How to Download and Install WSL on Windows

# Step 1: Enable WSL

1. Open PowerShell as Administrator:

- Press Windows + X and select Windows PowerShell (Admin) or Terminal (Admin).

2. Run the following command:

```wsl --install```

- This command will automatically install WSL 2 and a Linux distribution (usually Ubuntu by default).

3. Restart your computer once the installation is complete.

# Step 2: Install a Linux Distribution

1. After your system restarts, WSL should be installed, and you’ll be asked to select a Linux distribution (if not installed by default).

- You can install Ubuntu or other distributions from the Microsoft Store by searching for "Linux" or "WSL".

2. Once installed, you can launch the Linux terminal by searching for it in the Start menu or running `wsl` in PowerShell.

# How to Install Python and Conda in WSL

## Step 1: Install Python

You can install Python directly on your WSL distribution (like Ubuntu).

1. Open your WSL terminal (Ubuntu or other) and update your package lists:

``` sudo apt update

2. Install Python and pip (Python’s package manager):

``` sudo apt install python3 python3-pip```

3. Verify the installation by checking the Python version:

```python3 --version```

## Step 2: Install Conda (Anaconda/Miniconda)

Miniconda is a lightweight version of Anaconda, mainly for creating virtual environments.

1. Download the Miniconda installer in your WSL terminal:

```wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86\_64.sh```

2. Run the installer:

``` bash Miniconda3-latest-Linux-x86\_64.sh```

3. Follow the prompts to complete the installation (press Enter to accept the defaults).

4. Initialize Conda in your terminal:

``` source ~/.bashrc```

5. Verify the Conda installation:

```conda --version```

# How to Create and Run a Virtual Environment with Conda

## Step 1: Create a Conda Virtual Environment

1. Create a new environment named `myenv` (you can choose a different name):

```conda create --name myenv python=3.8```

2. Activate the environment:

```conda activate myenv```

3. Verify the Python version within the environment:

```python --version```

## Step 2: Install Additional Packages (Optional)

Once the environment is activated, you can install additional Python packages using Conda or pip:

```conda install numpy pandas```

Or with pip:

```pip install requests```

# Running the Virtual Environment in WSL

1. Open your WSL terminal.

2. Activate your Conda environment:

```conda activate myenv```

Now, any Python code you run or develop will use the dependencies installed in this virtual environment.

# Deactivate or Remove the Environment

1. Deactivate the environment when you're done:

```conda deactivate```

2. Remove the environment (if you no longer need it):

```conda remove --name myenv --all```