

Setup Development Environment

#Assignment: Setting Up Your Developer Environment

#Objective:

This assignment aims to familiarize you with the tools and configurations necessary to set up an efficient developer environment for software engineering projects. Completing this assignment will give you the skills required to set up a robust and productive workspace conducive to coding, debugging, version control, and collaboration.

#Tasks:

Sources: Documentation of vsCode,Python,dart,git,windows 11 and flutter

Select your Operating System (OS):

Windows 11

Choose an operating system that best suits your preferences and project requirements. Download and Install Windows 11.

<https://www.microsoft.com/software-download/windows11>

Step 1: Create Windows 11 Installation Media

1. Download the Media Creation Tool:

<https://www.microsoft.com/software-download/windows11> click the link

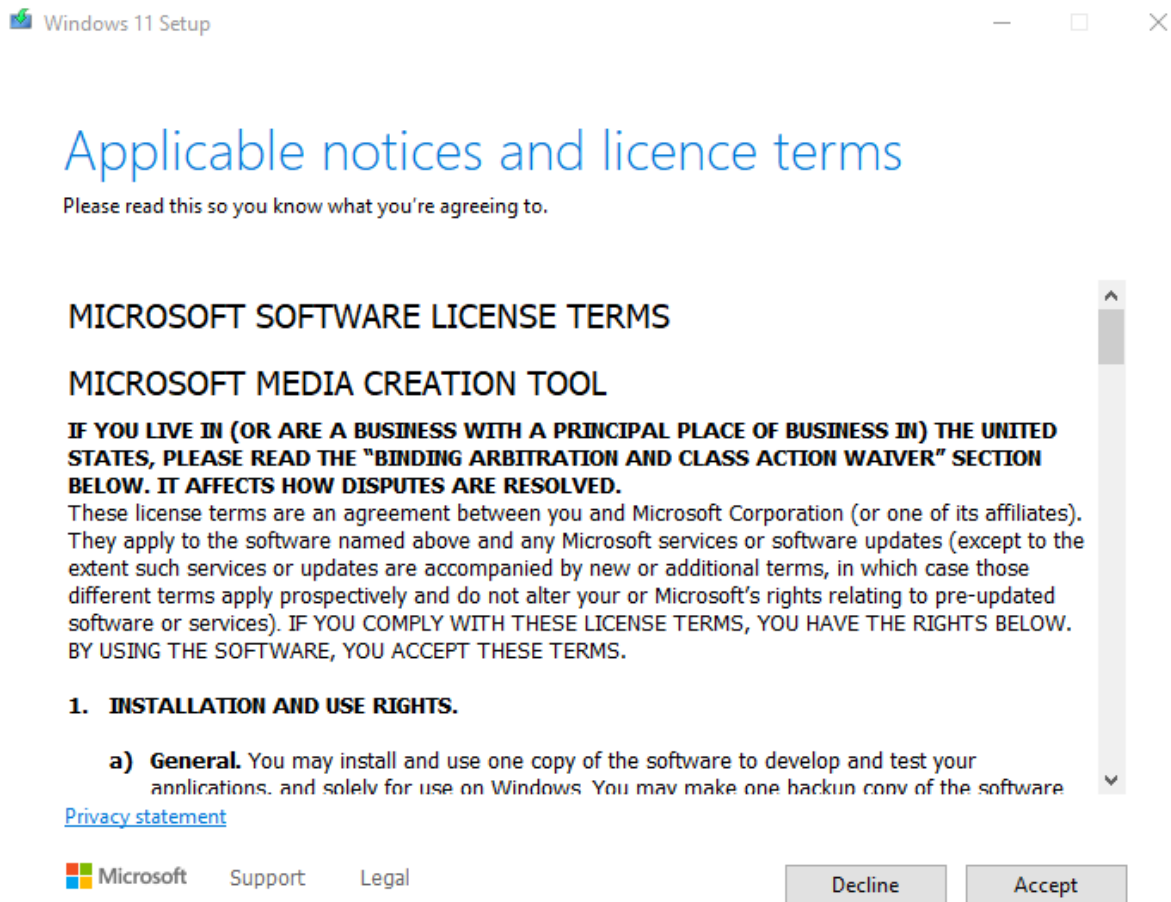
under the "Create Windows 11 installation Media" section and click the download button.



2. Run the Media Creation Tool:

Open the downloaded file and follow the prompts to create a bootable USB drive or ISO file.

Accept the license terms.



3. Set Up the Media Creation Tool: Choose the language, edition, and architecture (64-bit) and press next.

Select language and edition

Please select from one of the available options to continue.

Language English (United Kingdom) ▾

Edition Windows 11 ▾



[Support](#)

[Legal](#)

Back

Next

Select the USB flash drive option and click next.

Choose which media to use

If you want to install Windows 11 on another partition, you need to create and then run the media to install it.

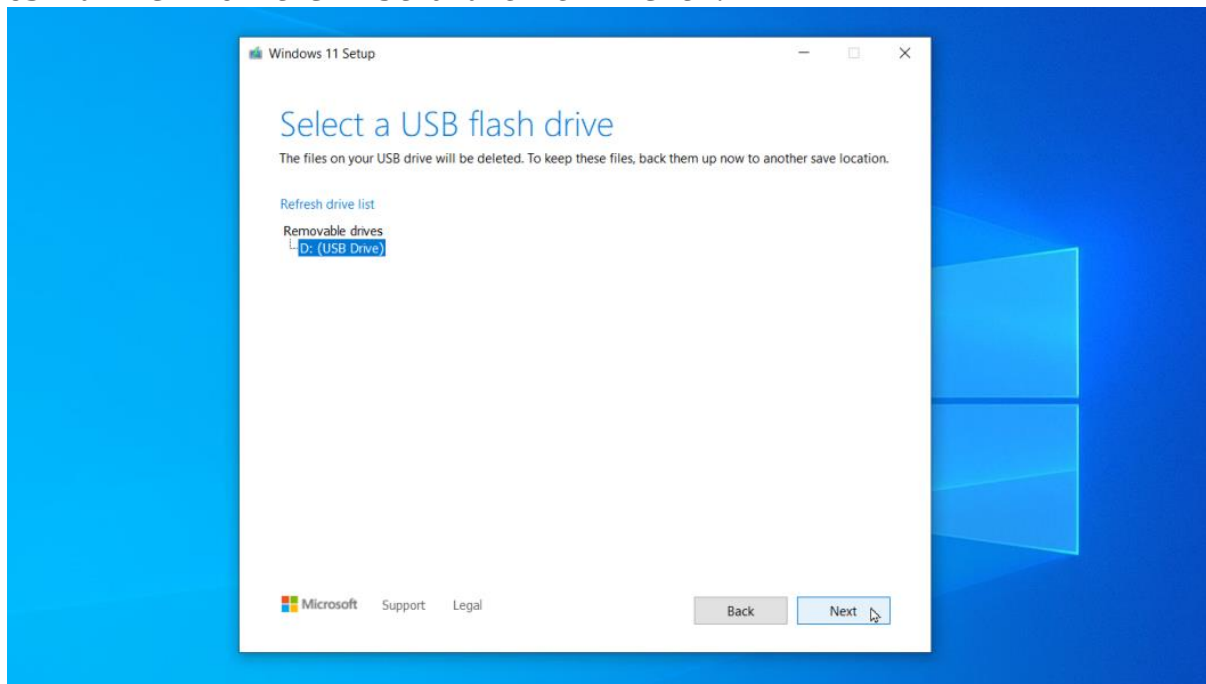
☒ USB flash drive

It needs to be at least 8 GB.

☐ ISO file

You'll need to burn the ISO file to a DVD later.

Insert a USB flash drive with at least 8 GB of storage. Select the USB drive from the list and click "Next".



The tool will download Windows 11 and create the bootable USB drive.

Downloading Windows 11

Feel free to keep using your PC.

• Progress: 0%

After that click finish.

Your USB flash drive is ready

E:\

Step 2: Install Windows 11 Using the Installation Media

1. Prepare Your PC: Back up all important data.

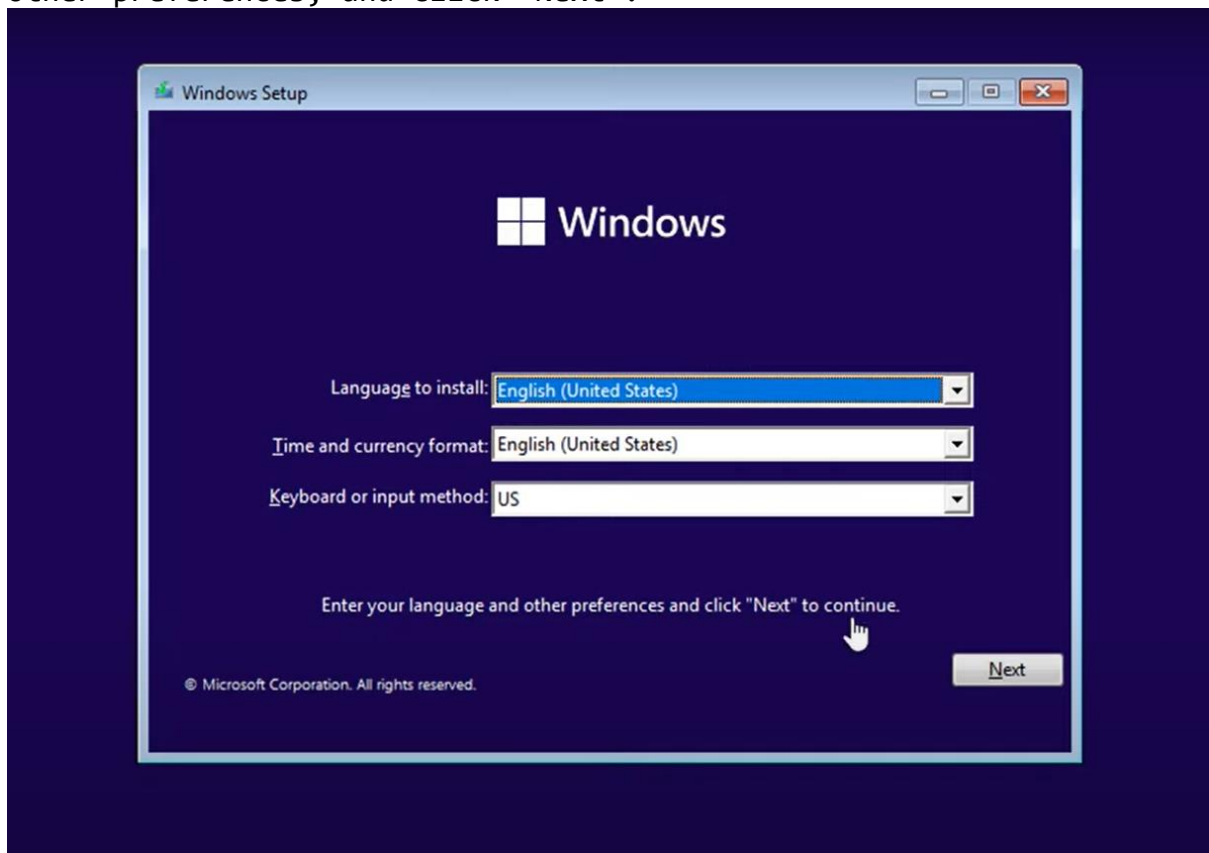
Ensure your PC meets the Windows 11 system requirements.
<https://www.microsoft.com/en-us/windows/windows-11-specifications>
use this link to check the computer requirements.

