Anaconda and Package Installation

Principles of Geocomputing

Follow the instructions to install Anaconda and useful Python packages on your personal computer.

Resources and Documentation

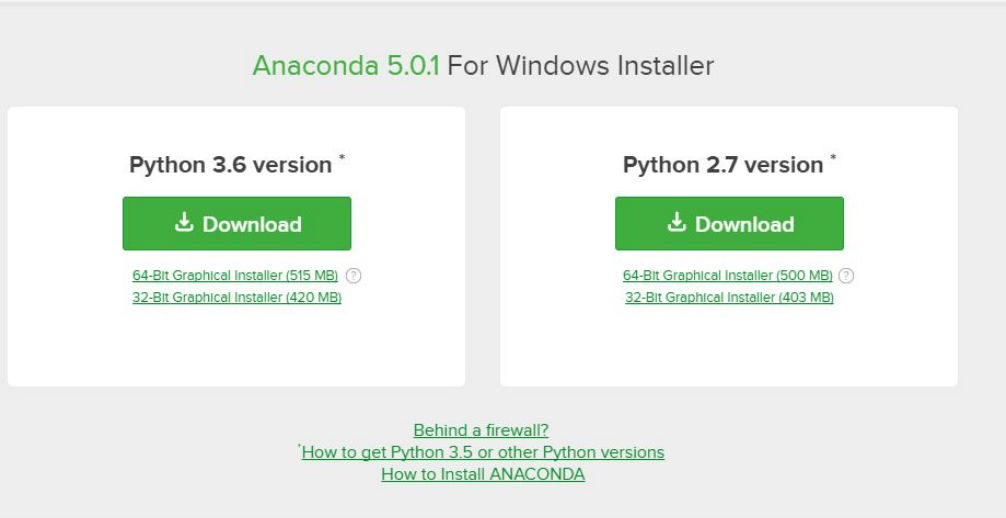
- Installing Anaconda Documentation https://conda.io/docs/user-guide/install/index.html
- Managing Packages
    - Anaconda https://conda.io/docs/user-guide/tasks/manage-pkgs.html
- Pip https://pip.pypa.io/en/stable/

System Requirements (***From Online documentation****)

- 32- or 64-bit computer
- Minimum of 3 GB disk space to download and install.
- Windows, macOS, or Linux
- Python 2.7, 3.4, 3.5, or 3.6
- pycosat
- PyYaml
- Requests.

