Setting Up Your Developer Environment

Objective:

This instruction will help you to set up an efficient developer environment conducive to coding, debugging, version control, and collaboration. Completing this Instruction will equip you with the skills to establish a robust and productive workspace for software engineering projects.
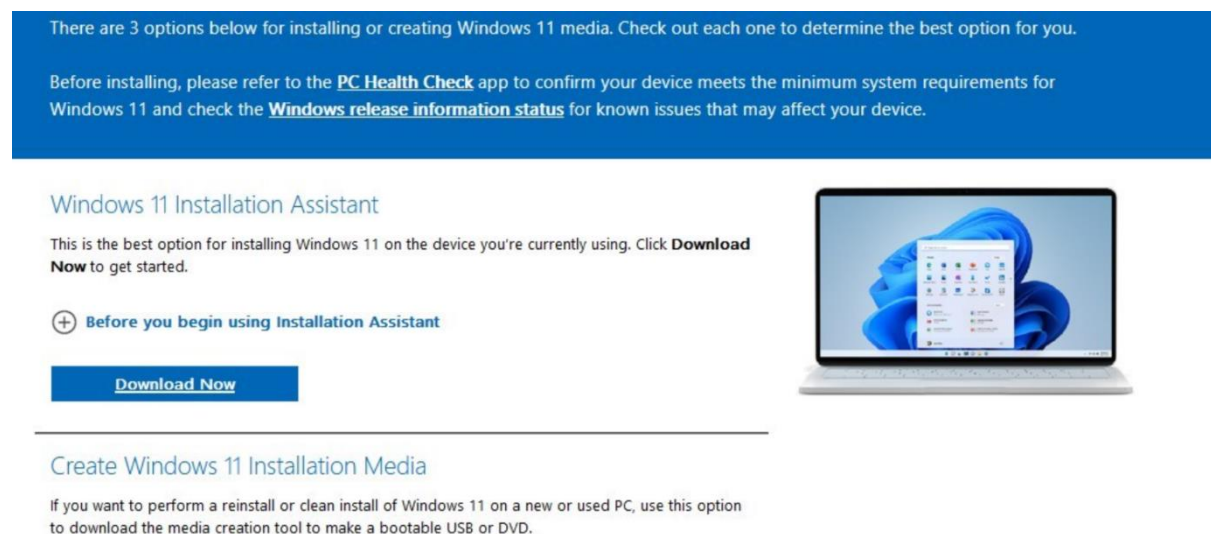
Instructions:

1. Select Your Operating System (OS):

Choose an OS: For this task, we will use Windows 11.

Download and Install Windows 11.

Visit the Windows 11 download page(https://www.microsoft.com/software-download/windows11).

  - Follow the instructions to download and install Windows 11 on your machine.

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

Select an IDE Visual Studio Code (VS Code) is a popular choice for many programming languages.

Download and Install VS Code:

Visit the [Visual Studio Code download page](https://code.visualstudio.com/Download).
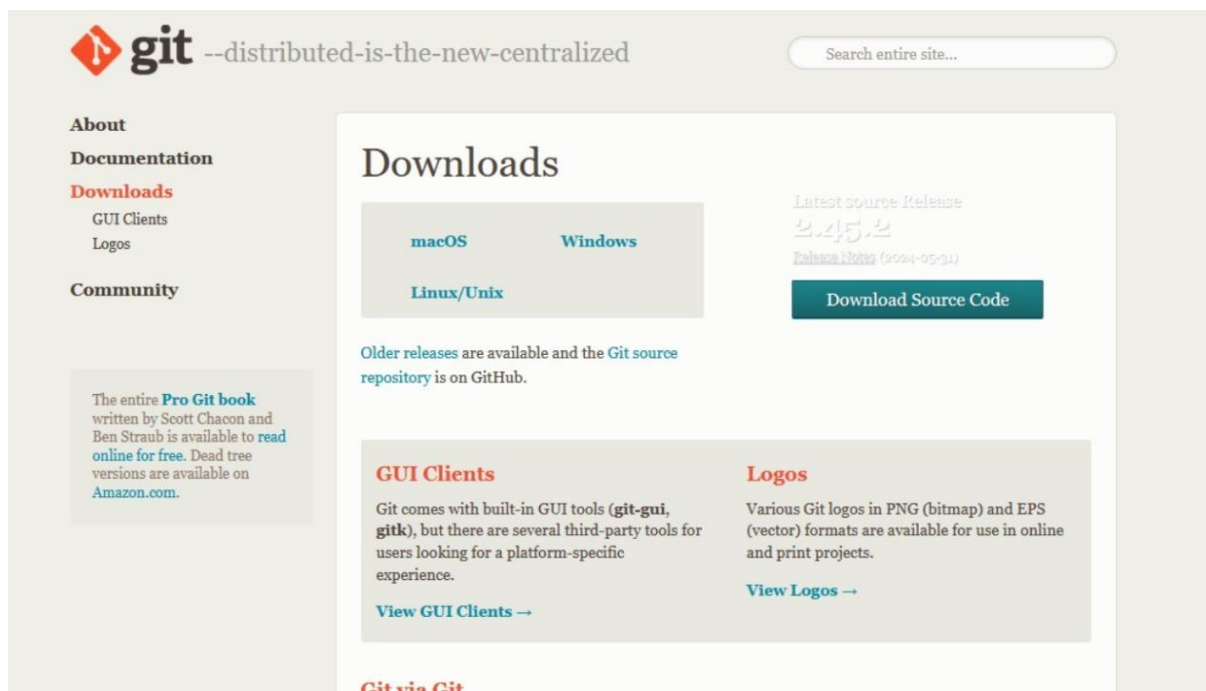
- Download the installer for Windows and run it to complete the installation.