2. Boot from the USB Drive:

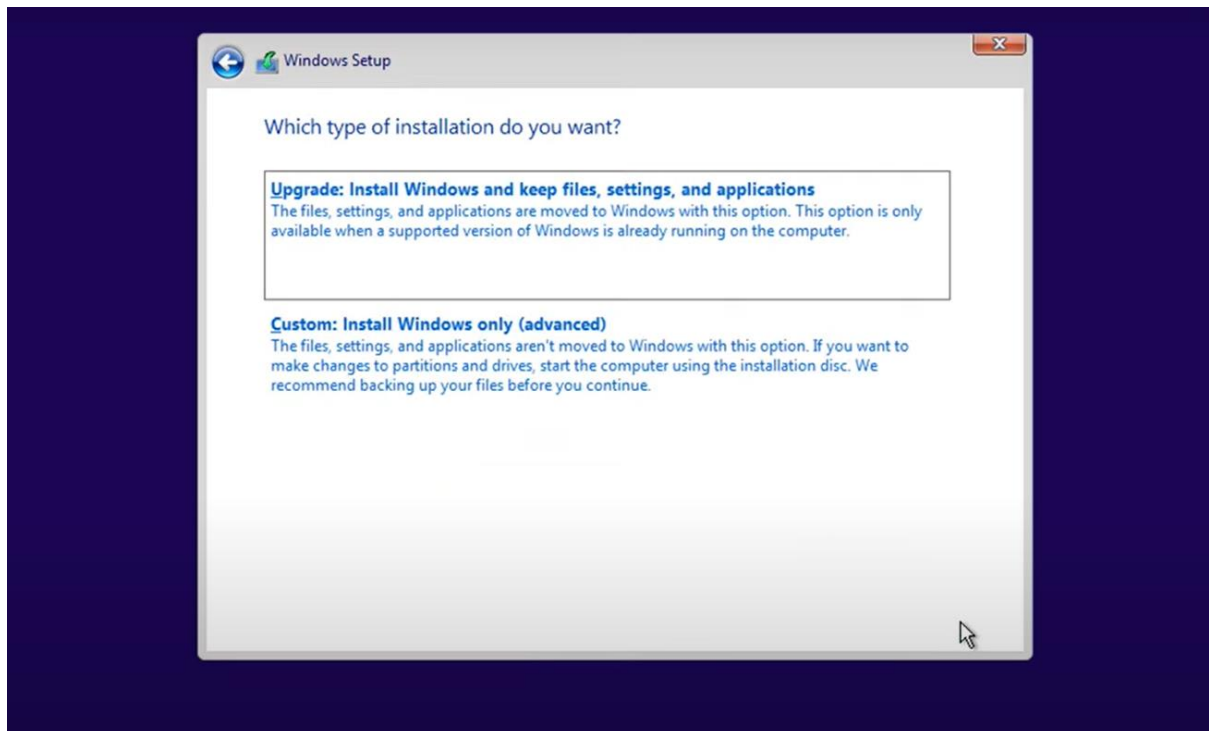
Insert the bootable USB drive into your PC. Restart your PC and enter the BIOS settings (usually by pressing F2, F12, or Del keys). Set the USB drive as the first boot device. Save the changes and exit the BIOS settings. Your PC will now boot from the USB drive.



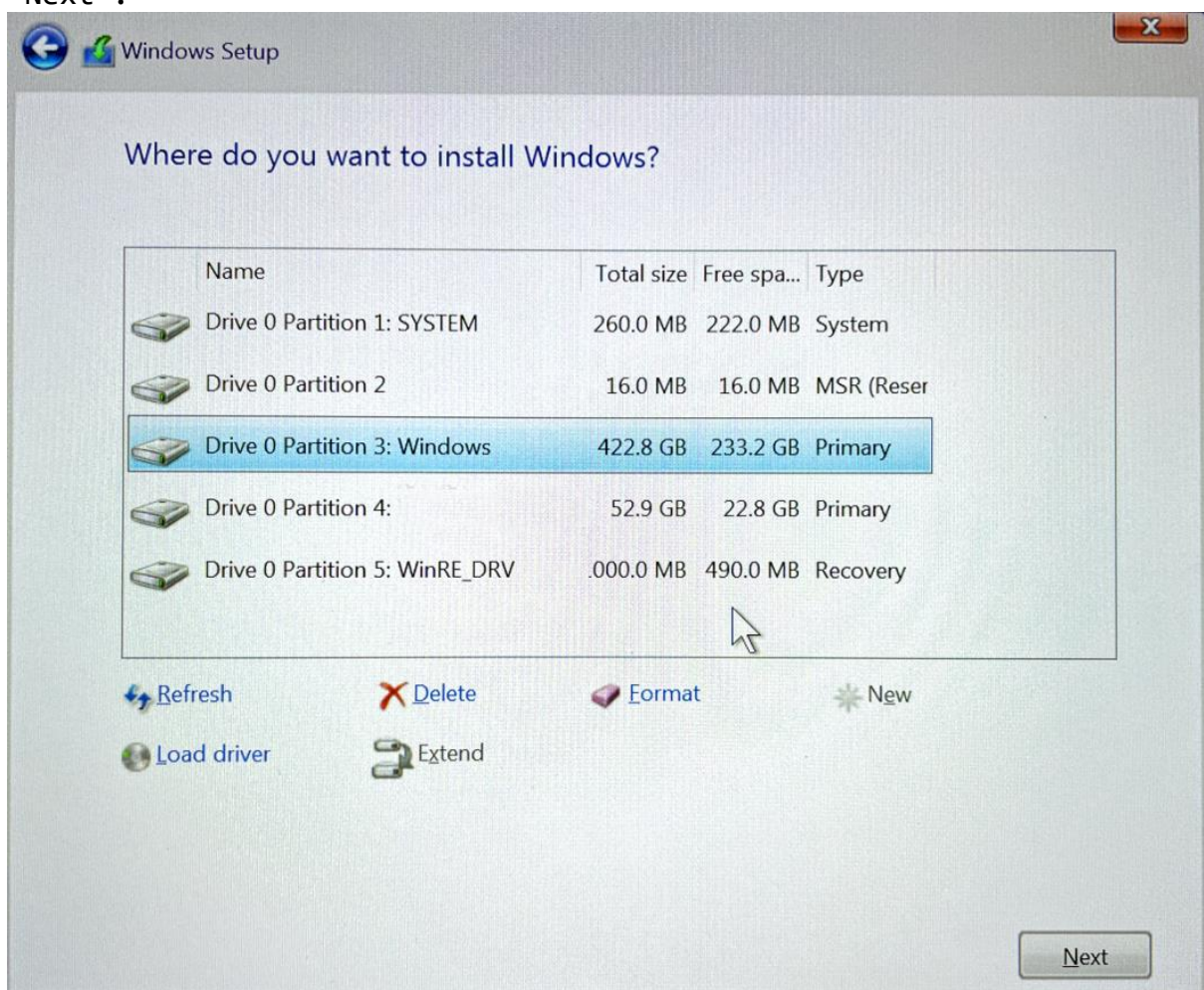
Select your language and other preferences, and click "Next".



Accept the license terms and click "Next". Select the "Custom: Install Windows only (advanced)" option.

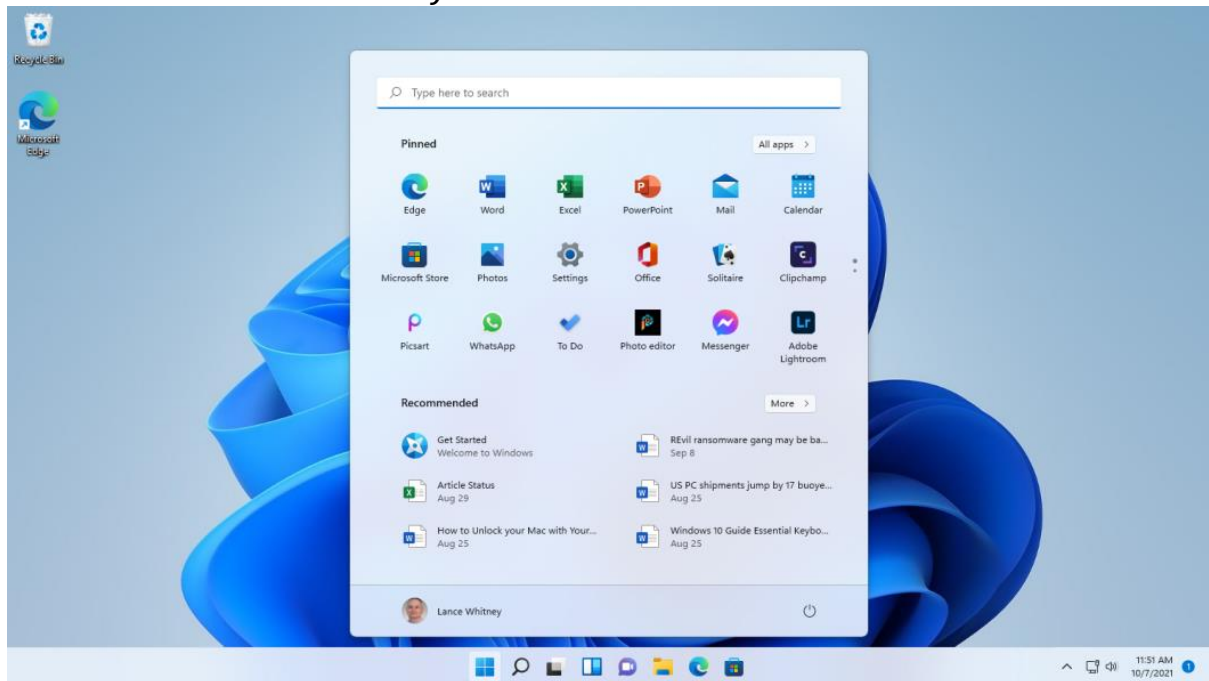


Select the partition where you want to install Windows 11, and click "Next".



