#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:

1. Select Your Operating System (OS): Choose an operating system that best suits your preferences and project requirements. Download and Install Windows 11. <https://www.microsoft.com/software-download/windows11>

Go to the [Windows 11 download page:](https://www.microsoft.com/software-download/windows11)

Click on "Download now" to download the Installation Assistant.

Run the Installation Assistant and follow the on-screen instructions to install Windows 11.

1. 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>

Visit the [Visual Studio website](https://code.visualstudio.com/Download) and click on "Download Visual Studio."

Follow the on-screen instructions to download the installer.

Run the downloaded installer.

Choose the "Visual Studio" workload during installation, which includes the necessary components for general development.

In the Visual Studio Installer, select the workloads and components you need based on your development requirements. Common workloads include ".NET Desktop Development" or "Web Development."

Click the "Install" button to start the installation process.

Once the installation is complete, launch Visual Studio.

Sign in with your Microsoft account or create one if prompted.

On the welcome screen, select your development environment. For example, you can choose "Development Settings" based on your preferred coding style.

1. 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](https://github.com/)
2. Navigate to the latest Git for Windows installer and download the latest version.
3. Once the installer has started, follow the instructions as provided in the Git Setup wizard screen until the installation is complete.
4. Open the windows command prompt (or Git Bash if you selected not to use the standard Git Windows Command Prompt during the Git installation).
5. Type git version to verify Git was installed.

**Initialize a Git Repository and Make Your First Commit:**

1. Open Visual Studio Code.
2. Create a new folder for your project.
3. Open the terminal in Visual Studio Code (Ctrl + ).
4. Run the following commands to initialize a Git repository:

git init

git add .

git commit -m "Initial commit"

1. Install Necessary Programming Languages and Runtimes: Instal Python from [http://wwww.python.org](http://wwww.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.
   1. Go to the [Python download page.](http://wwww.python.org/)
   2. Download the latest version of Python.
   3. Run the installer and ensure you check the box to add Python to your PATH.
   4. Verify the installation by running python --version in the terminal.
2. Install Package Managers: If applicable, install package managers like pip (Python).
   1. Download get-pip.py:

Open your web browser and go to the [get-pip.py download page](https://bootstrap.pypa.io/get-pip.py).

Right-click on the page and select "Save As" to download the get-pip.py file to your computer.

* 1. Install pip using get-pip.py:

Open Command Prompt and navigate to the directory where you downloaded get-pip.py (e.g., cd %HOMEPATH%\Downloads).

Run the command python get-pip.py.

* 1. Verify pip Installation:

In the Command Prompt, type pip --version and press Enter.

If the installation was successful, you will see the pip version number.

1. Configure a Database (MySQL): Download and install MySQL database. <https://dev.mysql.com/downloads/windows/installer/5.7.html>
2. Open MySQL Website:
3. Go to the MySQL Downloads page.
4. Select Downloads:
5. Click on the "Downloads" option.
6. Select Installer:
7. Choose "MySQL Installer for Windows."
8. Download Installer:
9. Select the desired installer and click "Download."
10. Open Installer:
11. After downloading, open the installer file.
12. Grant Permission:
13. Click "Yes" when asked for permission. The installer will open.
14. Select Setup Type:
15. Choose "Custom" setup type and click "Next."
16. Select Products:
17. Expand "MySQL Servers" and select the server. Move it to the "Products/Features to be installed" section.
18. Expand "Applications," select "MySQL Workbench" and "MySQL Shell," and move them to the same section.
19. Install Products:
20. Click "Next," then click "Execute" to download and install the selected products.
21. Configure Products:
22. Once ready, click "Next." For "Type and Networking," use the default settings and click "Next."
23. Authentication:
24. Use the recommended strong password encryption.
25. Set Root Password:
26. Set your MySQL Root password and click "Next."
27. Service Settings:
28. Use the default Windows service settings, and under "Apply Configuration," click "Execute." After configuration, click "Finish."
29. Complete Installation:
30. This will launch MySQL Workbench and MySQL Shell.
31. Access MySQL Workbench:
32. Select the Local instance and enter the password.
33. 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.
    1. Open Visual Studio Code and go to the Extensions view (Ctrl + Shift + X).
    2. Search for and install extensions such as:

Python

GitLens

Prettier - Code formatter