows. Also, use MinTTY as the default terminal emulator with Git Bash and choose the default behaviour of ‘git pull’.



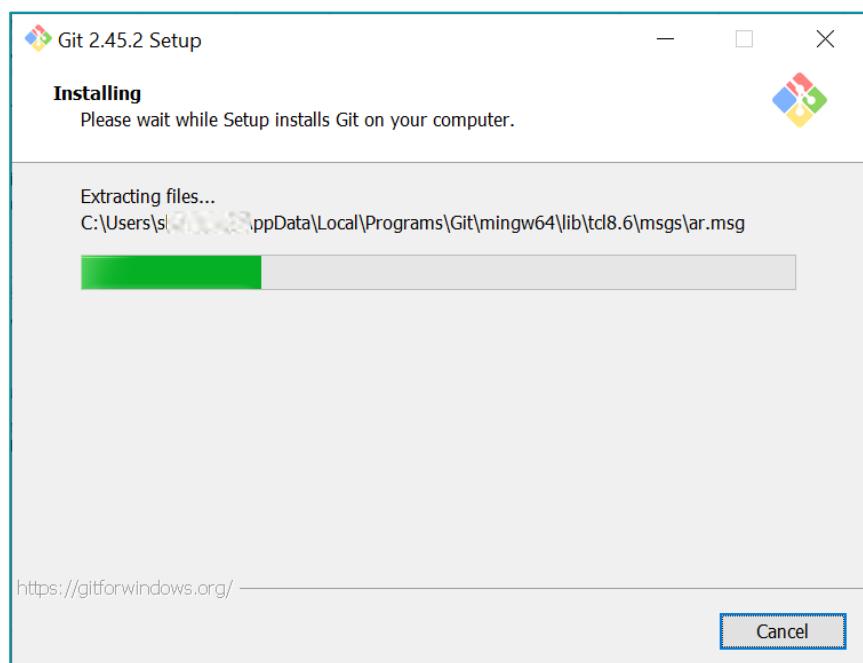


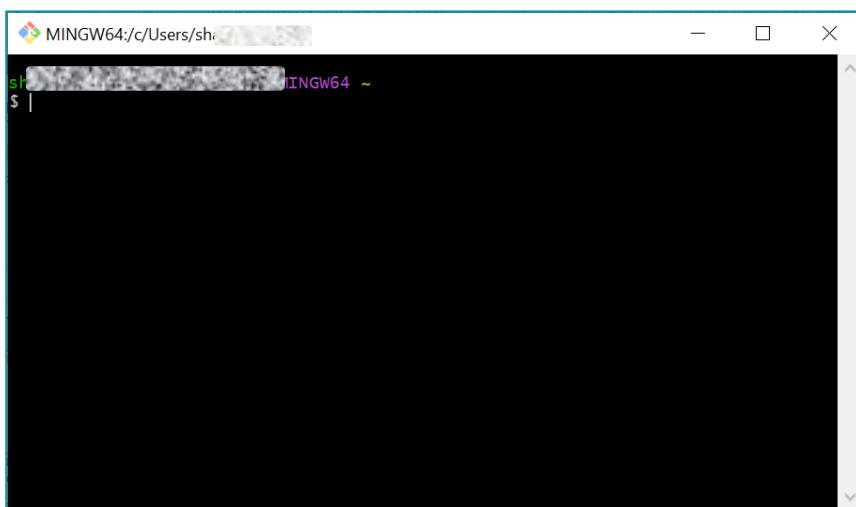
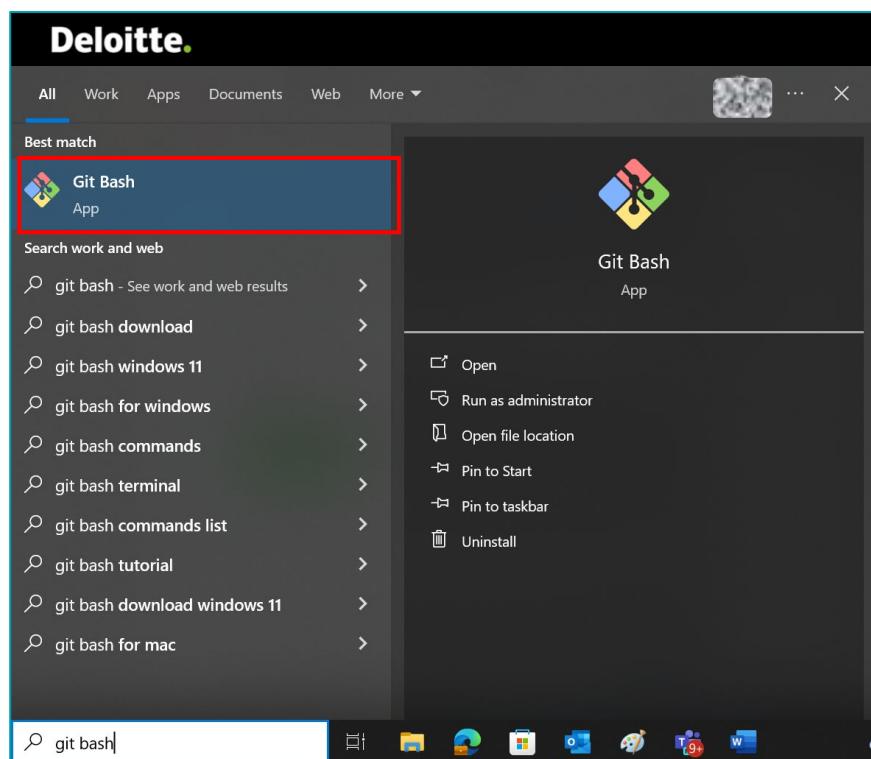
Step 13: Choose the recommended cross-platform **Git Credential Manager** and click **Install** after enabling the desired additional and experimental features.