The installation process will begin, and your PC will restart

several times. After the installation is complete, you'll be prompted to set up your Windows 11 environment. Follow the on-screen instructions to complete the setup process. You have successfully installed Windows 11 on your PC.



Windows11InstallationGuide

Windows11

MicrosoftWindows11

Windows11Setup

Windows11InstallationSteps

Windows11Guide

Windows11Tutorial

Windows11InstallationTutorial

Install a Text Editor or Integrated Development Environment (IDE):

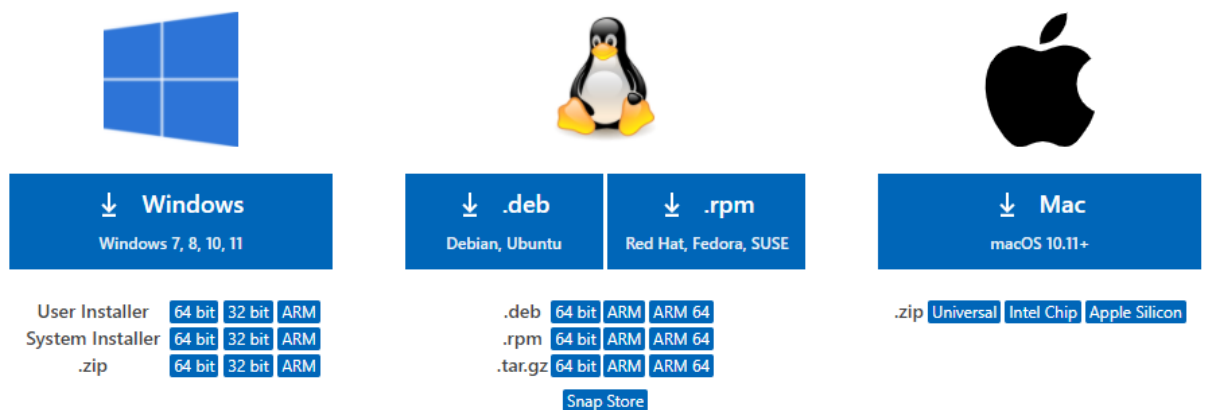
Select and install a text editor or IDE suitable for your programming languages and workflow. Download and Install Visual Studio Code. <https://code.visualstudio.com/Download>

Steps to Download and Install VS Code on Windows

1. Download VS Code: Open a web browser and navigate to the VS Code download page: <https://code.visualstudio.com/> Click on the "Download" button for Windows.

Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.

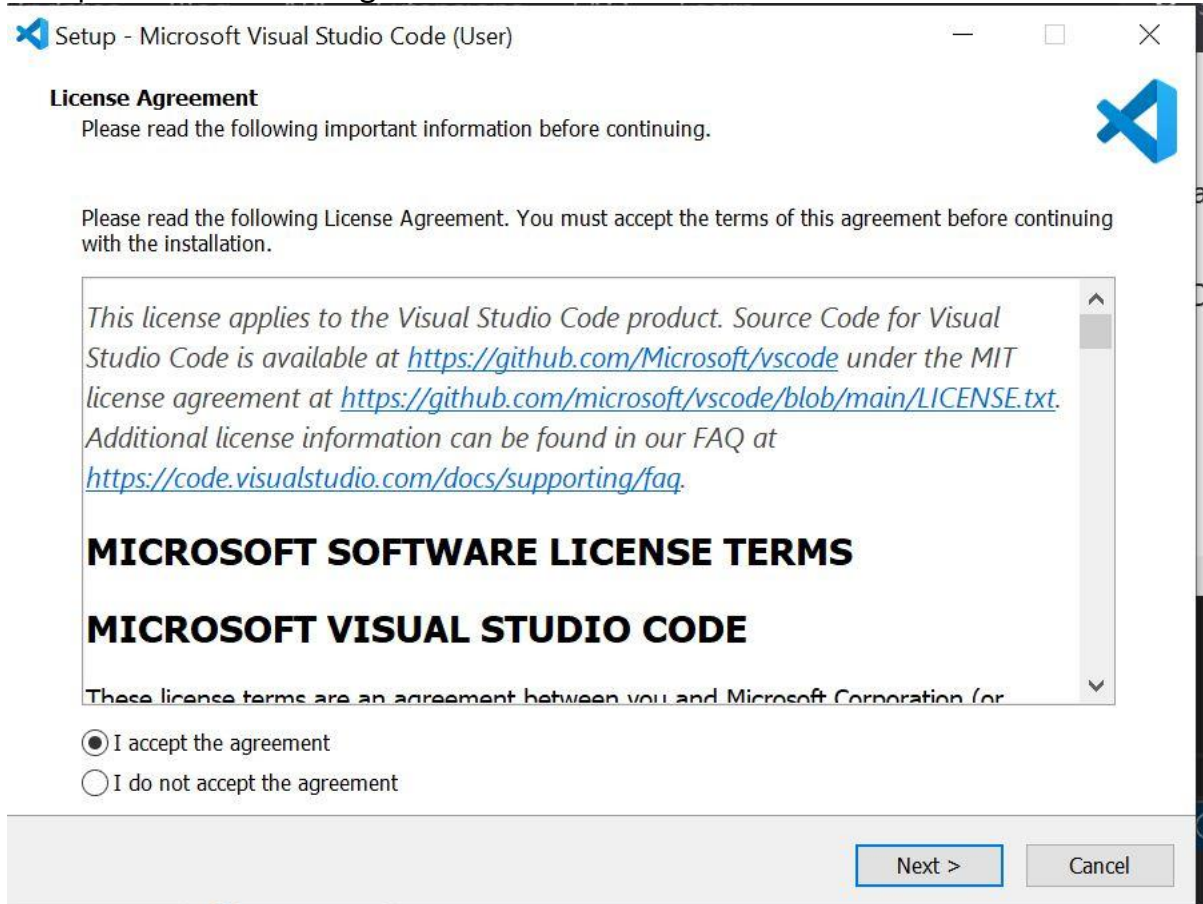


The image shows the Visual Studio Code download page layout. It features three main sections for different operating systems: Windows, Linux, and Mac. Each section has a logo at the top, a download button, and a list of available installers or packages with their respective architectures.

Operating System	Download Button	Available Packages/Installers
Windows	Windows 7, 8, 10, 11	User Installer (64 bit, 32 bit, ARM), System Installer (64 bit, 32 bit, ARM), .zip (64 bit, 32 bit, ARM)
Linux	.deb (Debian, Ubuntu), .rpm (Red Hat, Fedora, SUSE)	.deb (64 bit, ARM, ARM 64), .rpm (64 bit, ARM, ARM 64), .tar.gz (64 bit, ARM, ARM 64), Snap Store
Mac	Mac (macOS 10.11+)	.zip (Universal, Intel Chip, Apple Silicon)

2. Run the Installer : Open the downloaded file (VSCodeSetup.exe) and run the installer. The installer wizard will appear.
3. Installation Prompt:

Accept the license agreement and click next.




Choose the location where you want the VS Code installation to be kept. Accept the default location and click next.

Select Destination Location

Where should Visual Studio Code be installed?



 Setup will install Visual Studio Code into the following folder.

To continue, click Next. If you would like to select a different folder, click Browse.

C:\Users\sysadmin\AppData\Local\Programs\Microsoft VS Code\

Browse...

At least 306.2 MB of free disk space is required.

< Back

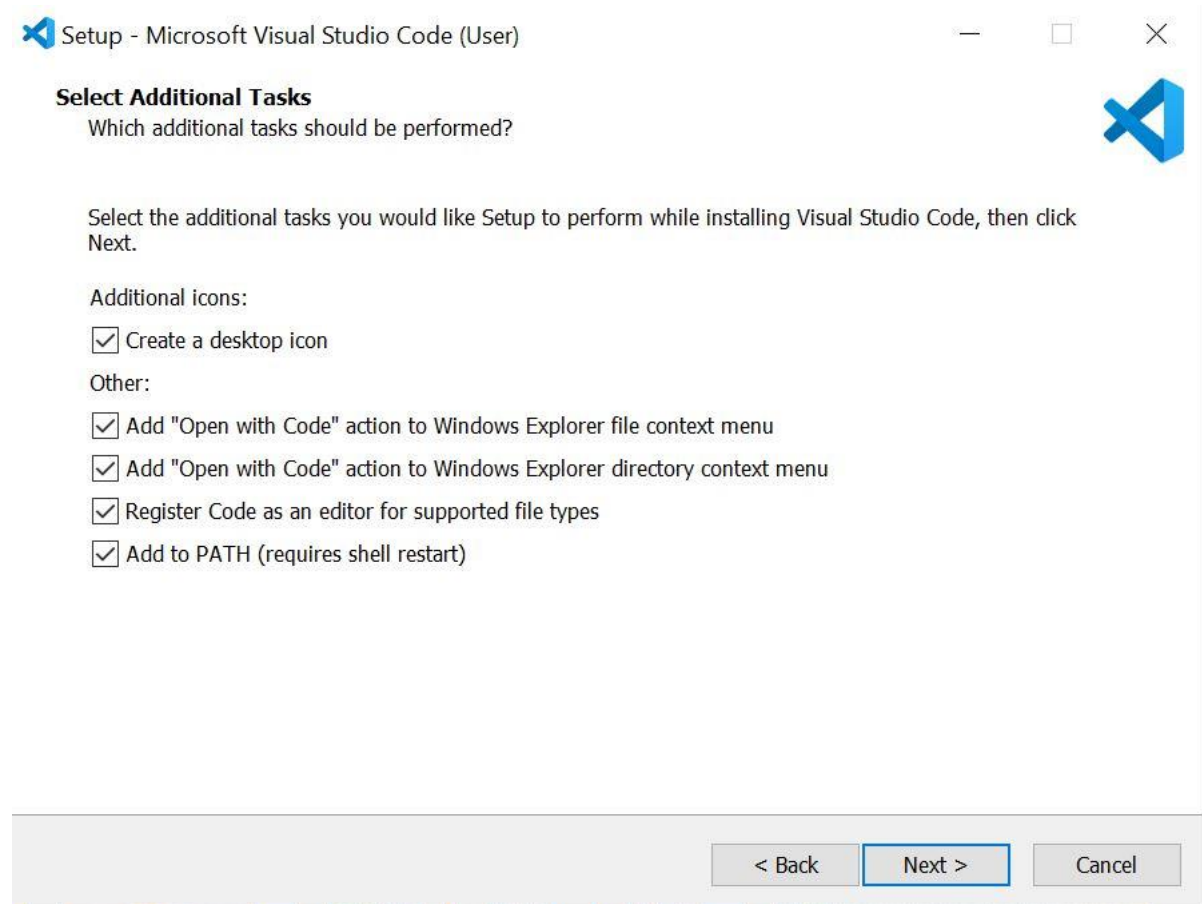
Next >

Cancel

Select the components you want to install. You can choose to install the 32-bit or 64 bit version of VS Code. Click next.

