Getting Started

REU Summer Workshop: Python 3

July 23rd, 2020

Step 1: Get the Anaconda Distribution
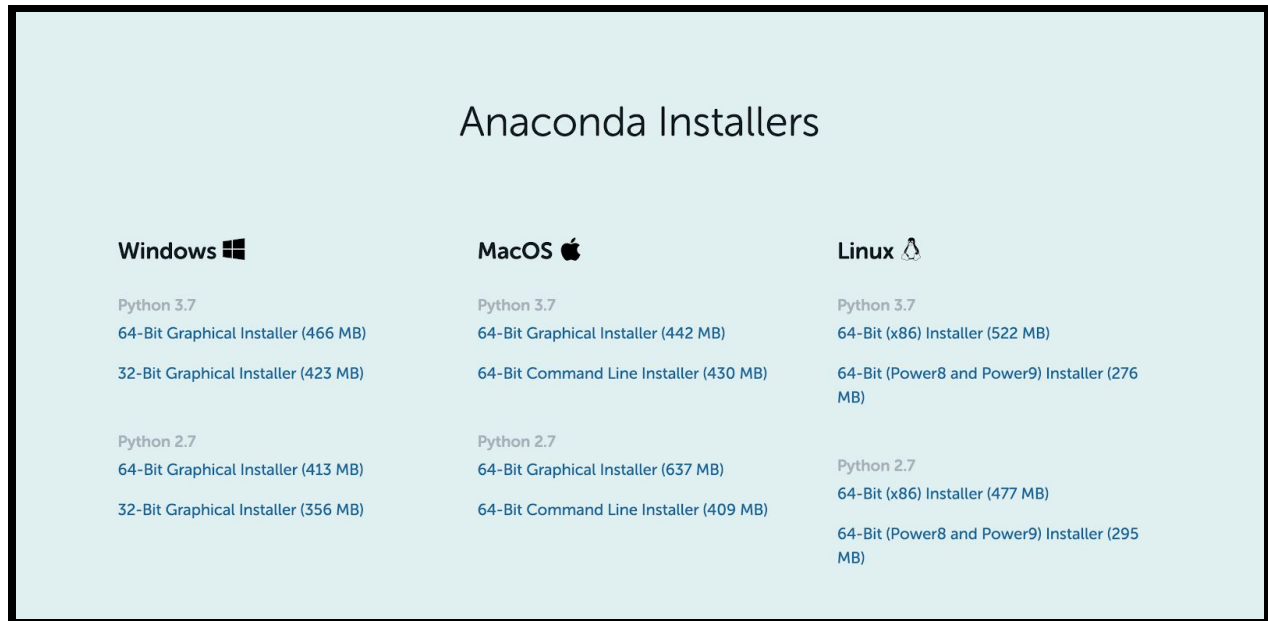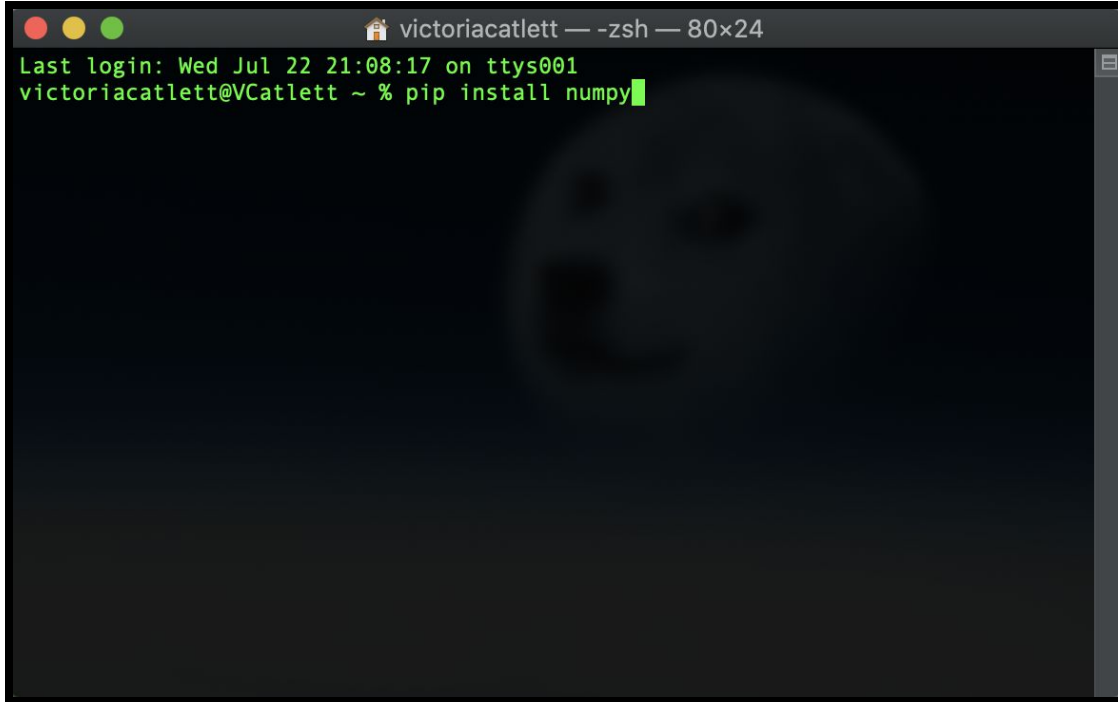

