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Anaconda

The Operating System of AI

Introduction

In this written tutorial, which includes images to guide you along the way, we'll walk you through the process of installing and setting up Anaconda and Jupyter Notebook on your system. You'll learn how to create and manage a new environment, install essential data science libraries, and get Jupyter Notebook up and running.

Don't worry if this isn't a visual tutorial! Written tutorials often provide a more detailed and thorough explanation, ensuring you don't miss any crucial steps. Plus, you can easily refer back to the written steps whenever needed. So, stick with us, and you'll have everything set up perfectly in no time.

Anaconda is a popular open-source distribution of Python and R for scientific computing and data science. It simplifies package management and deployment, making it easier for users to install and maintain software libraries.

Jupyter Notebook is an open-source web application that allows you to create and share documents containing live code, equations, visualizations, and narrative text. It's an essential tool for data analysis, visualization, and machine learning, providing an interactive computing environment.

Now, let's get started with the setup!

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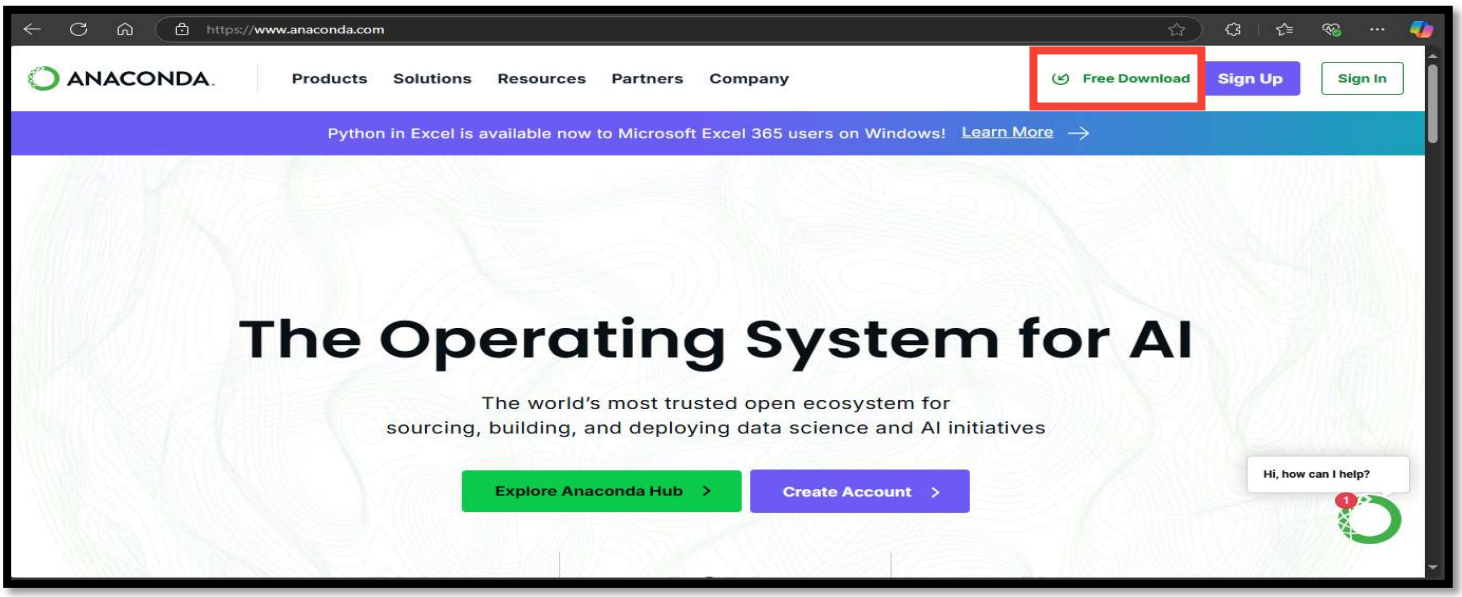
Step-by-Step Guide: Installation