Select whether you want to add VS Code to your PATH environment variable. Click next.

Select whether you want to create a desktop icon for VS Code. Click next.



The screenshot shows the 'Setup - Microsoft Visual Studio Code (User)' window. The title bar includes the Visual Studio Code logo, the text 'Setup - Microsoft Visual Studio Code (User)', and standard window controls (minimize, maximize, close). The main content area is titled 'Select Additional Tasks' and asks 'Which additional tasks should be performed?'. It provides instructions to select tasks and click 'Next'. Under 'Additional icons', there is a checked checkbox for 'Create a desktop icon'. Under 'Other:', there are four checked checkboxes: 'Add "Open with Code" action to Windows Explorer file context menu', 'Add "Open with Code" action to Windows Explorer directory context menu', 'Register Code as an editor for supported file types', and 'Add to PATH (requires shell restart)'. At the bottom right, there are three buttons: '< Back', 'Next >' (which is highlighted with a blue border), and 'Cancel'.

Setup - Microsoft Visual Studio Code (User)

Select Additional Tasks

Which additional tasks should be performed?

Select the additional tasks you would like Setup to perform while installing Visual Studio Code, then click Next.

Additional icons:

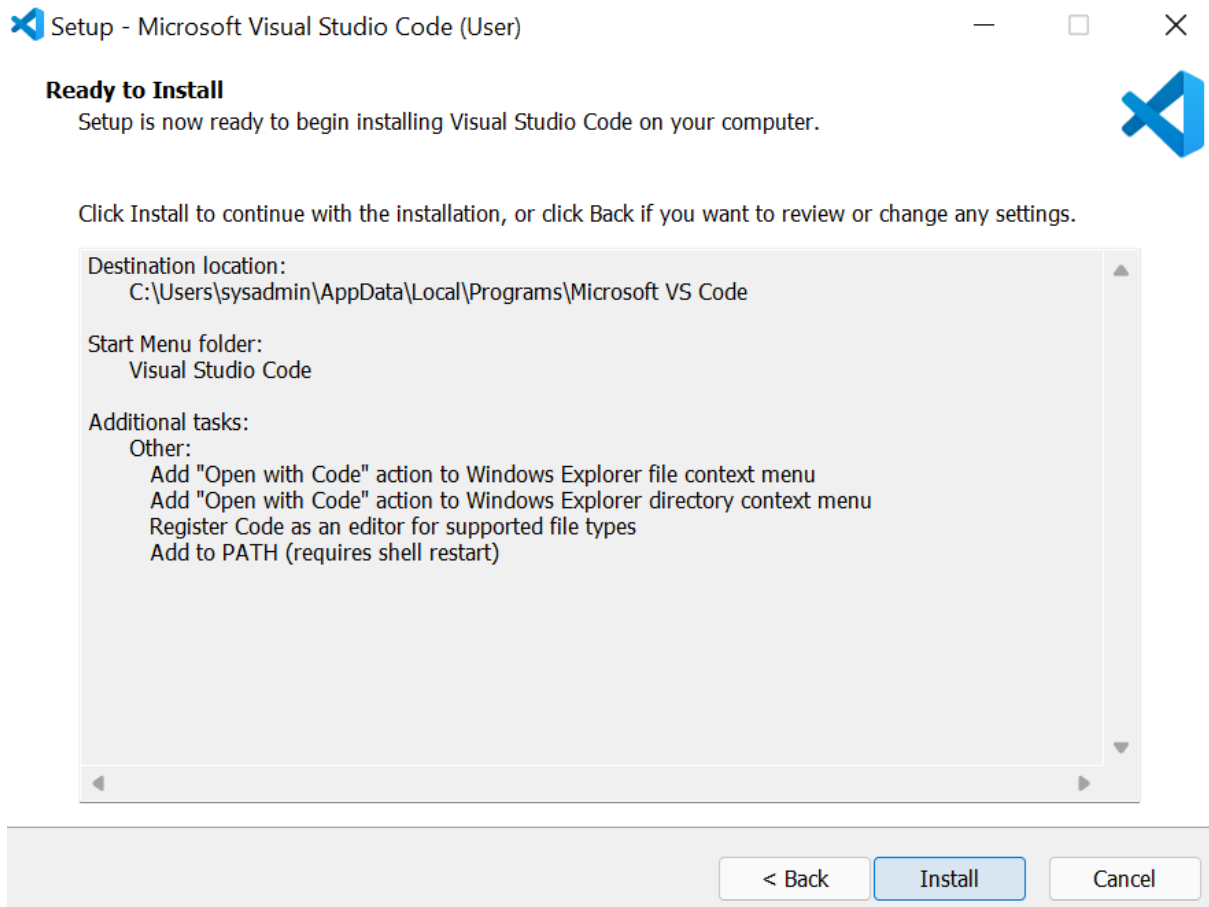
- ☒ Create a desktop icon

Other:

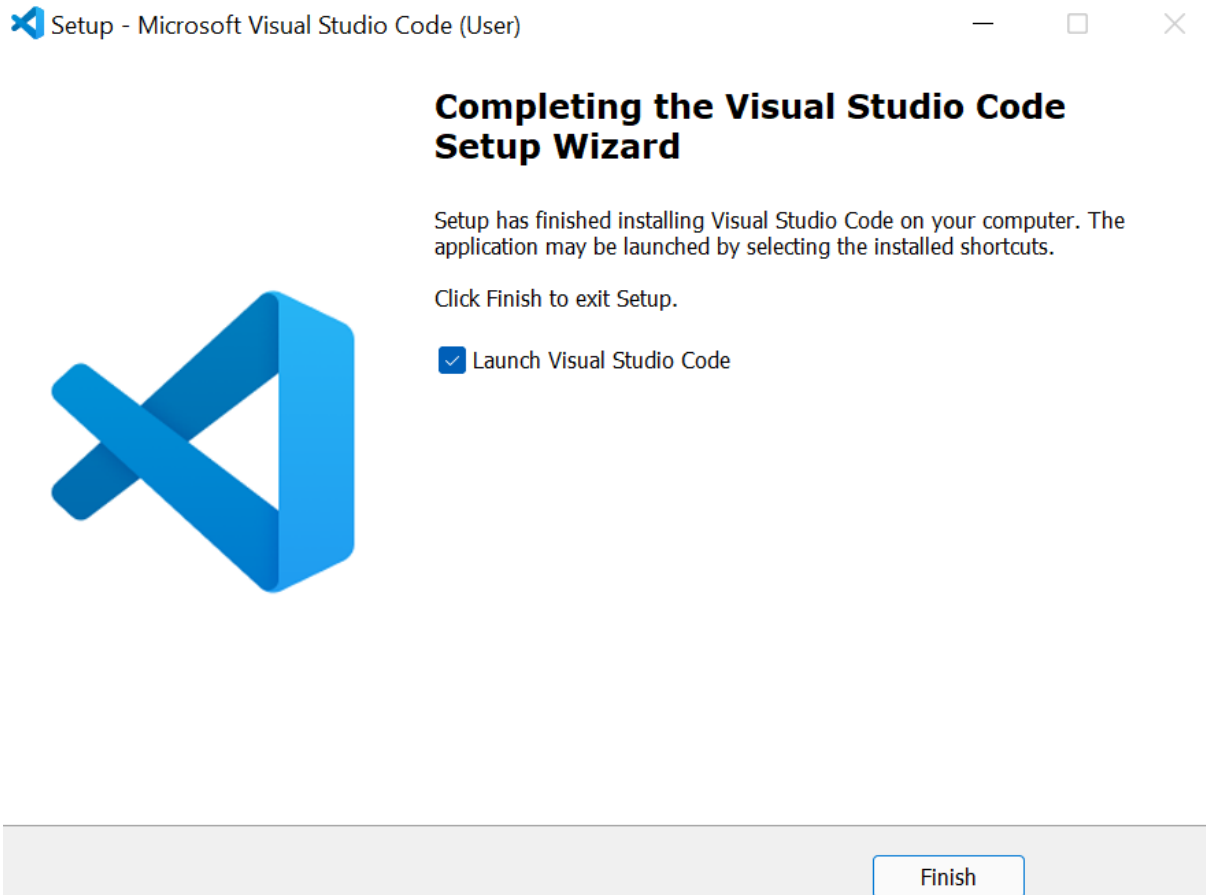
- ☒ Add "Open with Code" action to Windows Explorer file context menu
- ☒ Add "Open with Code" action to Windows Explorer directory context menu
- ☒ Register Code as an editor for supported file types
- ☒ Add to PATH (requires shell restart)

< Back Next > Cancel

Installation Progress : click install The installation process will begin, and you'll see a progress bar.



4. Installation Complete : The installation is complete. Click finish to close the installer wizard.



VSCode

VSCodeInstallationGuide

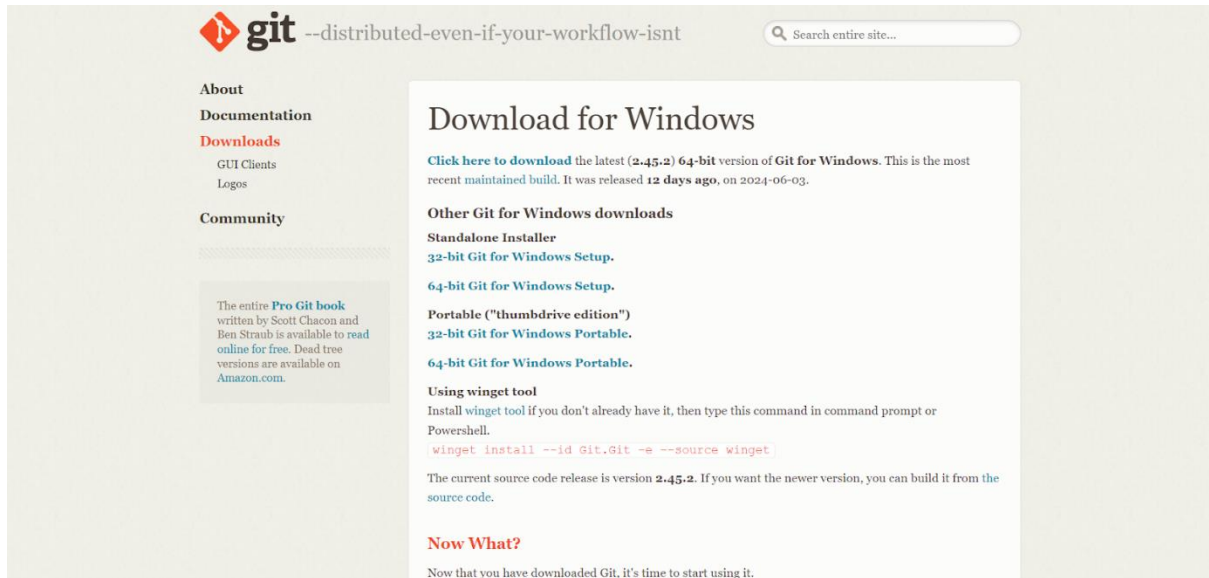
Set Up Version Control System:

Install Git and configure it on your local machine. Create a GitHub account for hosting your repositories. Initialize a Git repository for your project and make your first commit. <https://github.com>

sample Repo with git ignore: <https://github.com/mercymusyoka/this-is-a-test-repo.git>.

