Setting Up Jupyter Notebook

Your Computational Environment

Jupyter Notebook

In this class we'll be working in the Jupyter Notebook.

The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more.

You have two options getting Jupyter Notebooks up and running on your computer. **I recommend trying both.**

Option 1: CoCalc

Pros: Easy Set Up
Cons: Slow Performance, Must Be Online

CoCalc is a web-based cloud computing and course management platform for computational mathematics. Part of the Sage project, it supports editing of Sage worksheets, LaTeX documents and Jupyter notebooks.

Option 2: Anaconda

Pros: Fast Performance, Extendable, Can Work Offline
Cons: More Involved Setup

Anaconda is a free and open-source distribution of the Python and R programming languages for scientific computing, that aims to simplify package management and deployment.

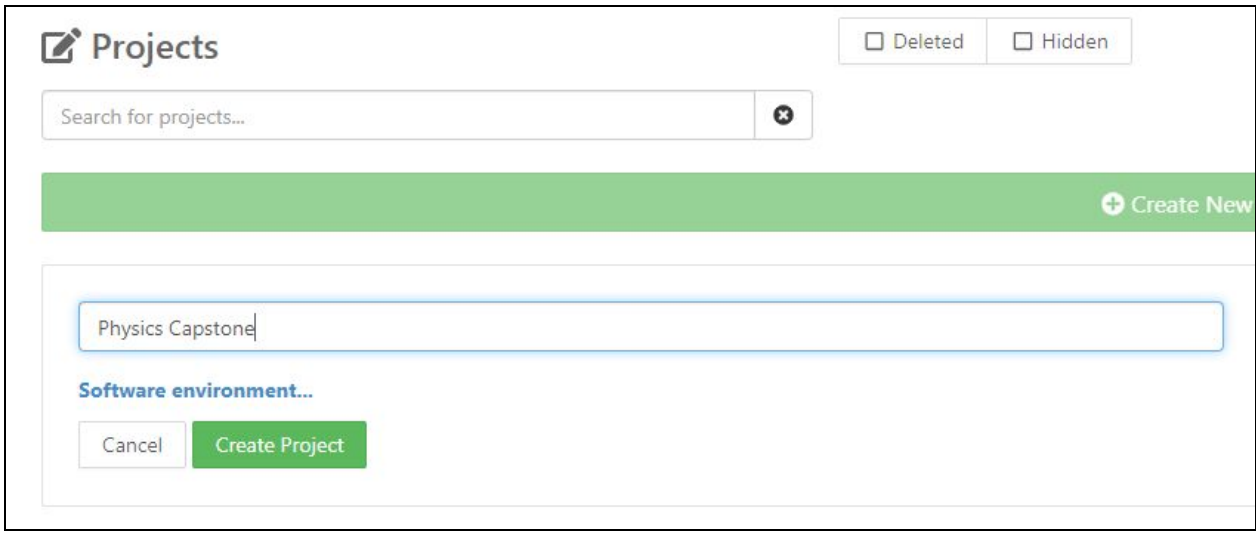
Set Up

Option 1: Setting Up CoCalc

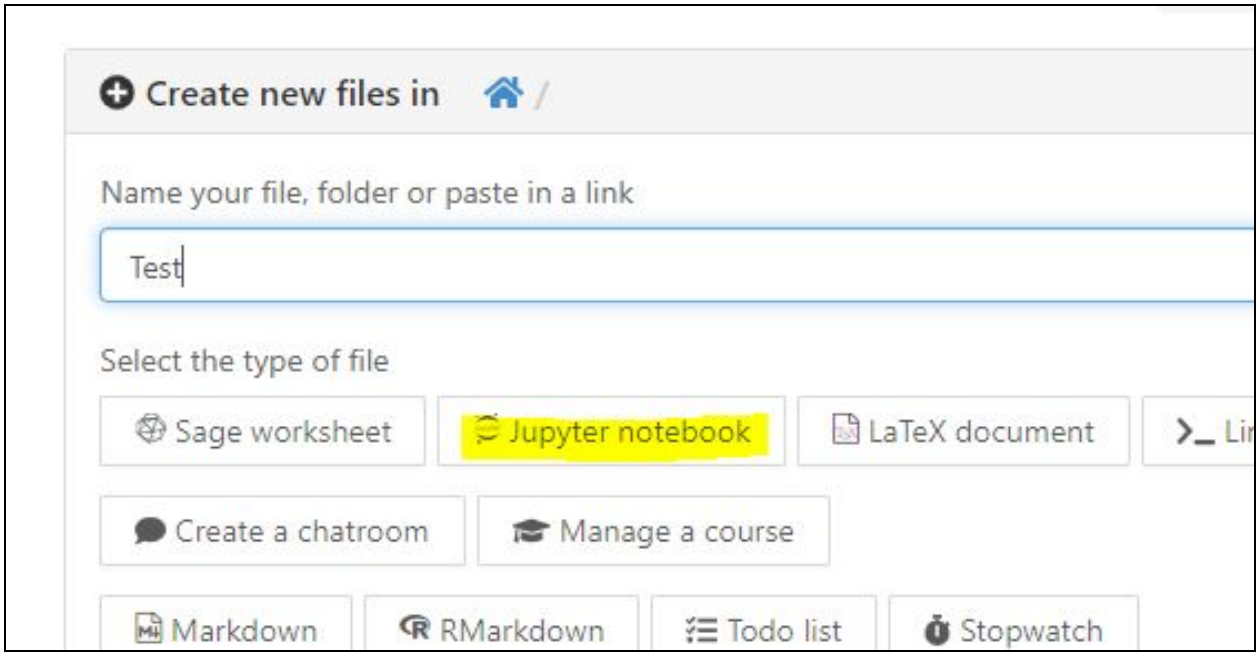
1. Go to CoCalc.com

2. Create a CoCalc account

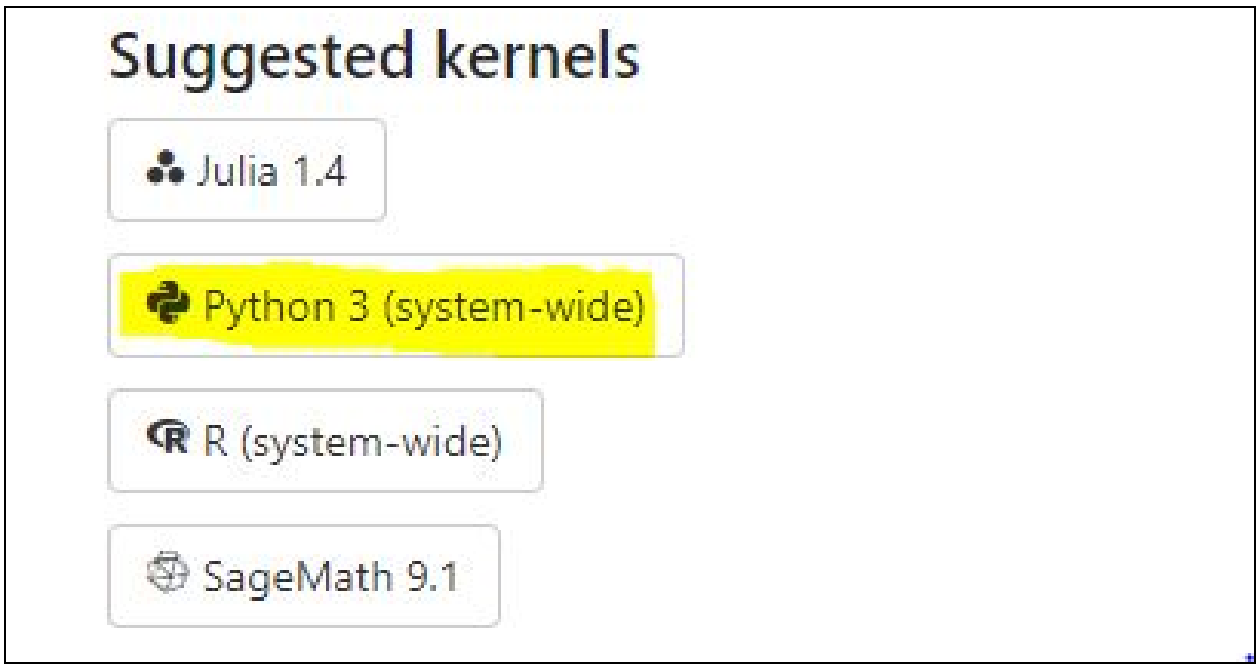
3. Create a project titled Physics Capstone