1. Open any browser and type www.anaconda.com
2. Click on Free Download in the Upper Right Corner.



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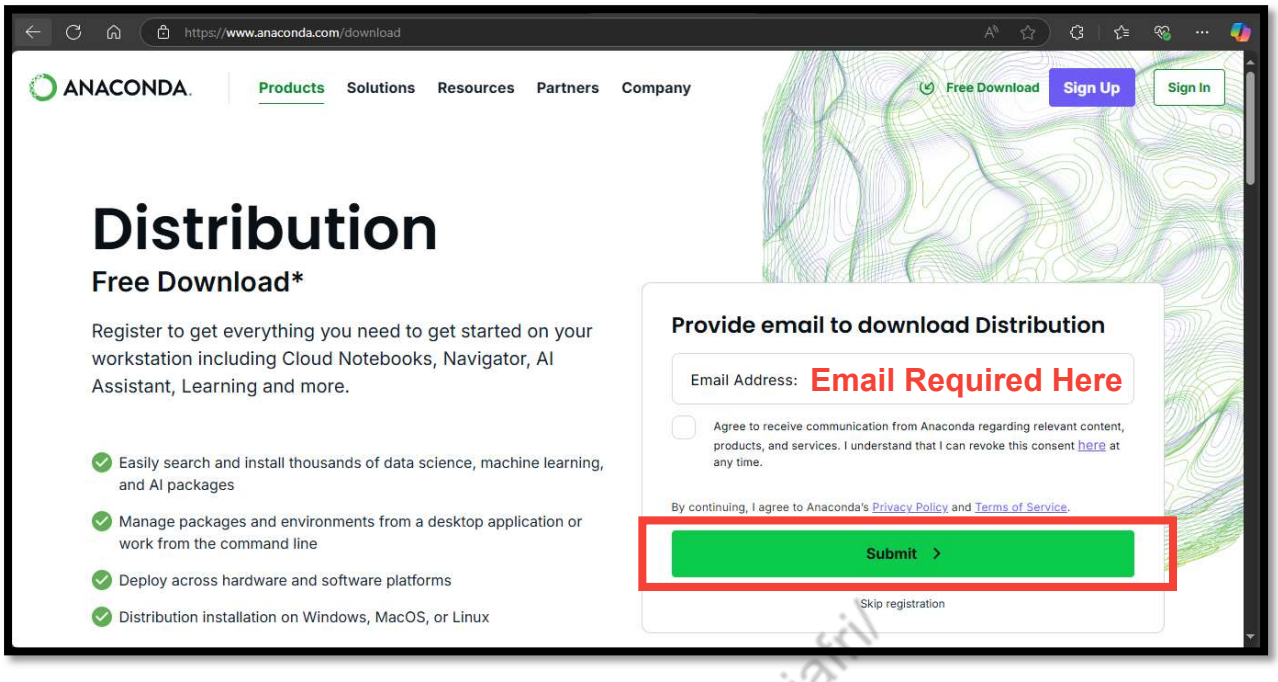
3. This shall take you to the page www.anaconda.com/download where you shall be required to input your Email ID, checkmark the terms and conditions clause and hit Submit.