3. Set Up Version Control System:

Install Git:

- Download Git from the Git official site (https://git-scm.com/downloads).

- Run the installer and follow the prompts to install Git on your machine.

Configure Git:

  - Open Git Bash and configure your Git username and email:

  ```sh

  git config --global user. name "Your Name"

  git config --global user.email "youremail@example.com"

  ```

Create a GitHub Account:

  - Go to [GitHub](https://github.com) and sign up for a new account.

Initialize a Git Repository

  - Create a new repository on GitHub.

  - Clone the repository to your local machine:

  ```sh

  git clone https://github.com/yourusername/your-repository.git

  ```

  - Navigate to the repository folder and create a README file:

  ```sh

  cd your-repository

  echo "# My Project" >> README.md

  git add README.md

  git commit -m "Initial commit"

  git push origin main

  ```

4. Install Necessary Programming Languages and Runtimes:

Install Python:

  - Download Python from the Python official site (https://www.python.org).

  - Run the installer and follow the prompts to install Python. Ensure you check the option to add Python to your PATH.

5. Install Package Managers:

Install pip (Python):

  - pip is included with Python 3.4 and later. Verify the installation:

    ```sh

    pip --version

    ```


6. Configure a Database (MySQL):

Download and Install MySQL

  - Visit the MySQL download page
(https://dev.mysql.com/downloads/windows/installer/5.7.html).

MySQL Installer 5.7.44

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:

5.7.44

Select Operating System:

Microsoft Windows

Windows (x86, 32-bit), MSI Installer	5.7.44	2.1M	**Download**
(mysql-installer-web-community-5.7.44.0.msi)		MD5: 6cc27e2a42a54b593a9d3544f2529a53 | Signature	
Windows (x86, 32-bit), MSI Installer	5.7.44	373.7M	**Download**
(mysql-installer-community-5.7.44.0.msi)		MD5: e89af3ba9bb4716ff5e647b0fd2edab2 | Signature	

We suggest that you use the MD5 checksums and GnuPG signatures to verify the integrity of the packages you download.

Download the installer and follow the prompts to install MySQL.

MySQL Workbench
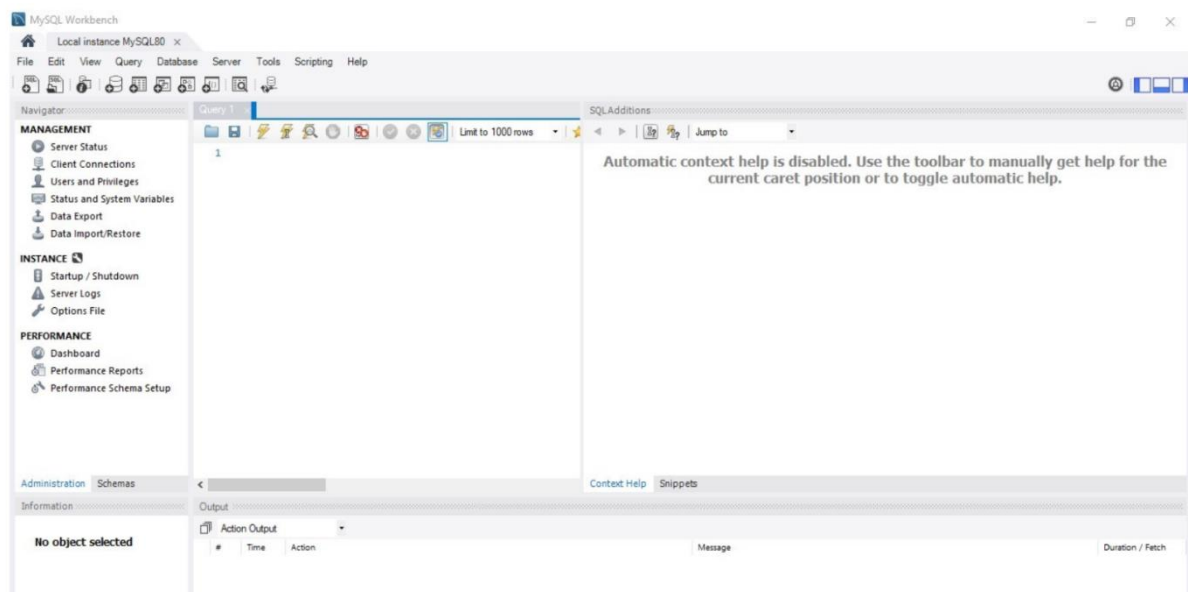
## 7. Set Up Development Environments and Virtualization (Optional):

