

JupyterLab

Integrated Development Environment

An integrated development environment (IDE) is an application providing comprehensive tools for various types of software development and coding for statistical analysis [\[1\]](#). IDE will facilitate your practice and exercise in the coursework and save you time because you do not need to launch other software applications to show your estimates and results. The instructor wants to introduce JupyterLab among the various IDE applications. The primary reason to recommend JupyterLab is that our practice and exercise notebooks in Kaggle are in the same IDE environment as JupyterLab. Furthermore, JupyterLab can integrate various programming languages, such as Python, which can be helpful in the future.

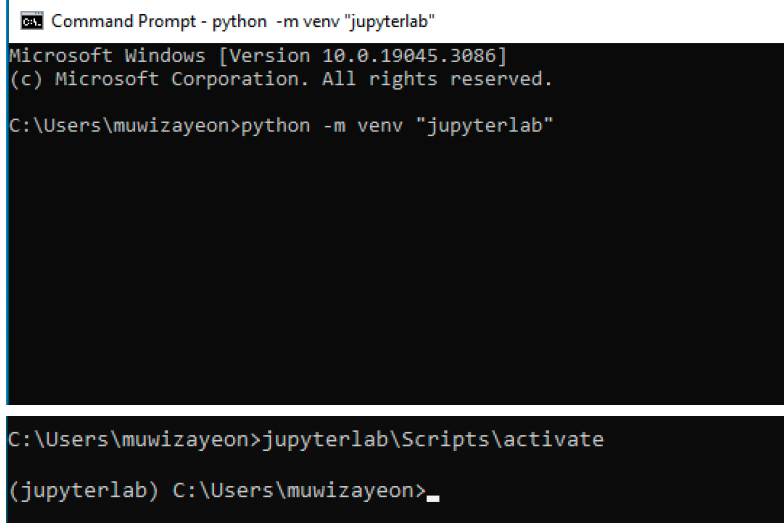
Installing JupyterLab

Python and its virtual environment are required to build the [JupyterLab](#). Please see the [Installing Python](#) if you are not already installed it on your system.

Windows

1. Open the Command Prompt. Please enter the next two commands:

```
python -m venv "jupyterlab"  
jupyterlab\Scripts\activate
```



```
Command Prompt - python -m venv "jupyterlab"  
Microsoft Windows [Version 10.0.19045.3086]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\muwizayeon>python -m venv "jupyterlab"  
  
C:\Users\muwizayeon>jupyterlab\Scripts\activate  
(jupyterlab) C:\Users\muwizayeon>_
```

The first line is creating a Python virtual environment, `jupyterlab`, in your home folder. The second line activates the `jupyterlab` environment. You must always activate the virtual environment `jupyterlab` for JupyterLab.

2. After activating the `jupyterlab` virtual environment, Install `jupyterlab` packages:

```
pip install -U jupyterlab
```

```

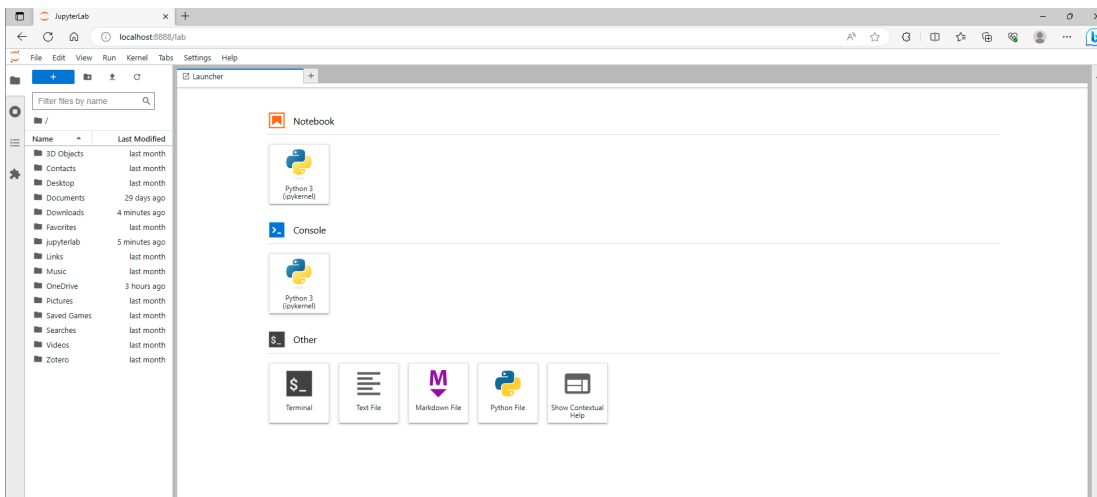
Command Prompt - pip install -U jupyterlab

(jupyterlab) C:\Users\muwizayeon>pip install -U jupyterlab
Collecting jupyterlab
  Downloading jupyterlab-4.0.5-py3-none-any.whl (9.2 MB)
    ----- 9.2/9.2 MB 7.8 MB/s eta 0:00:00
Collecting async-lru>=1.0.0 (from jupyterlab)
  Downloading async_lru-2.0.4-py3-none-any.whl (6.1 kB)
Collecting ipykernel (from jupyterlab)
  Downloading ipykernel-6.25.1-py3-none-any.whl (154 kB)
    ----- 154.0/154.0 kB 3.1 MB/s eta 0:00:00
Collecting Jinja2>=3.0.3 (from jupyterlab)
  Downloading Jinja2-3.1.2-py3-none-any.whl (133 kB)
    ----- 133.1/133.1 kB 2.0 MB/s eta 0:00:00
Collecting jupyter-core (from jupyterlab)
  Downloading jupyter_core-5.3.1-py3-none-any.whl (93 kB)
    ----- 93.7/93.7 kB 2.7 MB/s eta 0:00:00
Collecting jupyter-lsp>=2.0.0 (from jupyterlab)
  Downloading jupyter_lsp-2.2.0-py3-none-any.whl (65 kB)
    ----- 66.0/66.0 kB 1.8 MB/s eta 0:00:00