4. An Installation Link shall be sent to your Email ID (check Spam Folder as well).

5. Open the email and click on Download Now.

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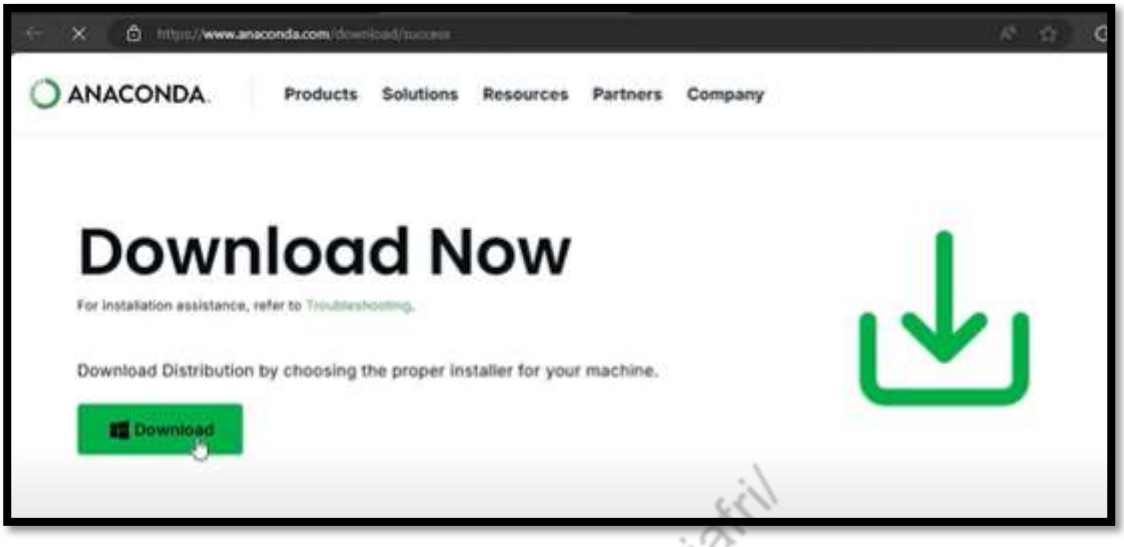
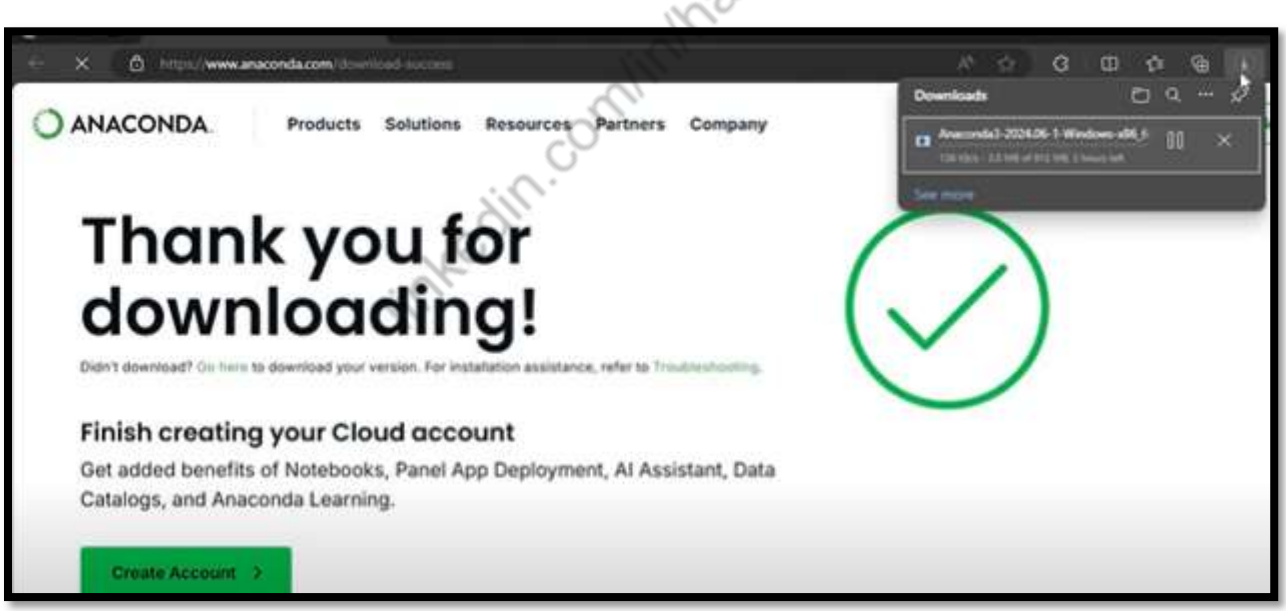
6. This shall take you to the link www.anaconda.com/download/success where you are required to Click on “Download” to start Anaconda Setup Installation.



7. Download shall begin.



8. Wait for Download to complete. Go to Download Folder (or wherever you have downloaded the Anaconda Installation Setup). You shall find the Setup File. Double Click on it and Setup shall start loading.