4. Create a new file - name it whatever you'd like, then click on Jupyter notebook



5. Select a Python 3 kernel.



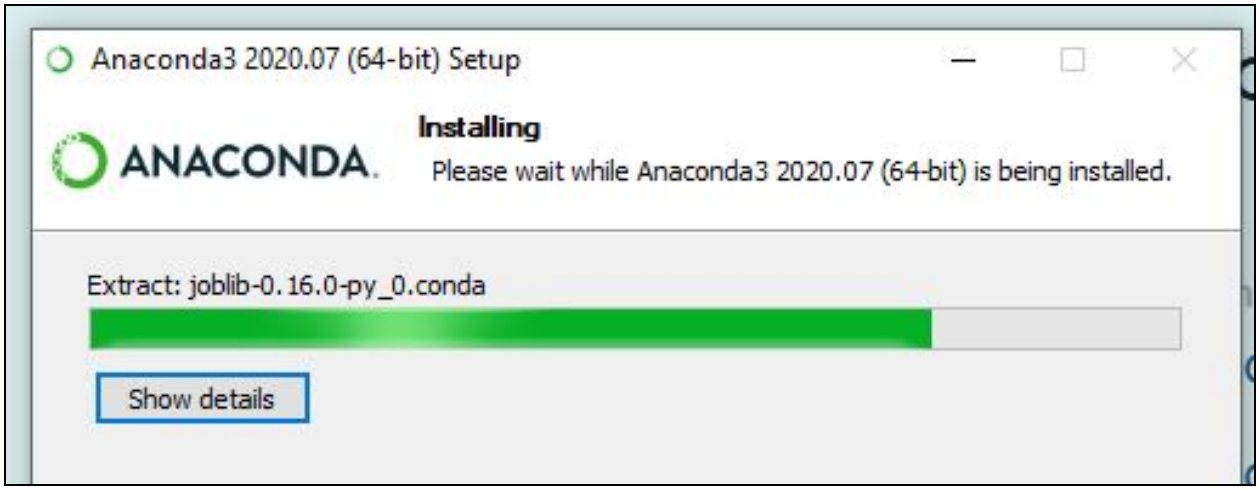
6. Once you see this, you're ready to get started

Option 2: Setting Up Anaconda

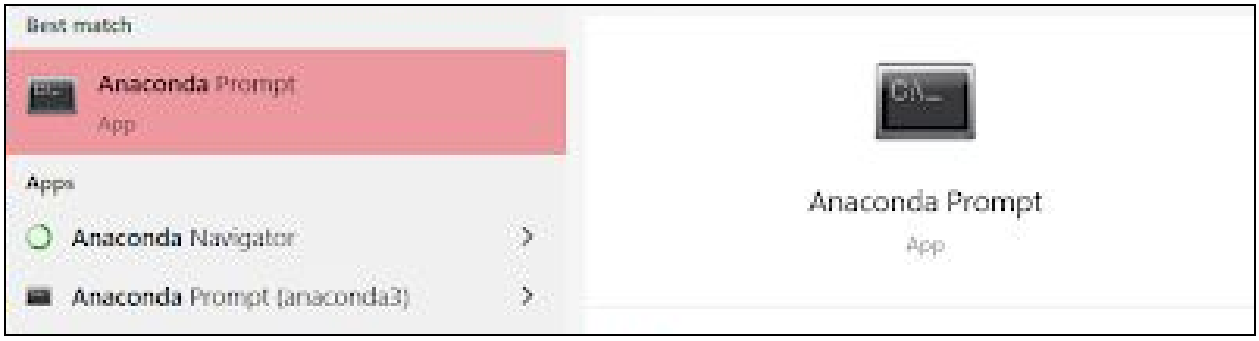
1. Go to the Anaconda website: https://www.anaconda.com/products/individual

2. Scroll down to Anaconda Installers and download Anaconda for Python 3.8 for your respective platform.

3. Run the installer. **I recommend the default settings**. Please **take note if you select anything other than the default options**. This may be necessary if you have issues later on.