Step 14: You can either select the **Launch Git Bash** option from the installation window after completion or explicitly launch Git Bash from the Start menu.





GitHub

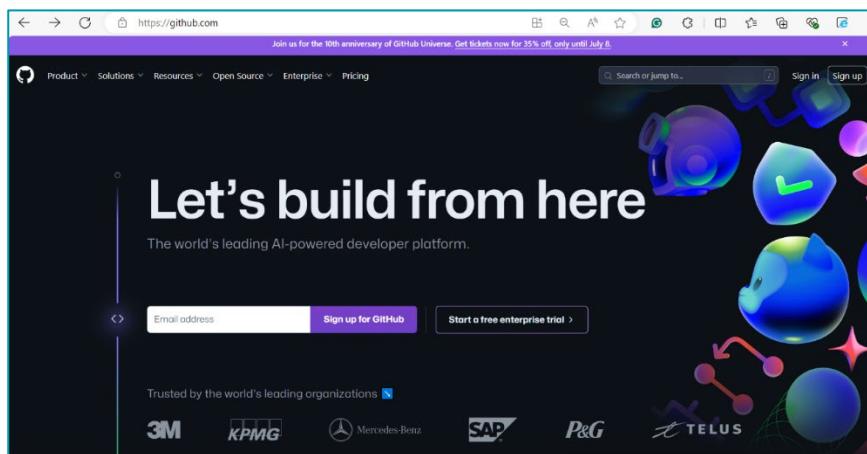
Overview

GitHub is a code hosting platform that allows seamless collaboration and version control. It allows developers to:

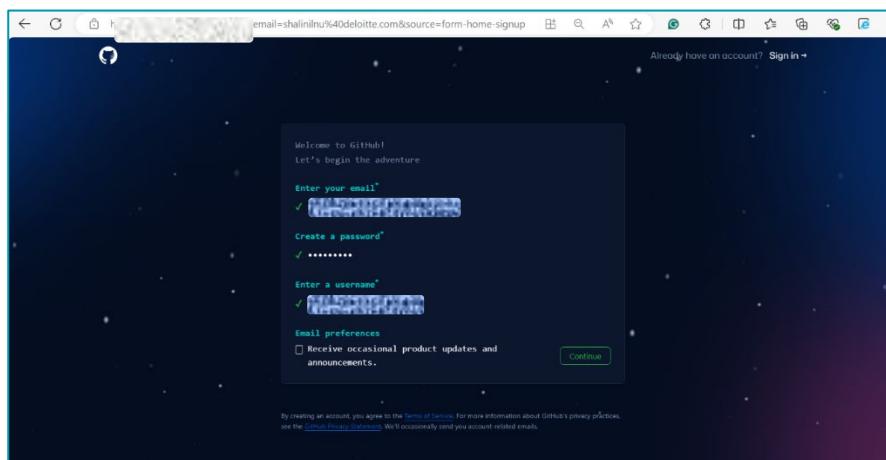
- Host and share their code with others.
- Engage in open-source collaborations and contributions with others on projects.
- Track and assign issues for an organized workflow.
- Manage pull requests to incorporate and review changes in the projects.