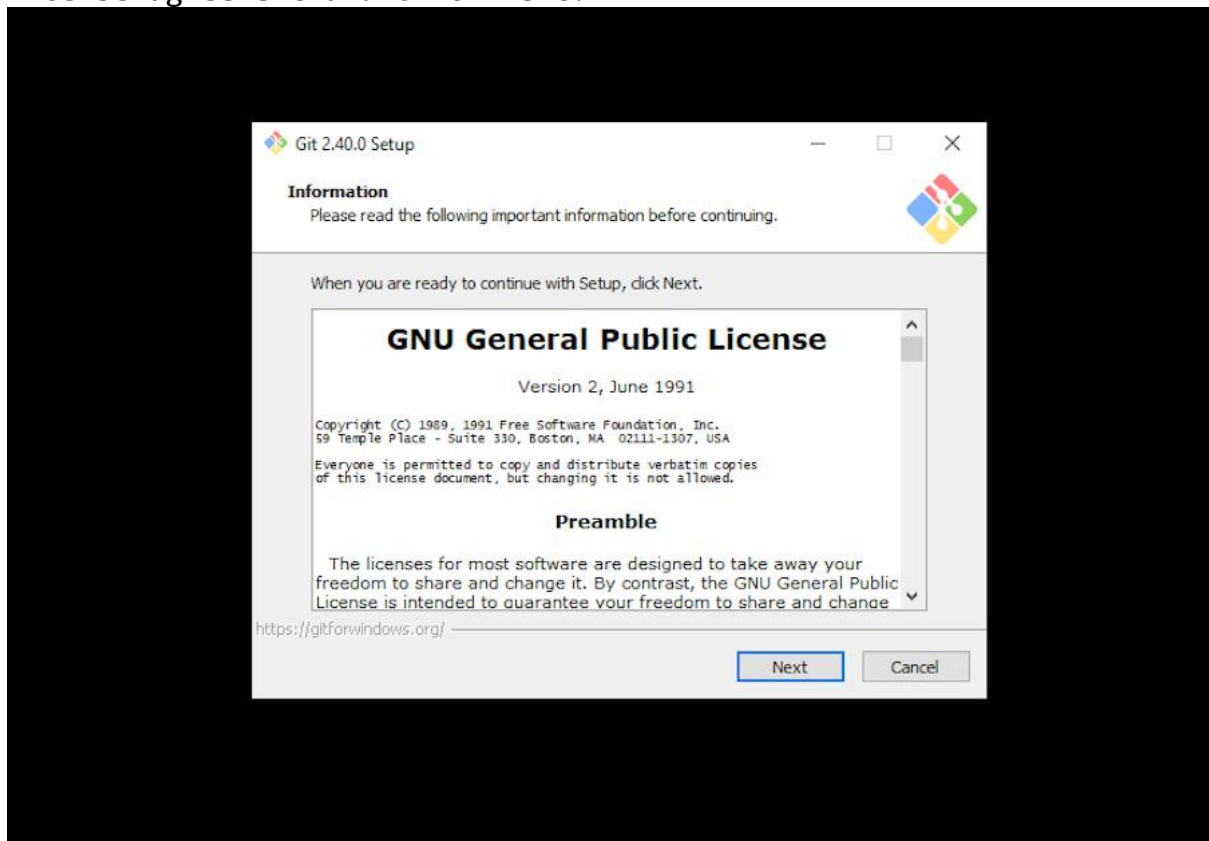
Step 1: Download and Install Git Open a web browser and navigate to the Git download page: <https://git-scm.com/downloads> Click on the

"Download" button for Windows.

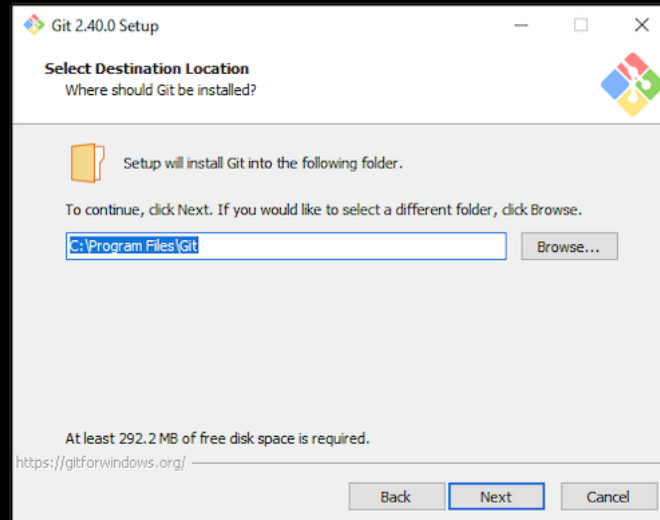


2. Run the Installer:

Open the downloaded Git installer. Run the Git installer (Git-2.38.0-64-bit.exe). The installer wizard will appear. Accept the license agreement and click next.



Choose the location where you want the Git installation to be kept. Accept the default location and click next



Select the components you want to install. You can choose to install the Git Bash, Git GUI, and other components. Click next. Select whether you want to add Git to your PATH environment variable. Click next.

Select whether you want to create a desktop icon for Git. Click next.

3. Installation Complete : The installation is complete. Click finish to close the installer wizard.

Verify the Installation:

Open Command Prompt or Git Bash and run `git --version`

This should display the version of Git installed on your system
mmusyoka@DESKTOP-J2Q8PUQ MINGW64/ \$ ~ (main) git version git version
2.45.2.windows.1

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)

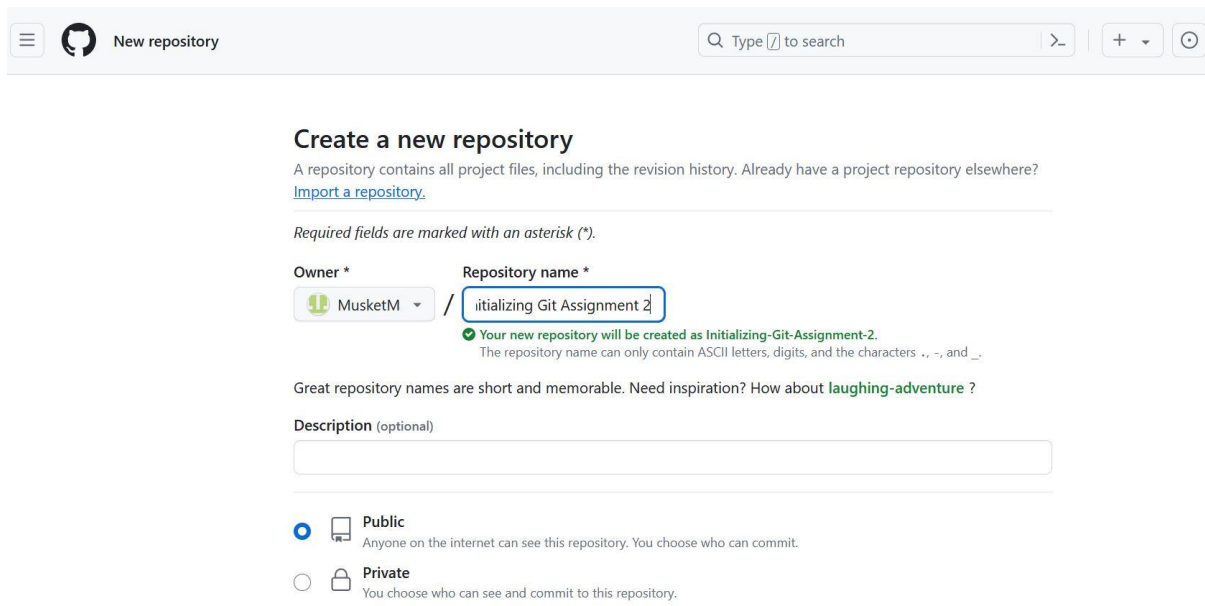
Step 2: Configuring Git

Open a terminal or command prompt (Git Bash). Set your username and email: `[git config --global user.name "Your Name" git config --global user.email "your_email@example.com"]`

Step 3: Create a GitHub Account Open a web browser and navigate to GitHub: <https://github.com> Click on the "Sign up" button. Fill in

the required information, such as your username, email, and password. Click on the "Create account" button.

Verify your email address by clicking on the verification link sent to your email. Step 4: Initialize a Git Repository Open a terminal or command prompt (Git Bash). Navigate to the directory where you want to create your Git repository. Run the command: `git init` This will create a new Git repository in the current directory.



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)


Required fields are marked with an asterisk (*).


Owner * MusketM / Repository name * initializing Git Assignment 2

✓ Your new repository will be created as **Initializing-Git-Assignment-2**.
The repository name can only contain ASCII letters, digits, and the characters `.`, `-`, and `_`.

Great repository names are short and memorable. Need inspiration? How about [laughing-adventure](#) ?

Description (optional)

☒  **Public**
Anyone on the internet can see this repository. You choose who can commit.

☐  **Private**
You choose who can see and commit to this repository.

Step 5: Create a New File and Add it to the Repository Create a new file in the repository directory using a text editor or IDE. Add the file to the Git repository using the command: `git add <file_name>`

Commit the changes using the command: `git commit -m "Initial commit"`

Step 6: Link the Local Repository to GitHub Create a new repository on GitHub by clicking on the "New" button. Fill in the required information, such as the repository name and description. Click on the "Create repository" button. Copy the repository URL.

In the terminal or command prompt, navigate to the local repository directory. Run the command: `git remote add origin <repository_URL>`

Run the command: `git push -u origin master`

This will push the local repository to GitHub and link the two repositories. Step 7: Verify the Repository on GitHub Open a web browser and navigate to GitHub. Verify that the repository has been created and the file has been uploaded.

Congratulations! You have successfully set up a Git repository and linked it to GitHub.