4. Once the installer is finished, go to your start menu and run “Anaconda Prompt



5. Run the following command in the command prompt:

   `conda install -c conda-forge notebook`

   It’ll ask you a few questions, answer yes (Y) to all of them.

```
(base) C:\Users\natasha.proctor>conda install -c conda-forge notebook
```

6. Run the following command:

   `conda list`

   It’ll list off all the packages Anaconda has installed in alphabetical order. Scroll through the list and make sure you see the following:

```
matplotlib                3.2.2
notebook                  6.0.3
numpy                     1.18.5
python                    3.8.3
scipy                     1.5.0
```

7. Run the following command to open the Jupyter Notebook:

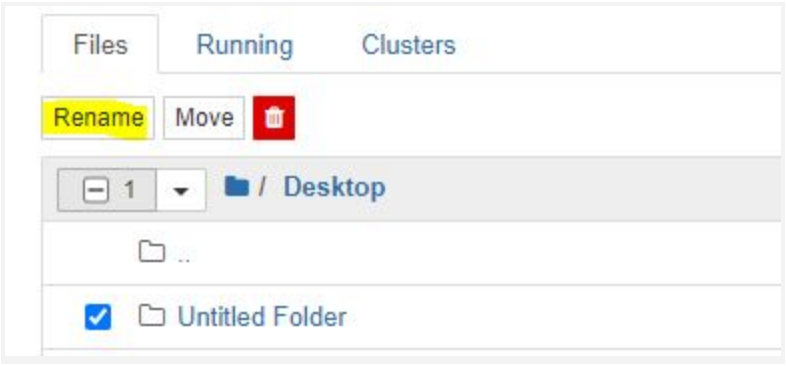
   `jupyter notebook`

   This will open a Jupyter Notebook in a browser window*

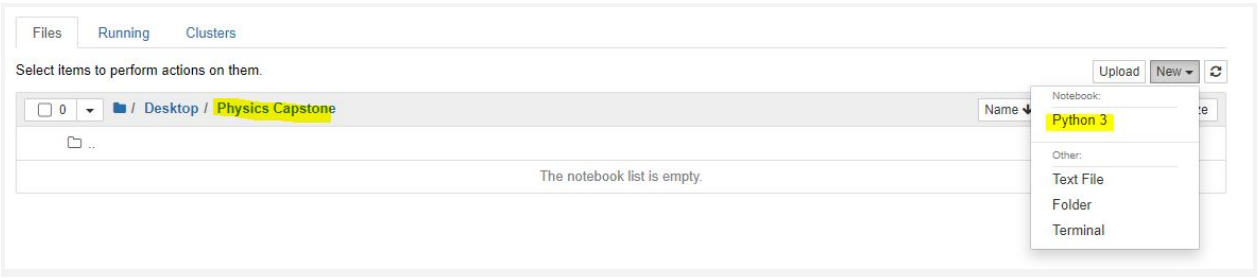
*Note, even though it is displayed in a browser window, it is running on your **local machine**, meaning you do not need internet access to open and work in a Jupyter Notebook. Additionally, any files you create are stored on your computer. Likewise, **any folders/files you delete will be deleted from your computer**. Delete with extreme caution.

8. Create a folder for your work for this class. **I recommend navigating into your Desktop folder, and creating a folder there.**

9. Rename this folder “Physics Capstone”:



10. Navigate into this folder and create a new Python 3 Notebook:



11. Click on “Untitled” to rename your Notebook you’re ready to go!