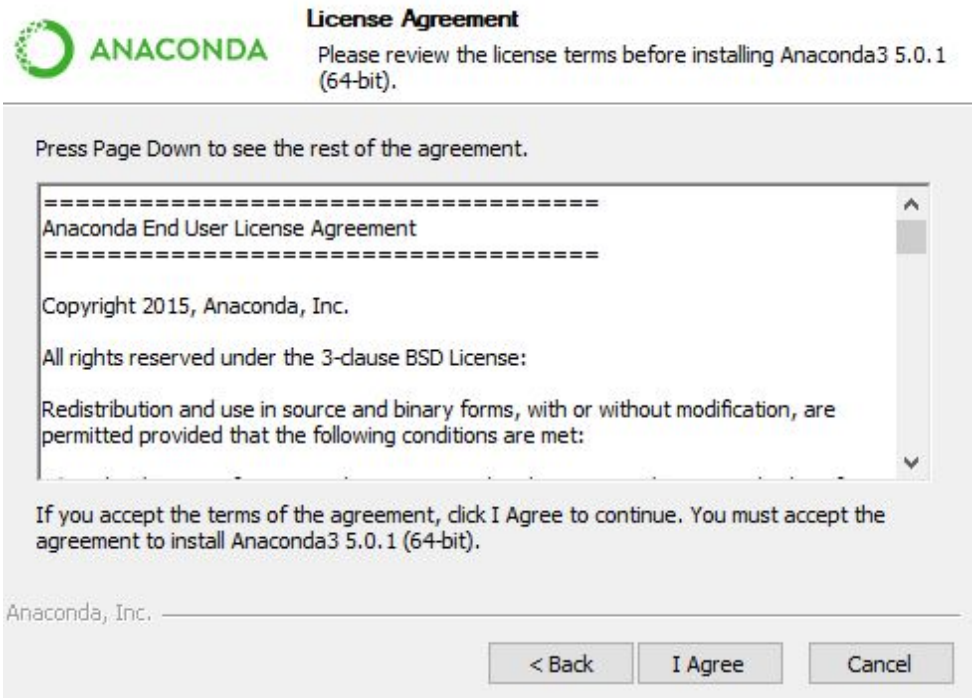
Installation Walk-Through

1. Navigate to this web page to download Anaconda. On this page, you should see two versions of Anaconda with green download buttons. ***(See the image below.)*** There are two versions to accommodate the different versions of Python. Choose Python 3 which is what this course will be taught in. If you choose Python 2, you may run into some errors in this course. Make sure you choose the 64-bit version which is the default option.

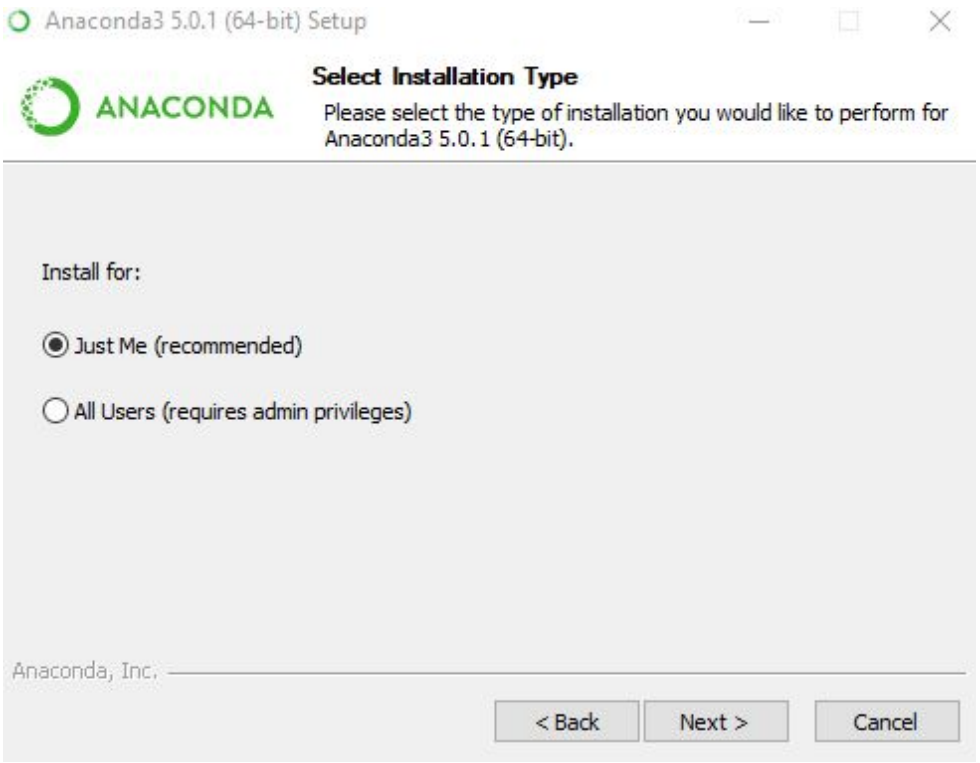


2. Once you click on a download button, Anaconda should start downloading immediately. Once it's fully downloaded, open the .exe file by double-clicking it. You should see something like the image below.