Open Command Prompt or Git Bash and run `git --version` This should display the version of Git installed on your system. mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)

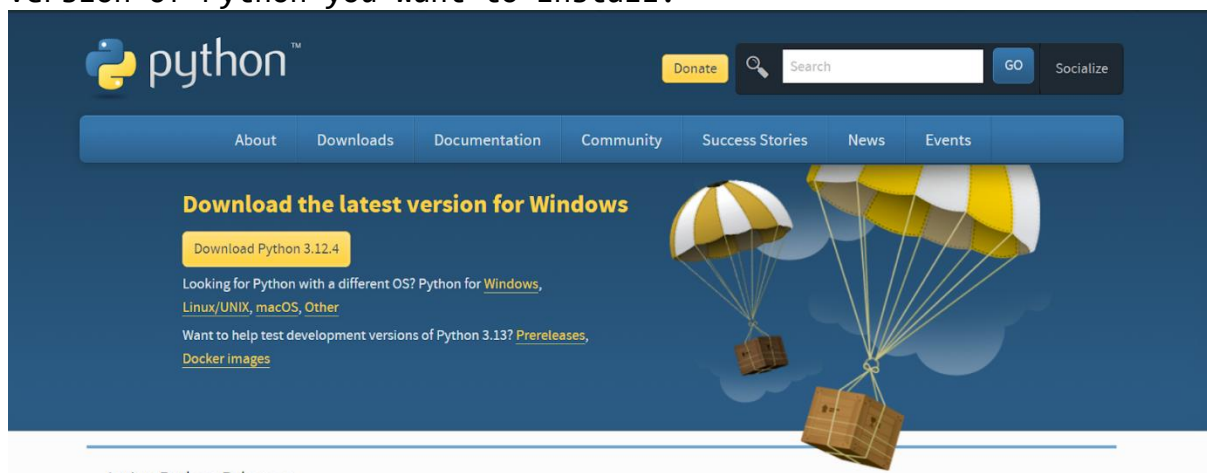
```
$ git --version
git version 2.45.2.windows.1
```

```
mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
$
```

Install Necessary Programming Languages and Runtimes: Python, Dart, and Flutter SDK Install Python from <http://www.python.org> programming language required for your project and install their respective compilers, interpreters, or runtimes. Ensure you have the necessary tools to build and execute your code.

INSTALLING PYTHON step1: Download python installer

Go to <https://www.python.org/downloads/> Download the latest version of Python for Windows. Select the installer that corresponds to the version of Python you want to install.



Step 2: Run the Installer Run the installer you downloaded. Select the installation location and click "Next".

Select the components you want to install and click "Next".



Select the Start menu folder and click "Next".

Select whether to add Python to the PATH and click "Install".

Wait for the installation to complete. Step 3: Verify Python Installation Open Command Prompt or Git Bash and run `python --version` This should display the version of Python installed on your system.

```
mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
$ python --version
Python 3.12.3
```

```
mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
$
```

Install Dart and Flutter SDK

Step 1: Download Flutter SDK Go to <https://flutter.dev/docs/get-started/install/> Download the Flutter SDK for Windows. Select the installation location and click "Next".

Language

Core libraries

Effective Dart

Packages

Development

Interoperability

Tools & techniques

Resources

Related sites

API reference

Blog

DartPad (online editor)

Flutter

Package site

To toggle data collection, use the following options on the [dart](#) tool:

- To enable anonymous analytics, run `dart --enable-analytics`.
- To disable anonymous analytics, run `dart --disable-analytics`.

Stable channel

Stable channel builds are tested and approved for production use.

Version: 3.4.4 OS: Windows

Version	OS	Architecture	Release date	Downloads
3.4.4 (ref 6046514)	Windows	x64	Jun 13, 2024	Dart SDK (SHA-256)
3.4.4 (ref 6046514)	Windows	IA32	Jun 13, 2024	Dart SDK (SHA-256)
3.4.4 (ref 6046514)	Windows	ARM64	Jun 13, 2024	Dart SDK (SHA-256)
3.4.4 (ref 6046514)	---	---	Jun 13, 2024	API docs

Beta channel

Beta channel builds are preview builds for the stable channel. We recommend testing, but not releasing, your apps against beta to preview new features or test compatibility with future releases. Beta channel builds are not suitable for production use.

Contents

Stable channel

Beta channel

Dev channel

Main channel

Download URLs

Stable, beta, and dev channel URL scheme

Main channel URL scheme

Step 2: Extract the Flutter SDK Extract the Flutter SDK to the selected location.

This PC

New Volume (D:)

dart-sdk

Name	Date modified	Type	Size
bin	5/26/2020 10:29 PM	File folder	
include	5/26/2020 10:22 PM	File folder	
lib	5/26/2020 10:22 PM	File folder	
dartdoc_options.yaml	5/26/2020 10:22 PM	YAML File	1 KB
LICENSE	5/26/2020 10:13 PM	File	2 KB
README	5/26/2020 10:13 PM	File	1 KB
revision	5/26/2020 10:22 PM	File	1 KB
version	5/26/2020 10:22 PM	File	1 KB

Step 3: Update the System Environment Variables Right-click on "Computer" or "This PC" and select "Properties". Click on "Advanced system settings" on the left side. Click on "Environment Variables". Under "System Variables", scroll down and find the "Path" variable, then click "Edit". Click "New" and add the path to the Flutter SDK's bin folder (e.g., C \flutter\bin). Click "OK" to close all the windows. Step 4: Verify Flutter Installation Open Command Prompt or Git Bash and run flutter doctor This should display the Flutter doctor report, which checks for any issues with your Flutter installation. Verification of dart Open Command Prompt or Git Bash and run dart --version This should display the version of Dart installed on your system.

```
mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
$ dart --version
Dart SDK version: 3.4.3 (stable) (Tue Jun 4 19:51:39 2024 +0000) on "windows_x64"

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
$
```

DOWNLOADING DART Step 1: Download Dart SDK Go to <https://dart.dev/get-dart> Download the Dart SDK for Windows. Select the installation location and click "Next".

Language

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Flutter

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3.4.4 (ref 6046514)	Windows	IA32	Jun 13, 2024	Dart SDK (SHA-256)
3.4.4 (ref 6046514)	Windows	ARM64	Jun 13, 2024	Dart SDK (SHA-256)
3.4.4 (ref 6046514)	---	---	Jun 13, 2024	API docs

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Beta channel

Dev channel

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Stable, beta, and dev channel URL scheme

Main channel URL scheme

Step 2: Extract the Dart SDK Extract the Dart SDK to the selected location.

Step 3: Update the System Environment Variables Right-click on "Computer" or "This PC" and select "Properties". Click on "Advanced system settings" on the left side. Click on "Environment Variables". Under "System Variables", scroll down and find the "Path" variable, then click "Edit" Click "New" and add the path to the Dart SDK's bin folder (e.g., C \flutter-sdk\bin). Click "OK" to close all the windows.

Step 4: Verify Dart Installation Open Command Prompt or Git Bash and run flutter --version This should display the version of Dart installed on your system.

```
mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
$ flutter --version
Flutter 3.22.2 • channel stable • https://github.com/flutter/flutter.git
Framework • revision 761747bfc5 (2 weeks ago) • 2024-06-05 22:15:13 +0200
Engine • revision edd8546116
Tools • Dart 3.4.3 • DevTools 2.34.3

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
$
```

install Package Managers: If applicable, install package managers like pip (Python).

Python (pip)

check the python version in git by running the command python --version

it will display the python version mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)

```
$ python --version
Python 3.12.3
```

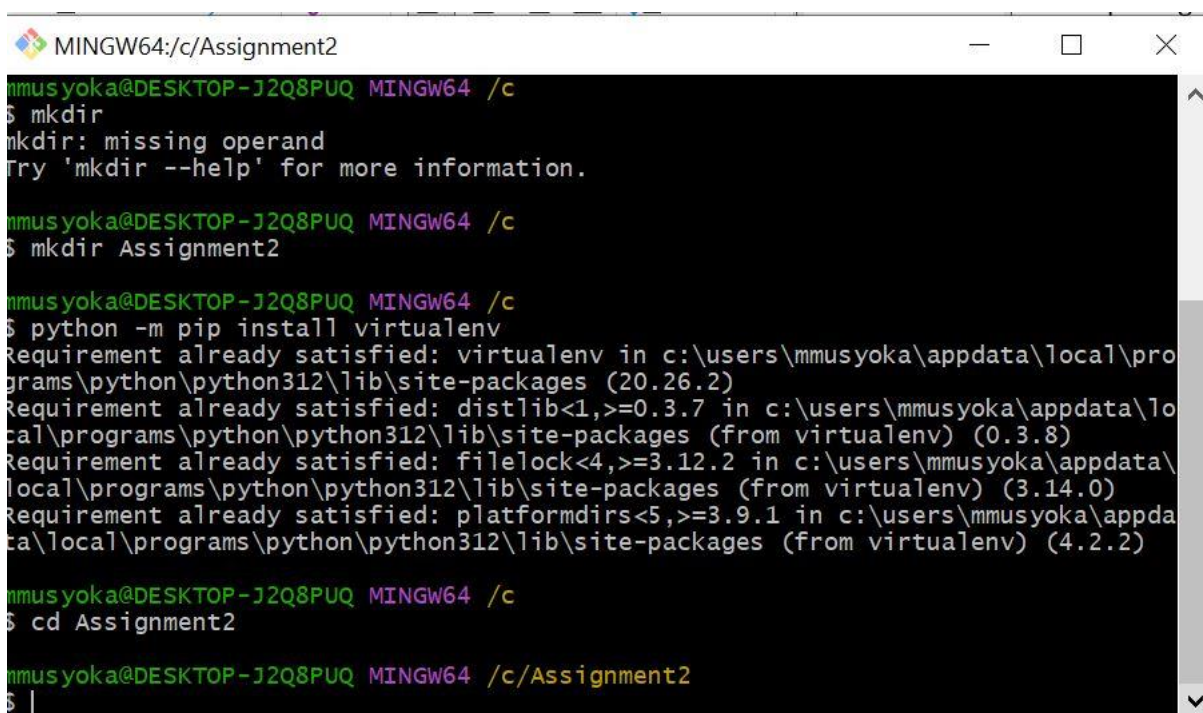
```
mmusyoka@DESKTOP-J2Q8PUQ MINGW64 ~ (main)
```

/

install pip

. Before creating a virtual environment, you have virtualenv installed by using pip. Pip install virtualenv

ii. create the virtual environment by using the following command :
python -m venv myenv



```
mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c
$ mkdir
mkdir: missing operand
Try 'mkdir --help' for more information.

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c
$ mkdir Assignment2

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c
$ python -m pip install virtualenv
Requirement already satisfied: virtualenv in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (20.26.2)
Requirement already satisfied: distlib<1,>=0.3.7 in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (from virtualenv) (0.3.8)
Requirement already satisfied: filelock<4,>=3.12.2 in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (from virtualenv) (3.14.0)
Requirement already satisfied: platformdirs<5,>=3.9.1 in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (from virtualenv) (4.2.2)

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c
$ cd Assignment2

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c/Assignment2
$ |
```

ii. To activate the environment input the following command source myenv/Scripts/activate


```
MINGW64:/c/Assignment2

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c/Assignment2
$ pip install virtualenv
Requirement already satisfied: virtualenv in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (20.26.2)
Requirement already satisfied: distlib<1,>=0.3.7 in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (from virtualenv) (0.3.8)
Requirement already satisfied: filelock<4,>=3.12.2 in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (from virtualenv) (3.14.0)
Requirement already satisfied: platformdirs<5,>=3.9.1 in c:\users\mmusyoka\appdata\local\programs\python\python312\lib\site-packages (from virtualenv) (4.2.2)

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c/Assignment2
$ python -m venv myenv

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c/Assignment2
$ myenv\Scripts\activate
bash: myenvScriptsactivate: command not found

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c/Assignment2
$ myenv/Scripts/activate

mmusyoka@DESKTOP-J2Q8PUQ MINGW64 /c/Assignment2
$ |
```

Configure a Database (MySQL):

Download and install MySQL database.

