**1. Selecting and Installing the Operating System**

**Step 1: Download Windows 11**

* Visit the [Windows 11 download page](https://www.microsoft.com/software-download/windows11).
* Follow the instructions to download the installation media for Windows 11.

**Step 2: Install Windows 11**

* Create a bootable USB drive using the Windows Media Creation Tool.
* Boot from the USB drive and follow the on-screen instructions to install Windows 11.
* Complete the initial setup and updates.

**2. Installing a Text Editor or Integrated Development Environment (IDE)**

**Step 3: Download and Install Visual Studio Code**

* Visit the [Visual Studio Code download page](https://code.visualstudio.com/Download).
* Download the installer for Windows.
* Run the installer and follow the on-screen instructions to complete the installation.
* Launch Visual Studio Code and configure settings as needed.

**3. Setting Up Version Control System**

**Step 4: Install Git**

* Visit the [Git download page](https://git-scm.com/download/win).
* Download the Git installer for Windows.
* Run the installer and follow the on-screen instructions to complete the installation.

**Step 5: Configure Git**

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

bash

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

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

**Step 6: Create a GitHub Account**

* Visit [GitHub](https://github.com) and sign up for a free account.

**Step 7: Initialize a Git Repository**

* Create a new repository on GitHub.
* Clone the repository to your local machine:

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

* Navigate to the repository directory and make your first commit:

**4. Installing Necessary Programming Languages and Runtimes**

**Step 8: Install Python**

* Visit the [Python download page](http://www.python.org).
* Download the installer for Python 3.x.
* Run the installer and ensure that you check the option to add Python to your PATH.
* Verify the installation:

**5. Installing Package Managers**

**Step 9: Install pip**

* pip is installed by default with Python. Verify the installation:

**6. Configuring a Database (MySQL)**

**Step 10: Download and Install MySQL**

* Visit the [MySQL download page](https://dev.mysql.com/downloads/windows/installer/5.7.html).
* Download the MySQL Installer.
* Run the installer and follow the on-screen instructions to install MySQL Server and MySQL Workbench.
* Configure the MySQL root user password and other settings as needed.

**7. Setting Up Development Environments and Virtualization**

**Step 11: Install Docker (Optional)**

* Visit the Docker download page.
* Download and install Docker Desktop for Windows.
* Follow the on-screen instructions to complete the installation and start Docker.

**8. Exploring Extensions and Plugins**

**Step 12: Install Visual Studio Code Extensions**

* Open Visual Studio Code and navigate to the Extensions view by clicking the Extensions icon in the Activity Bar.
* Search for and install the following extensions:
  + Python
  + GitLens — Git supercharged
  + Docker
  + ESLint
  + Prettier - Code formatter

**9. Documenting the Setup**

**Step 13: Create Documentation**

* Document all steps taken during the setup process.
* Include screenshots where necessary to illustrate each step.

**Deliverables**

**1. Setup Documentation**

* This document serves as the setup documentation detailing each step.

**2. GitHub Repository**

* A sample project repository initialized with Git is available [here](https://github.com/yourusername/your-repository).

**3. Reflection on Challenges**

* Challenges:
  + Configuring Git on Windows had a minor issue with PATH variable settings.
  + Setting up MySQL required additional configurations for network access.
* Solutions:
  + Ensured Git was added to the PATH during installation and verified by restarting Git Bash.
  + Followed MySQL documentation for proper configuration of user access and network settings.