- Go to https://www.anaconda.com/products/individual
- Scroll down to "Anaconda Installers"
- Download the Anaconda Distribution for Python 3.7 using the appropriate installer for your operating system
- Follow the installation instructions on your computer

Note: If you are experienced with Python, you may not wish to follow all of these steps. If you already have Python on your computer, you don't need the entire Anaconda Distribution. We are downloading the distribution to facilitate Python installation and to get Jupyter Notebook. You can download Jupyter Notebook directly with pip, then run it from the Terminal or Command Prompt using the command *jupyter notebook* .

Step 2: Download the Necessary Python Packages

- Open the **Terminal** (Mac, Linux) or **Command Prompt** (Windows) application.
  - The image above shows an example of the Terminal, which may have a different color scheme if you've never opened it before.
- Now use "pip" to install the Python packages (collections of code) we'll need for this workshop. To do so, type the following phrases into the Terminal or Command Prompt (like in the image), pressing Enter after each one:
  - pip install numpy
  - pip install scipy
  - pip install matplotlib
  - pip install pandas
  - pip install astropy
- Close the application by hitting the x button in the corner

**Note:** For a detailed explanation of what "pip" is, read this article from Real Python.

Step 3: Download the Workshop Files from GitHub
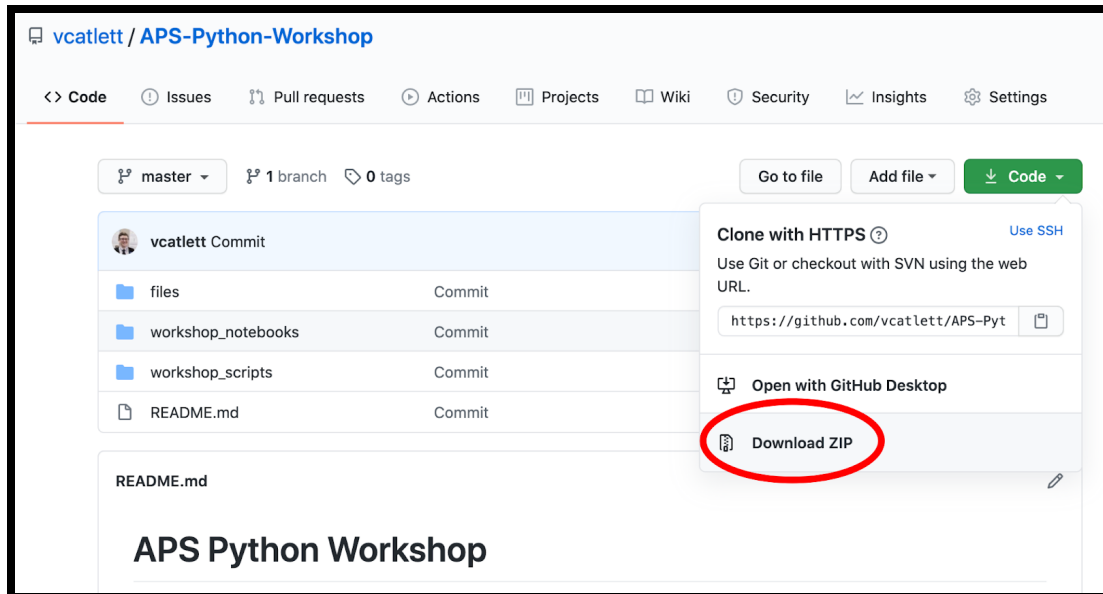
- Go to https://github.com/vcatlett/APS-Python-Workshop
- Click the green "Download Code" button
- Click the "Download ZIP" option
- **Unzip** the download on your computer. The download will be called *APS-Python-Workshop-master.zip*
- Move the unzipped folder to a location on your computer where you can easily find it (say, your desktop)