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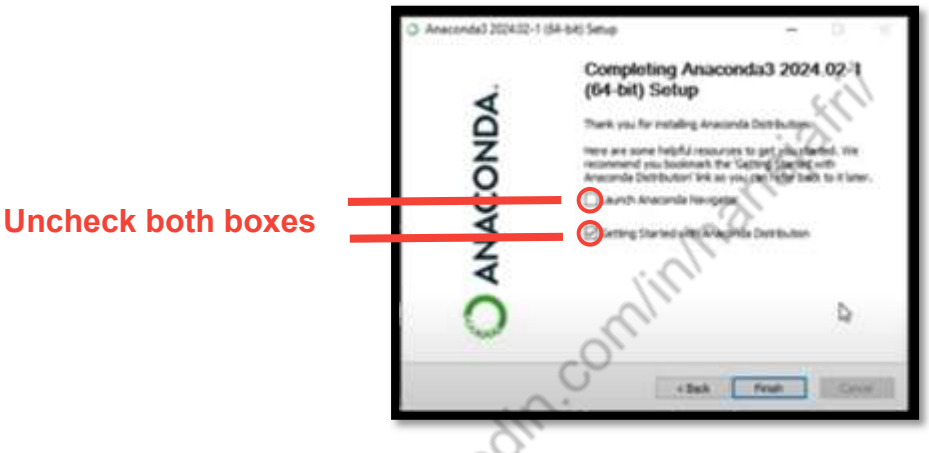
9. Once setup begins, keep on clicking “Next” button.

10. Once the window reaches a stage where “Finish” button is visible. **Uncheck** “Launch Anaconda Navigator” and **Uncheck** “Getting Started with Anaconda Navigator” before clicking “Finish”.



You have now Anaconda installed in your System. Now we have to setup the System.

Step-by-Step Guide: Setup

1. Go to Search Bar at the Bottom of your Screen and type “Anaconda Prompt”.
2. Click and Open the Anaconda Prompt.

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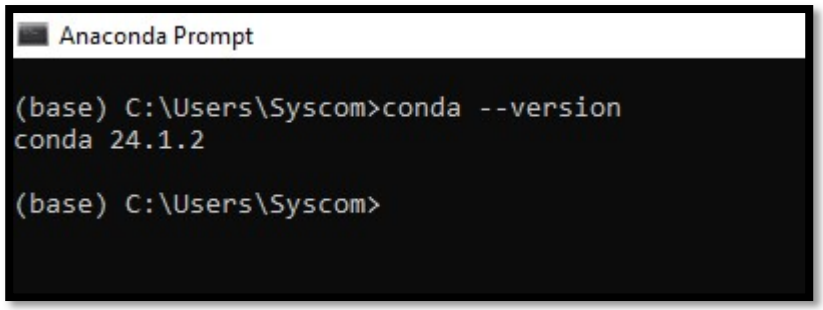
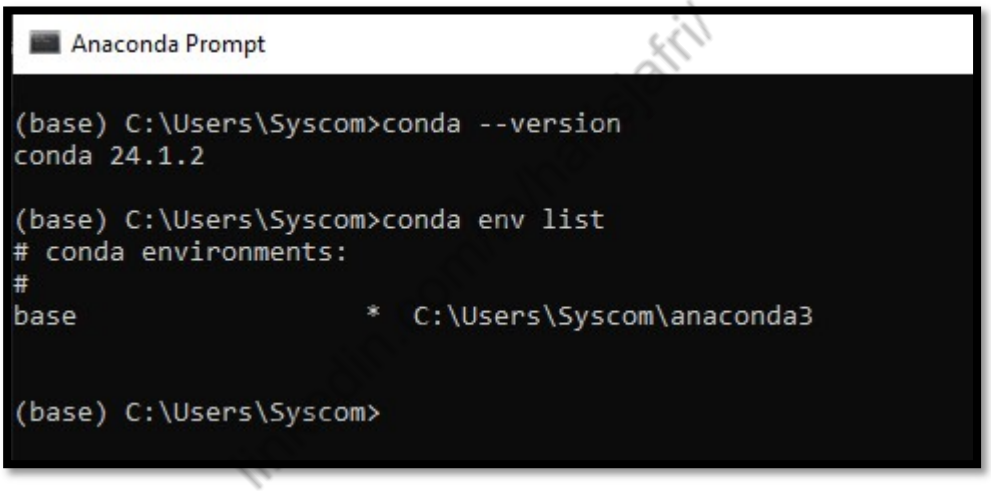
3. Type and run “conda --version" to check which version of Anaconda you are using.