Below are the steps to get started with GitHub:

Step 1: Access the [GitHub](https://github.com) link to sign up using your email address.

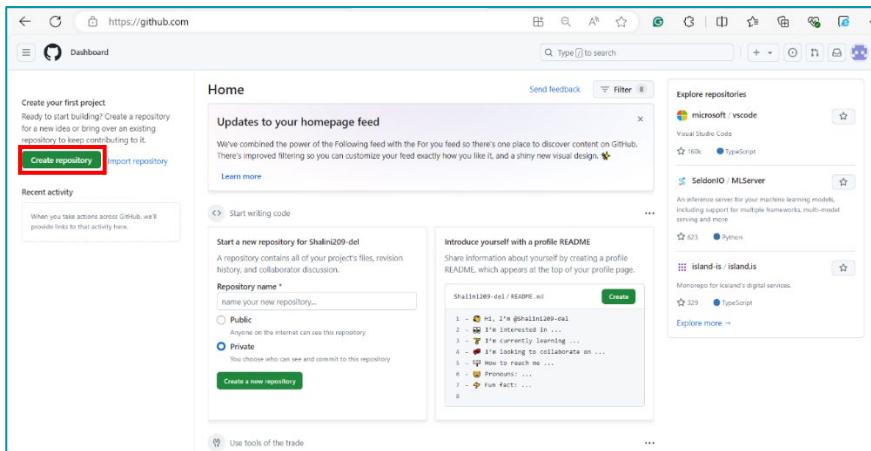


Step 2: Continue with entering the email address, a valid password, and username.

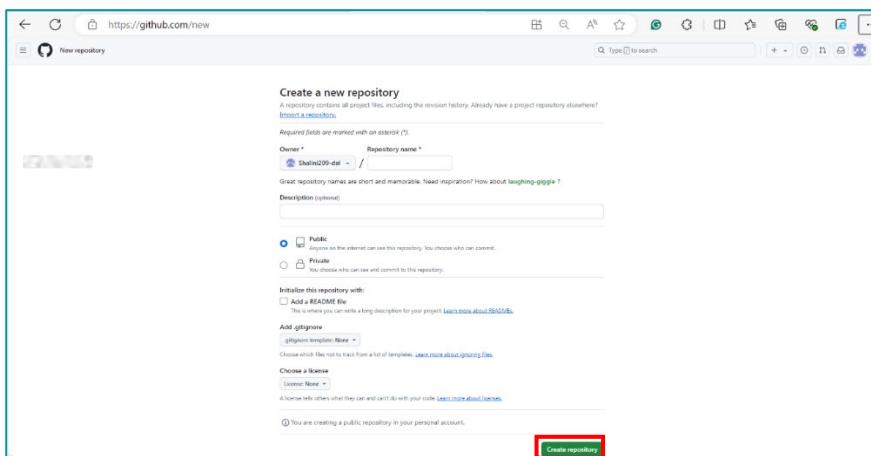


Step 3: Your account will be created after a quick pattern and code verification via your email address. You can then sign into your account using the valid credentials, and the homepage will be displayed.

Step 4: To kickstart, create a new repository by clicking the **Create repository** button on the left-hand side panel.



Step 5: Add the required details and click the **Create repository** button to create your first repository.



Resources and Reference Materials

- **Apache Maven Tutorial:** [Apache Maven Tutorial | Baeldung](#)
- **MySQL Tutorial:** [MySQL Tutorial - Learn MySQL Fast, Easy and Fun.](#)
- **Quick Introduction to the Tomcat Server:** [How to Start Tomcat Server? - GeeksforGeeks](#)
- **Git Documentation:** [Git - Book](#)
- **GitHub Documentation:** [GitHub flow - GitHub Docs](#)



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