Note: If you already know Python and prefer another integrated development environment (IDE), feel free to use it instead of Jupyter Notebook. The code inside of the *workshop_scripts* folder does not require a notebook-style IDE and will produce the same results as the code in *workshop_notebooks*. However, you are responsible for understanding your own IDE, as this workshop is designed for Jupyter Notebook.

Step 4: Open Jupyter Notebook
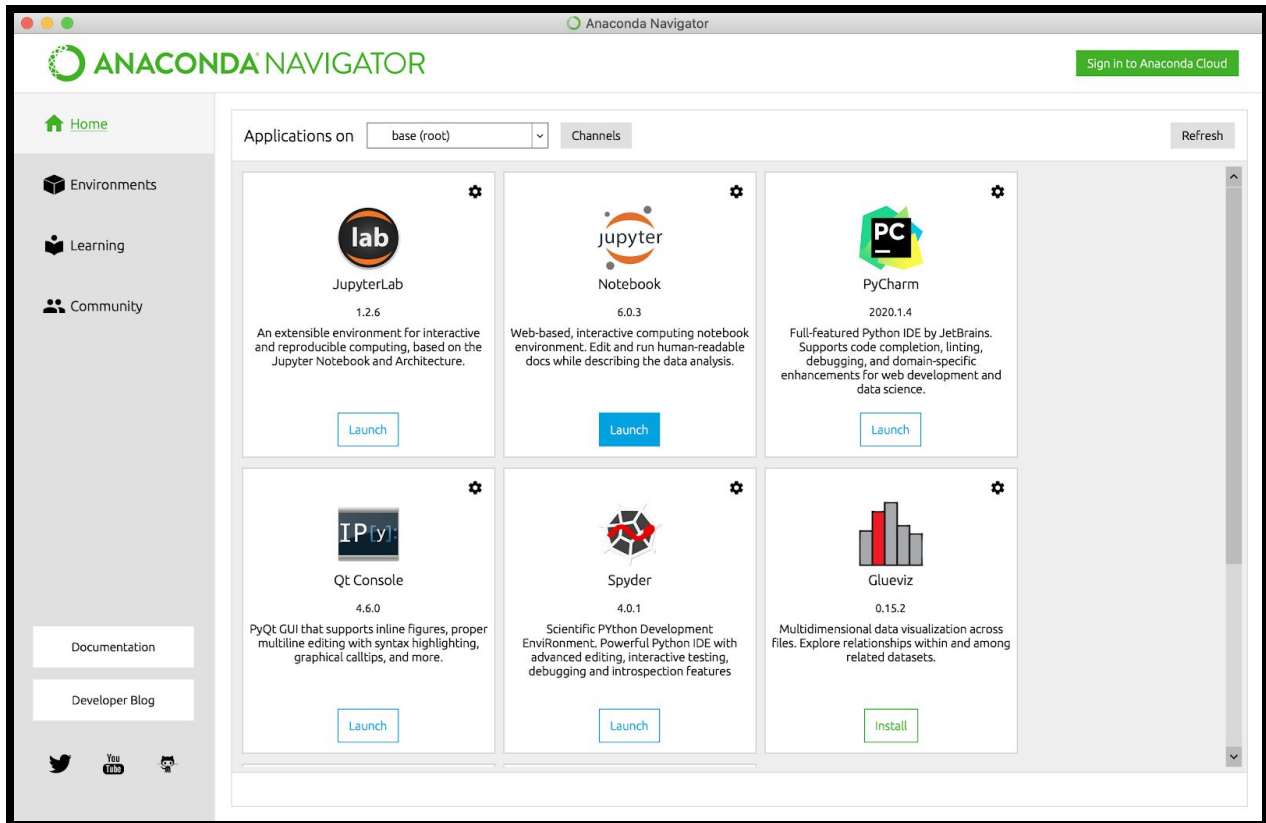
- Open the Anaconda Distribution (click on the app you just downloaded, which should look like a green circle)
- Open Jupyter Notebook by clicking the Launch button
- This should open a browser window showing the contents of your computer.
    - Don't worry, it's not putting your documents on the internet or connecting to the internet at all. It's just using the browser as an interface.

