Setting Up Python & JupyterLab Environment

Introduction

Python and JupyterLab are powerful tools used for data analysis, scientific computing, and machine learning. This guide provides step-by-step instructions for installing Python and JupyterLab on Windows, Linux, and Mac.

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- Installation in linux

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Step-by-Step Guide

Linux:

Install Python:

sudo apt update

sudo apt install python3

python3 --version

Install Virtual Environment:

sudo apt update

sudo apt install python3-venv

Create a virtual environment directory:

mkdir myvenv

Create a virtual environment (optional method):

sudo apt install python3-pip

sudo pip3 install virtualenv

Create a Virtual Environment (Isolated Installation):

python3 -m venv summerofai

Activate the Virtual Environment:

source summerofai/bin/activate

Install virtualenv within the Virtual Environment:

pip install virtualenv

pip install virtualenv –break-system-packages

Install JupyterLab

Install JupyterLab approach with a virtual environment:

sudo apt update

sudo apt install python3 (no need if already done)

Create a Virtual Environment:

python3 -m venv jupyterlab_env # Replace "jupyterlab_env" with your desired name

Activate the Virtual Environment:

source jupyterlab_env/bin/activate

Install JupyterLab within the Virtual Environment:

pip3 install jupyterlab

Launch JupyterLab:

jupyter lab

A new tab will open in your default web browser with JupyterLab.

Windows:

Install python:

- Download the latest version of Python from the official website:

https://www.python.org/downloads/

- Choose the installation based on your system (32 bits or 64 bits)

- Click on the downloaded .exe file

- Run the installer and ensure you check the box to "Add Python to PATH" during

installation. This allows you to run Python commands from the Command Prompt.

- Complete the installation process. Until installation window to finish

exit from python environment : 'exit()'

Install Virtual Environment:

Copy the path to the python folder

for ex- C:\Users\shrey\AppData\Roaming\Microsoft\Windows\Start Menu

Open command prompt:

    cd C:\Users\shrey\AppData\Roaming\Microsoft\Windows\Start Menu

py -m venv .venv

.venv\Scripts\activate

where python

.venv\Scripts\python

exit()

py -m venv summerofai

pip install virtualenv

py -m pip install --upgrade pip

py -m pip --version

Create Virtual Environment :

    python -m venv summerofai

Activate Virtual Environment :

    summerofai\Scripts\activate

Install JupyterLab: In Command Prompt, run:

    pip install jupyterlab

Launch JupyterLab: In Command Prompt, run:

    jupyter lab

A new tab will open in your default web browser with JupyterLab.

Mac:

Install python:

Install Homebrew by running the following command:

/bin/bash -c "$(curl -fsSL

https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

Once Homebrew is installed, you can install Python by running:

brew install python

Install Virtual Environment:

pip3 install virtualenv

Create Virtual Env:

virtualenv summerofai

Activate Virtual Env:

source summerofai/bin/activate

Install JupyterLab:

pip3 install jupyterlab

Launch JupyterLab:

jupyter lab

A new tab will open in your default web browser with JupyterLab.

Troubleshooting

- **Command not found**: Ensure Python and pip are installed and added to your system PATH.
- **Permission issues**: Try running commands with sudo on Linux and Mac if you encounter permission errors.
- **Browser doesn't open**: Copy the URL provided in the terminal and paste it into your web browser manually.