```

3. Finally, let's launch JupyterLab!! Enter the following command in **Command Prompt**.

```
jupyter-lab
```



macOS

1. Open the **Terminal** app. Please enter the following two commands:

```

/Library/Frameworks/Python.framework/Version/3.11/bin/python3 -m venv ~/jupyterlab
source ~/jupyterlab/bin/activate

```

The first command line creates a Python virtual environment called `jupyterlab` in your home folder. By doing this, you easily access JupyterLab. The second command is to activate the `jupyterlab` environment. Remember, whenever you want to launch JupyterLab, the virtual environment `jupyterlab` is always activated in the **Terminal** app.

2. Because the Python virtual environment is activated. Now you can install `jupyterlab` by the following command:

```
pip install -U jupyterlab
```

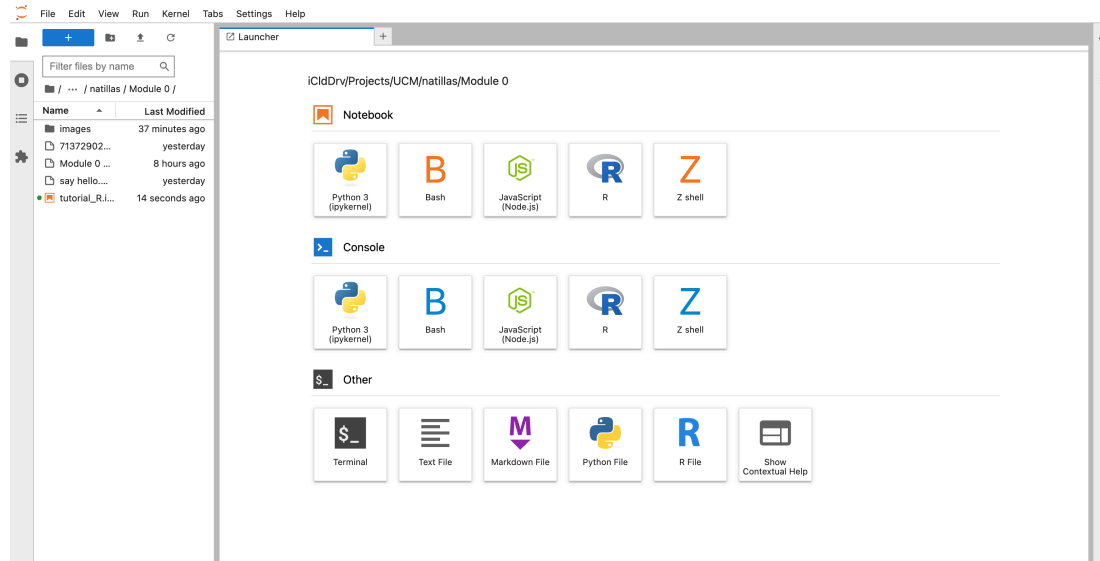
3. In the same way on Windows, JupyterLab starts with `jupyter lab` command on **Terminal**.
4. Once you enter the `jupyter-lab`, JupyterLab automatically launches your default web browser and shows JupyterLab. JupyterLab is compatible with Safari, Chrome, Firefox or Microsoft Edge. However, it is a better idea to use Chrome for smooth use. If you want to launch manually, you can add an option in the above command:

```
jupyter-lab --no-browser
```

Once you execute the above command, you can see the following part in your **Terminal** (or **Command Prompt** in Windows).

```
To access the server, open this file in a browser:
file:///Users/muwizayeon/Library/Jupyter/runtime/jpserver-95230-open.html
Or copy and paste one of these URLs:
http://localhost:8889/lab?token=7bb514b86cf2f99151d37fa35567abdc7b746d53741d10a4
http://127.0.0.1:8889/lab?token=7bb514b86cf2f99151d37fa35567abdc7b746d53741d10a4
```

You can copy and paste one of these URLs to your favorite browser then you can launch JupyterLab:



Reference

- [1] Integrated development environment. (2023, August 16). In *Wikipedia*. https://en.wikipedia.org/wiki/Integrated_development_environment