Step 5: Open the Workshop Files in Jupyter Notebook
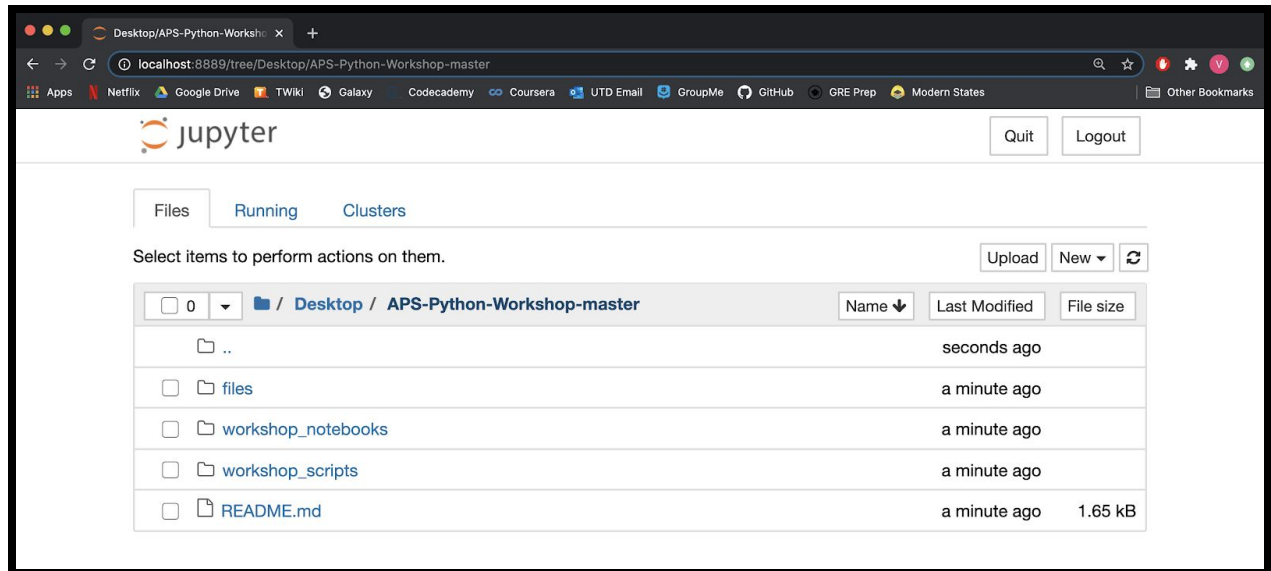
- Navigate through your files in Jupyter until you find the workshop folder you downloaded from GitHub, APS-Python-Workshop-master
- Make sure you have everything:
    - files: This folder contains 4 data files you will use during the workshop
    - workshop_notebooks: This folder contains the Jupyter Notebook files you will use in the workshop.
    - workshop_scripts: This folder contains code which does the same things as the code in workshop_notebooks, but it doesn't need a notebook-style environment to run. **Ignore** or delete this folder if you're using Jupyter Notebook; it's just there for experienced Python users who want to use something else to run the code.
    - README.md: This is a file which GitHub uses to create a nice-looking description on the webpage. **Ignore** or delete this file.
- Open the workshop_notebooks folder. You should see two more folders, Part 1 and Part 2, which each contain 4 files with .ipynb extensions

You're ready to go!