Install Docker

- Visit the Docker download page (https://www.docker.com/products/docker-desktop) and download Docker Desktop for Windows.

- Run the installer and follow the prompts to install Docker.

8. Explore Extensions and Plugins:

Explore Extensions for VS Code

- Open VS Code and go to the Extensions view by clicking the Extensions icon in the Activity Bar.
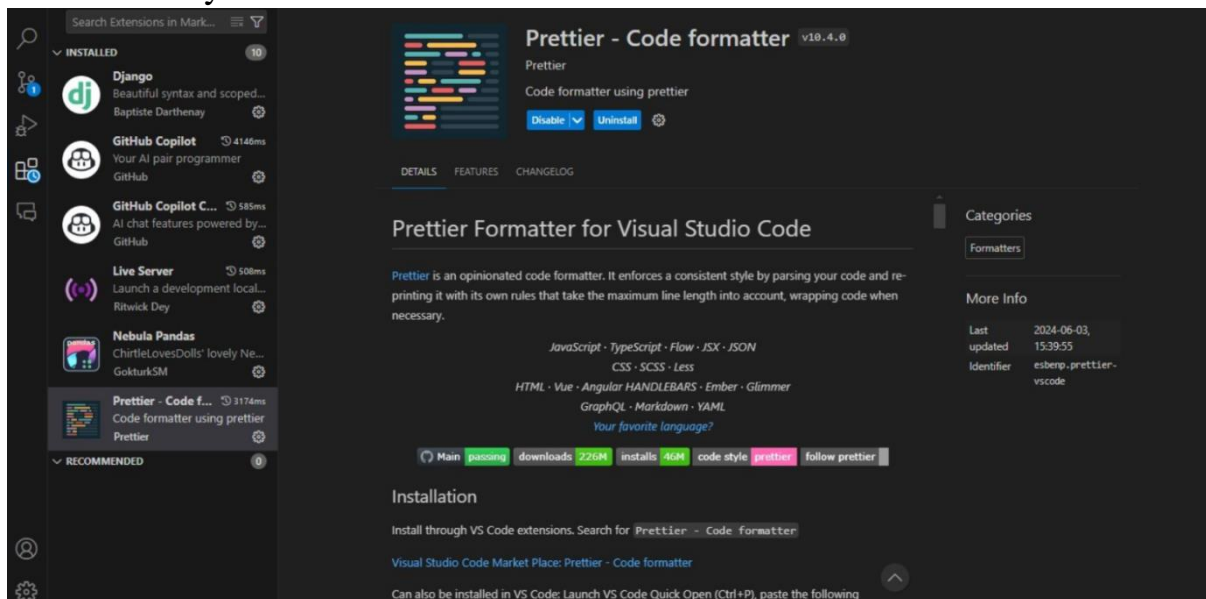
- Search for and install the following recommended extensions:

  - Python

  - GitLens

  - Prettier - Code formatter

  - Docker

9. Document Your Setup:

Create a comprehensive document detailing the setup process. Include step-by-step instructions and screenshots where necessary.

Deliverables:

1. Setup Documentation

   - Create a detailed document outlining the steps taken to set up your developer environment.

   - Include any configurations, customizations, or troubleshooting steps encountered during the process.

2. GitHub Repository

   - A GitHub repository containing a sample project initialized with Git and necessary configuration files (e.g., .gitignore).

3. Reflection:

   - Write a reflection on the challenges faced during setup and the strategies employed to overcome them.