4. Type and run “conda env list” to find out about available environments.
    a. “base” shall be only environment available after installing Anaconda.
    b. “base” is the default environment of Anaconda
    c. It is recommended not to use “base” environment as changes made to the base environment can affect your entire system, including other applications that rely on Python.



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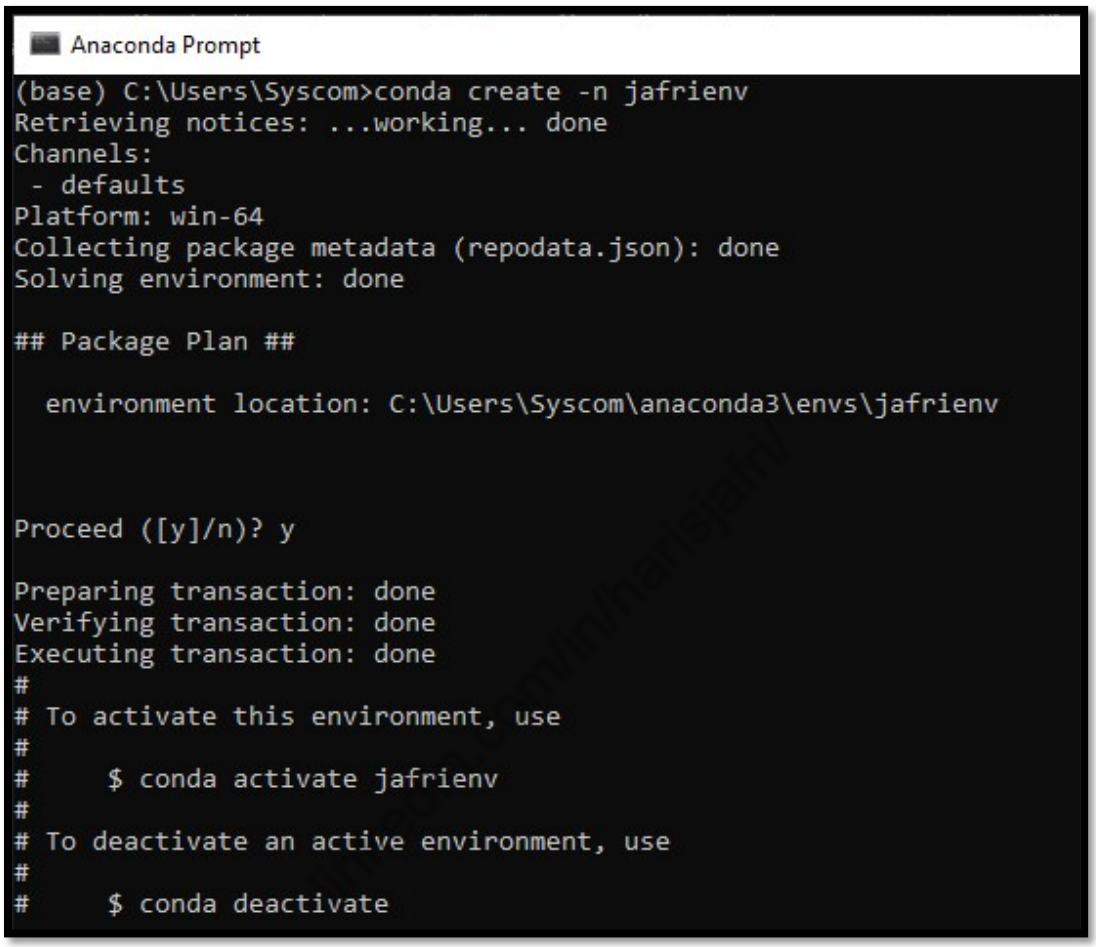
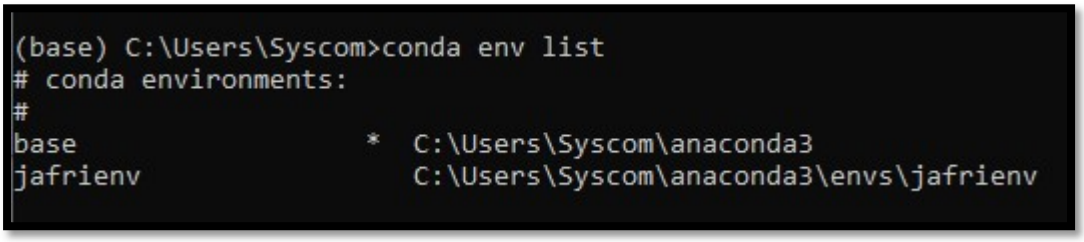
5. Create a separate environment isolated from the base environment so that:
    a. You can isolate project dependencies
    b. Avoid conflicts
    c. Ensure reproducibility
    d. Type and run “conda create -n <*Your_Env_Name*>” (I named my environment ***jafrienv***, you can name as per your liking), do not forget to type “y” when it asks to proceed.



