Developer Environment Setup Guide

# 1. Select and Install Windows 11

Steps:  
1. Go to the Windows 11 download page (https://www.microsoft.com/software-download/windows11).  
2. Click "Download now" to get the Installation Assistant.  
3. Run the Installation Assistant and follow the on-screen instructions to install Windows 11.

# 2. Install Visual Studio Code (VS Code)

Steps:  
1. Go to the VS Code download page (https://code.visualstudio.com/Download).  
2. Download the installer for your operating system (Windows).  
3. Run the installer and follow the installation instructions.

# 3. Set Up Version Control System with Git and GitHub

Steps to Install Git:  
1. Go to the Git download page (https://git-scm.com/download/win).  
2. Download the Git installer for Windows.  
3. Run the installer and follow the instructions (default settings are generally fine).  
  
Configure Git:  
1. Open Git Bash (installed with Git).  
2. Set your username and email:  
 git config --global user.name "Your Name"  
 git config --global user.email "your-email@example.com"  
  
Create a GitHub Account:  
1. Go to GitHub (https://github.com) and sign up for an account.  
  
Initialize a Git Repository:  
1. Create a new repository on GitHub.  
2. Clone the repository to your local machine:  
 git clone https://github.com/your-username/your-repo.git  
3. Navigate to the repository folder:  
 cd your-repo  
4. Create a README file and make your first commit:  
 echo "# My Project" >> README.md  
 git add README.md  
 git commit -m "Initial commit"  
 git push origin main

# 4. Install Python and Necessary Runtimes

Steps:  
1. Go to the Python download page (https://www.python.org/downloads/).  
2. Download the installer for the latest version of Python.  
3. Run the installer and make sure to check the box "Add Python to PATH".  
  
Verify Installation:  
1. Open a command prompt and type:  
 python --version

# 5. Install Package Managers (pip)

Steps:  
1. Pip is installed by default with Python. To verify, open a command prompt and type:  
 pip --version

# 6. Configure a MySQL Database

Steps:  
1. Go to the MySQL Installer page (https://dev.mysql.com/downloads/windows/installer/5.7.html).  
2. Download the MySQL Installer.  
3. Run the installer and follow the instructions to install MySQL.  
  
Initial Setup:  
1. Open MySQL Workbench (installed with MySQL).  
2. Create a new MySQL connection and test the connection.

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

Steps (Using Docker):  
1. Go to the Docker Desktop download page (https://www.docker.com/products/docker-desktop/).  
2. Download the installer for Windows.  
3. Run the installer and follow the instructions.  
4. Verify installation by running:  
 docker --version

# 8. Explore Extensions and Plugins for VS Code

Steps:  
1. Open VS Code.  
2. Go to the Extensions view by clicking on the Extensions icon in the Activity Bar on the side of the window or by pressing Ctrl+Shift+X.  
3. Search for and install essential extensions such as:  
 - Python  
 - GitLens  
 - Prettier - Code formatter  
 - ESLint  
  
  
Sample Reflection:  
During the setup, I encountered an issue with the MySQL installation where the service failed to start. After some troubleshooting, I discovered that another application was using the default MySQL port (3306). I resolved this by changing the port in the MySQL configuration file.