<https://dev.mysql.com/downloads/windows/installer/5.7.html>


1. Download MySQL

Go to the MySQL Community Downloads

page.<https://dev.mysql.com/downloads/installer/> Download the latest version of MySQL for Windows. Select the installer that corresponds to the version of MySQL you want to install.

[General Availability \(GA\) Releases](#)[Archives](#)[i](#)

MySQL Installer 8.0.37

**Note:** MySQL 8.0 is the final series with MySQL Installer. As of MySQL 8.1, use a MySQL product's MSI or Zip archive for installation. MySQL Server 8.1 and higher also bundle MySQL Configurator, a tool that helps configure MySQL Server.

Select Version:

8.0.37

Select Operating System:

Microsoft Windows

Windows (x86, 32-bit), MSI Installer (mysql-installer-web-community-8.0.37.0.msi)	8.0.37	2.1M	Download
Windows (x86, 32-bit), MSI Installer (mysql-installer-community-8.0.37.0.msi)	8.0.37	296.1M	Download

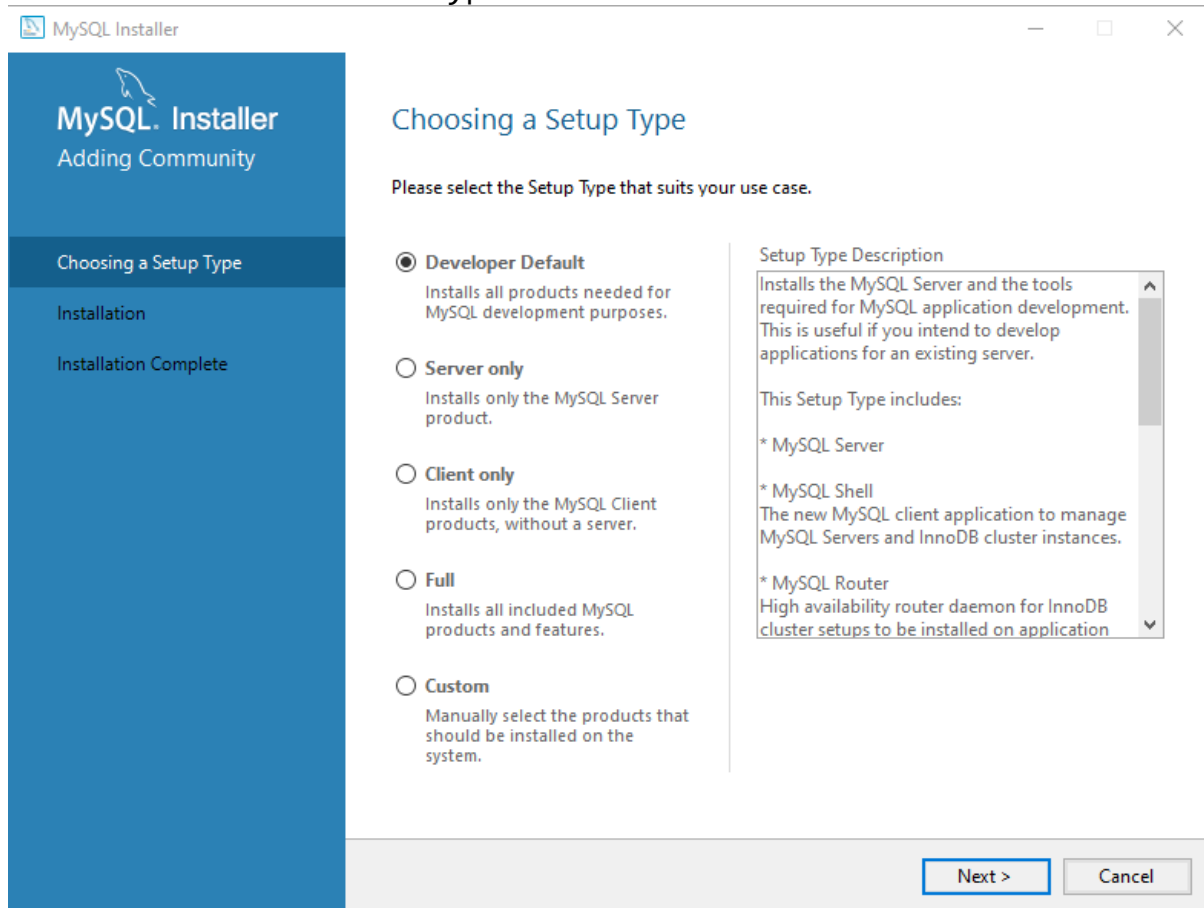
MD5: 398f1365f2bd43af9f6ece9add565c1b | [Signature](#)

MD5: ae605e4f62aaf8bb1adef684d62a49f2 | [Signature](#)

2. Install MySQL Run the installer and follow the installation wizard's instructions. Select the installation location and click "Next".

Select the components you want to install and click "Next".

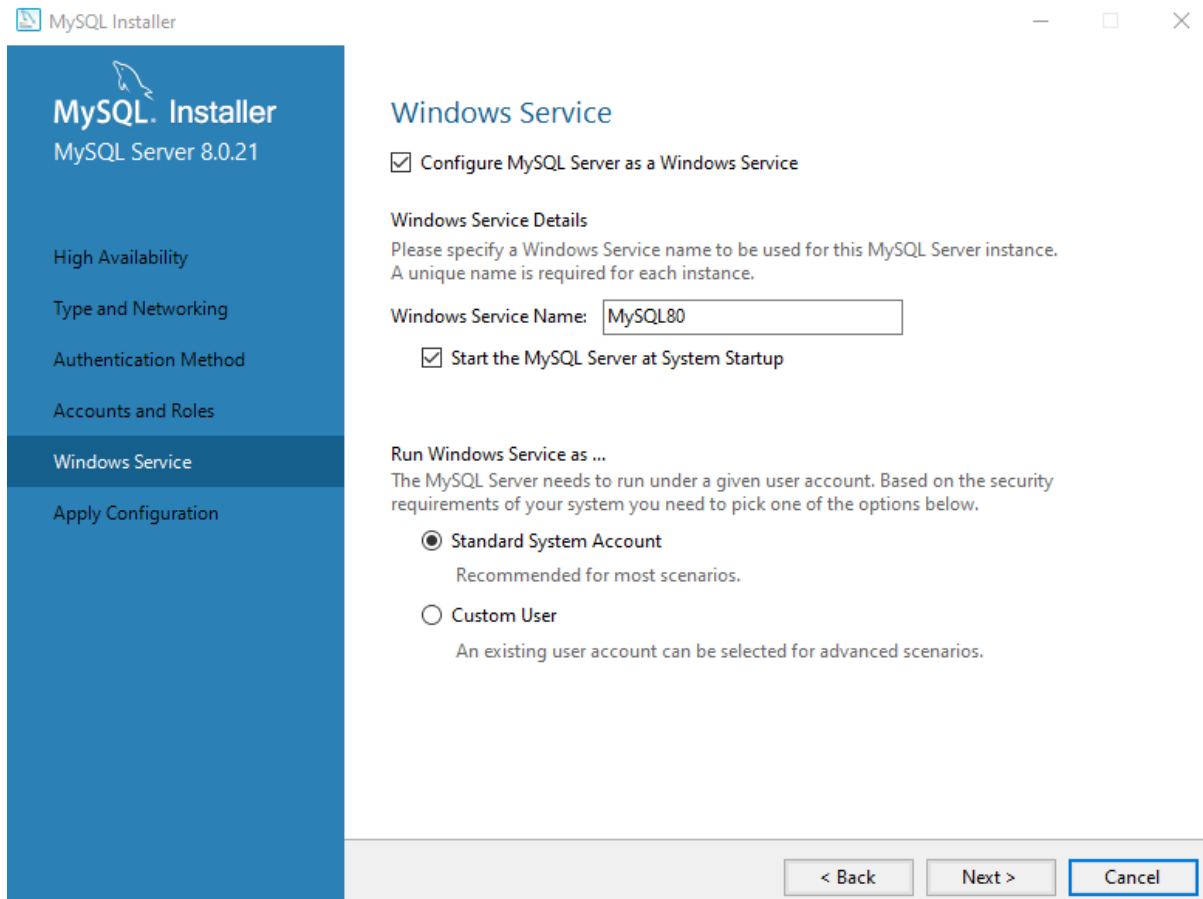
Select the installation type and click "Next".



Select the root password and click "Next".

Select the default character set and click "Next".

Select the Windows service and click "Next".



Click "Execute" to start the installation.

Finally, click "Finish" to complete the installation

vi. The SQL bench will installed as follows:

<https://www.mysql.com/products/workbench/>

The world's most popular open source database

MySQL.COM DOWNLOADS DOCUMENTATION DEVELOPER ZONE

Products Cloud Services Partners Customers Why MySQL? News & Events How to Buy

MySQL HeatWave

MySQL Enterprise Edition

- Datasheet (PDF)
- Technical Specification
- MySQL Database
- MySQL Document Store
- Oracle Enterprise Manager
- Enterprise Monitor
- Enterprise Backup
- Enterprise HA
- Enterprise Scalability
- Enterprise Authentication
- Enterprise TDE
- Enterprise Encryption
- Enterprise Masking

MySQL Workbench

Enhanced Data Migration

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MySQL Workbench is a unified visual tool for database architects, developers, and DBAs. MySQL Workbench provides data modeling, SQL development, and comprehensive administration tools for server configuration, user administration, backup, and much more. MySQL Workbench is available on Windows, Linux and Mac OS X.