6. Let us recheck the available environments. Notice that star is in front of base environment.



7. Type “conda activate <*Your_Env_Name*>” to shift from “base” environment to new environment.

(Notice that * shall be displayed in front of your new environment name when you type and run “conda env list”)

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8. Type and run “conda install jupyter” to install the core Jupyter Notebook application inside your new environment, do not forget to type “y” when it asks to proceed.

```
(jafrienv) C:\Users\Syscom>conda install jupyter
```

9. Type and run “conda install numpy pandas matplotlib seaborn scikit-learn scipy statsmodels” to install the seven core Data Science Libraries available in Python, do not forget to type “y” when it asks to proceed.
    a. *numpy: Provides efficient numerical operations and array manipulation.*
    b. *pandas: Offers powerful data analysis and manipulation tools for structured data.*
    c. *matplotlib: A versatile library for creating static, animated, and interactive visualizations.*
    d. *seaborn: A high-level data visualization library based on Matplotlib, providing aesthetically pleasing plots.*
    e. *scikit-learn: A comprehensive machine learning library for tasks like classification, regression, clustering, and model selection.*
    f. *scipy: A collection of scientific computing algorithms and functions, including optimization, integration, and signal processing.*
    g. *statsmodels: A library for statistical modeling, including regression analysis, time series analysis, and hypothesis testing.*

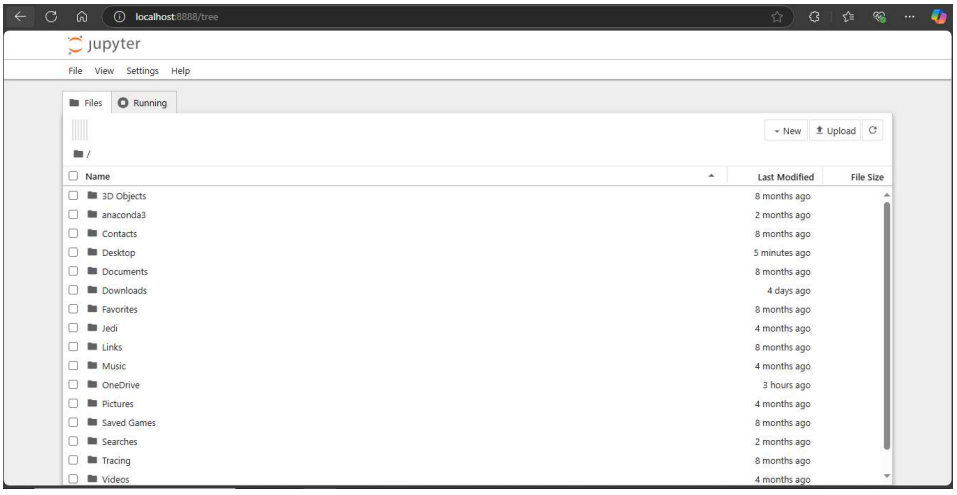
```
(jafrienv) C:\Users\Syscom>conda install numpy pandas matplotlib seaborn scikit-learn scipy statsmodels
```

10. Type and run “python -m ipykernel install --user --name=<*Your_Env_Name*>”

```
(jafrienv) C:\Users\Syscom>python -m ipykernel install --user --name=jafrienv
```

11. Every thing required to pursue our Data Science Journey has been installed. Just type in “jupyter notebook” now and it shall open a Jupyter Notebook using your default web browser.

```
(jafrienv) C:\Users\Syscom>jupyter notebook
```



A View of Browser with Jupyter!