Design

MySQL Workbench enables a DBA, developer, or data architect to visually design, model, generate, and manage databases. It includes everything a data modeler needs for creating complex ER models, forward and reverse engineering, and also delivers key features for performing difficult change management and documentation tasks that normally require much time and effort.

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Develop

MySQL Workbench Home

ii. click on download, then on my SQL installer for windows click on download for the specifications of your computer. Mine is 64 bit.

It will be as follows :

General Availability (GA) Releases Archives

MySQL Workbench 8.0.36

Select Operating System:

Microsoft Windows

Recommended Download:

MySQL Installer for Windows

All MySQL Products. For All Windows Platforms. In One Package.

Starting with MySQL 5.6 the MySQL Installer package replaces the standalone MSI packages.

Windows (x86, 32 & 64-bit), MySQL Installer MSI

[Go to Download Page >](#)

Other Downloads:

Download	Version	Size	Action
Windows (x86, 64-bit), MSI Installer	8.0.36	42.0M	Download
(mysql-workbench-community-8.0.36-winx64.msi)			
MD5: 2156fe0cb6f5ed83908e4636ba86390a Signature			

! We suggest that you use the [MD5 checksums](#) and [GnuPG signatures](#) to verify the integrity of the packages you download.

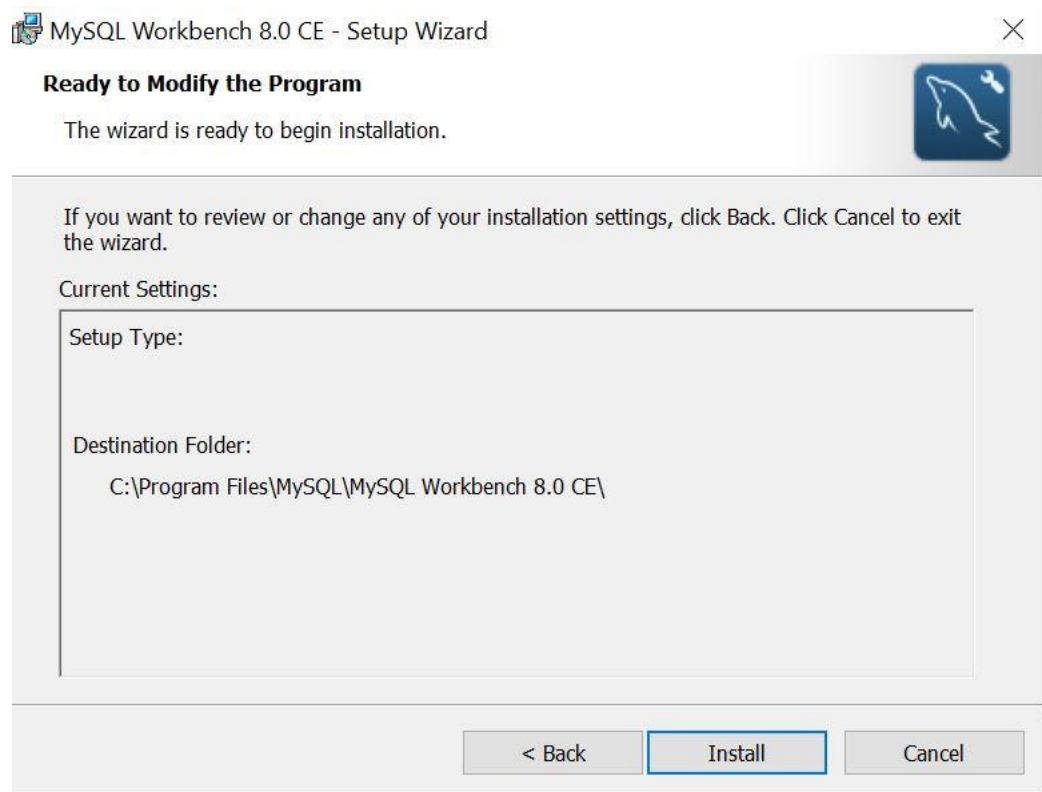
</dev.mysql.com/downloads/windows/installer/8.0.html>

iii. Click on community downloads and select no thanks just start my download.

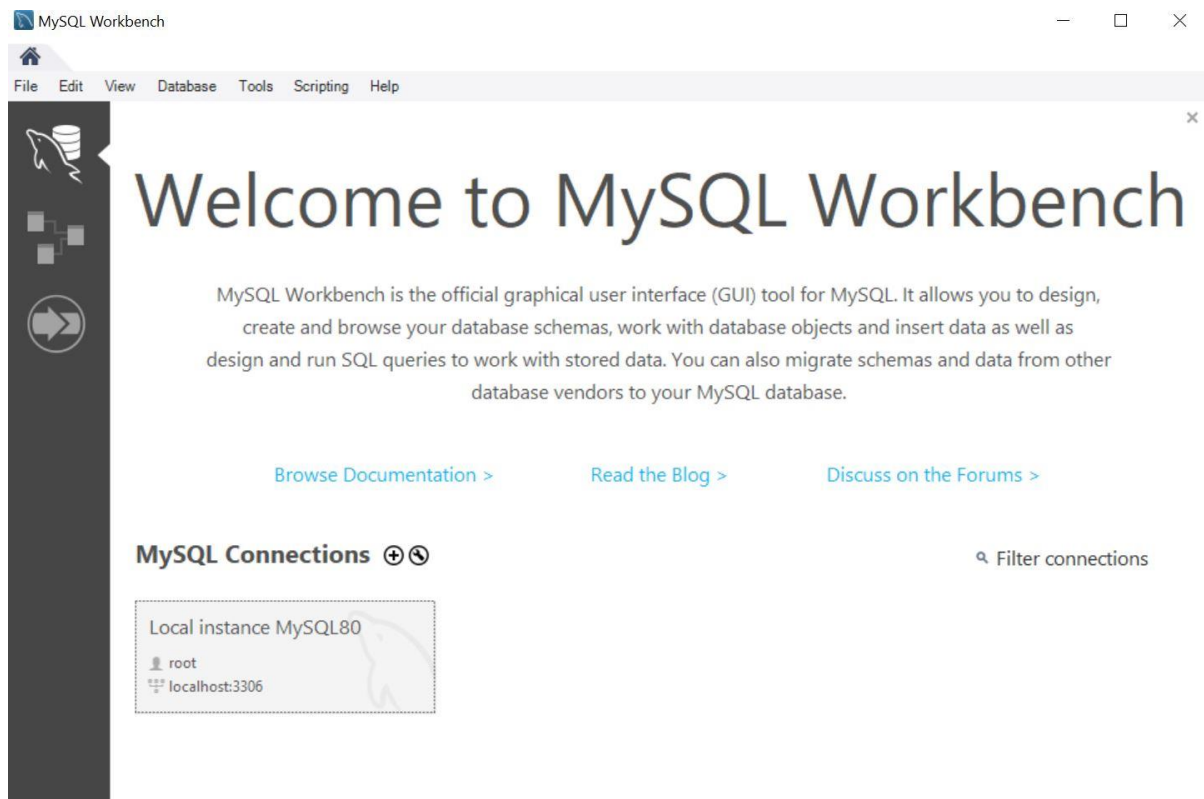
iv. Run the program as shown below:



v. Click next for installation.



vi. The SQL work bench will installed as follows:



Set Up Development Environments and Virtualization (Optional):

Consider using virtualization tools like Docker or virtual machines to isolate project dependencies and ensure consistent environments across different machines.

Docker Install Docker Desktop on your machine.

<https://www.docker.com/get-started/> Create a Dockerfile for your project to define the environment and dependencies.

Run the Docker container using the Dockerfile. Virtual Machines Install a virtual machine software like VirtualBox or VMware. Create a virtual machine with the desired operating system and configuration. Install the necessary dependencies and tools within the virtual machine. Install Python and `pip python -m ensurepip`

Explore Extensions and Plugins: Explore available extensions, plugins, and add-ons for your chosen text editor or IDE to enhance functionality, such as syntax highlighting, linting, code formatting, and version control integration.

Visual Studio Code (VS Code) Extensions VS Code is a highly customizable text editor with a vast ecosystem of extensions. Here are some essential extensions:

1. Python Extension Pack: Provides syntax highlighting, linting, and debugging capabilities for Python.
 2. Code Runner: Allows you to run code in the editor with a single click.
 3. Debugger for Python: Enables debugging Python code with breakpoints, variable inspection, and more.
 4. Python Test Explorer: Provides a test explorer for Python, allowing you to run and debug tests
 5. Jupyter Notebook Viewer: Enables viewing and editing Jupyter Notebooks within VS Code.
 6. GitLens: Enhances Git functionality with features like code lens, commit history, and more
 7. Pylance: Provides advanced Python language support, including type checking, code completion, and linting.
 8. Python Indent: Automatically formats Python code with proper indentation.
- PyCharm Plugins PyCharm is a popular IDE for Python development. Here are some essential plugins
9. Python Console: Provides an interactive Python console within PyCharm.
 10. Python Debugger: Enables debugging Python code with breakpoints, variable inspection, and more.
 11. Python Code Analysis: Offers code analysis, inspections, and quick fixes for Python code.
 12. Python Code Completion: Provides advanced code completion, including type hints and docstrings.
 13. Python Refactoring: Enables refactoring Python code with features like rename, extract function, and more.
 14. Python Testing: Supports testing Python code with frameworks like unittest and pytest.
 15. Python Profiler: Profiles Python code to identify performance bottlenecks.

Reflection on Challenges Challenges Faced:

1. **Setting up the environment:** Installing Python, pip, and necessary dependencies was a challenge, especially for those new to Python development.
2. **Docker:** Installing and configuring Docker took some time.
3. **MySQL Installation:** Configuring the MySQL server and setting up the root password was challenging without prior database experience.

Solutions: Python: Added Python to the PATH environment variable.
Docker: Followed detailed tutorials and referred to Docker

documentation. MySQL: Used MySQL official documentation and community forums for troubleshooting.

Document Your Setup: Create a comprehensive document outlining the steps you've taken to set up your developer environment. Include any configurations, customizations, or troubleshooting steps encountered during the process.

#Deliverables:

Document detailing the setup process with step-by-step instructions and screenshots where necessary.

A GitHub repository containing a sample project initialized with Git and any necessary configuration files (e.g., .gitignore).
<https://github.com/mercymusyoka/this-is-a-test-repo.git>

A reflection on the challenges faced during setup and strategies employed to overcome them.

#Submission: Submit your document and GitHub repository link through the designated platform or email to the instructor by the specified deadline.

#Evaluation Criteria:**

Completeness and accuracy of setup documentation. Effectiveness of version control implementation. Appropriateness of tools selected for the project requirements. Clarity of reflection on challenges and solutions encountered. Adherence to submission guidelines and deadlines. Note: Feel free to reach out for clarification or assistance with any aspect of the assignment.