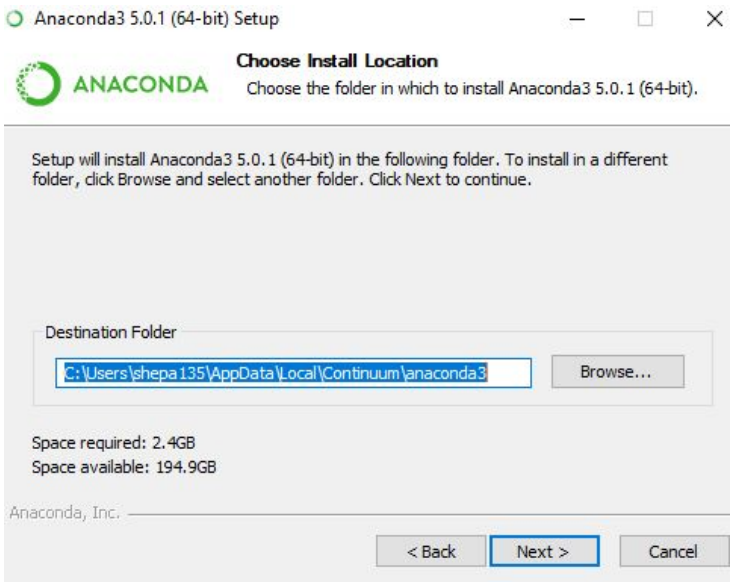
3. Click “Next” to move to the next page. This will be a license agreement, and you will need to agree to it to move forward in the download process. Click “I Agree” to move on to the next page.



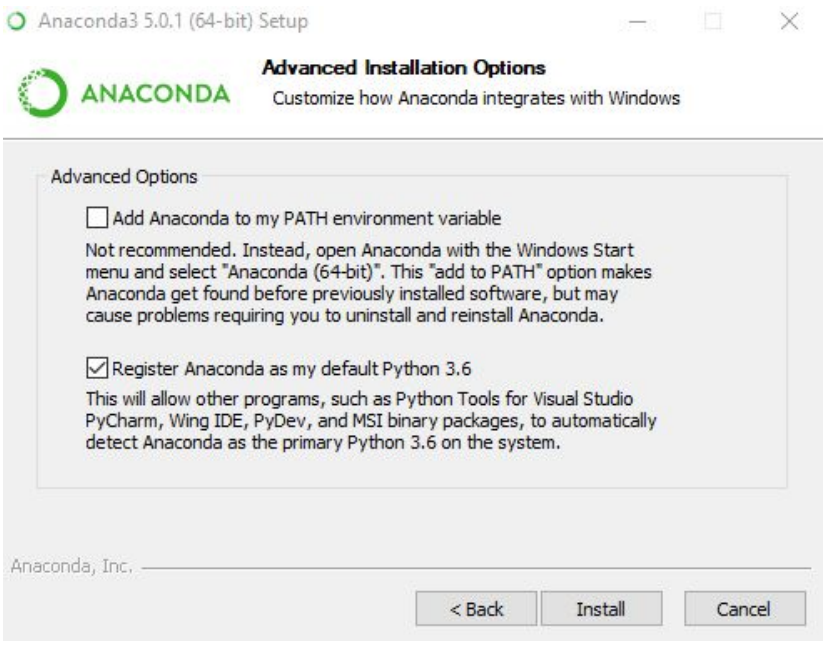
4. The next page deals with the installation type. The default option is **Just Me (recommended).** If you wish to have all users on the computer to have access to the application and you have admin privileges, you may choose **All Users (requires admin privileges)**. This does require you to run and install everything from the root directory. The **Just Me (recommended)** will be the more simple route and it’s the option I recommend. Once you decide, click “Next”.



5. This page handles the location of the install. You'll need at least 2.4 GB of free space in the location for the installation. Choose a location or use the default location provided, and click "Next".



6. This next page deals with advanced installation options. The first box is unchecked, and this box can be left unchecked. This can cause issues if you wish to uninstall the program at a later time. The second option deals with the default Python on your computer which can affect package management. This is checked by default. If Anaconda is the main program/IDE (Integrated Development Environment) you use for writing Python, then this option is fine. If you use other programs to write/run Python programs, you may run into issues with package management in the future. (For most people, this will not be the case.) Click “Install” to run the installation process.



7. Once completed, click “Next”. This will bring you to final page where you may choose to learn more about Anaconda Cloud and Anaconda Support. These won’t affect your installation of Anaconda, so this is up to you. After you decide, click “Finish” to complete the installation. Use the Windows Start Menu to see if the installation worked. Open up **Anaconda Navigator** to access Environments and Jupyter Notebooks.

Installing Packages

1. Anaconda Navigator

Anaconda comes with a number of preinstalled packages, but not everything we will use in this course will be available. These are easy to setup through Anaconda Navigator. (This should be installed with Anaconda) ***(See the image Below.)***

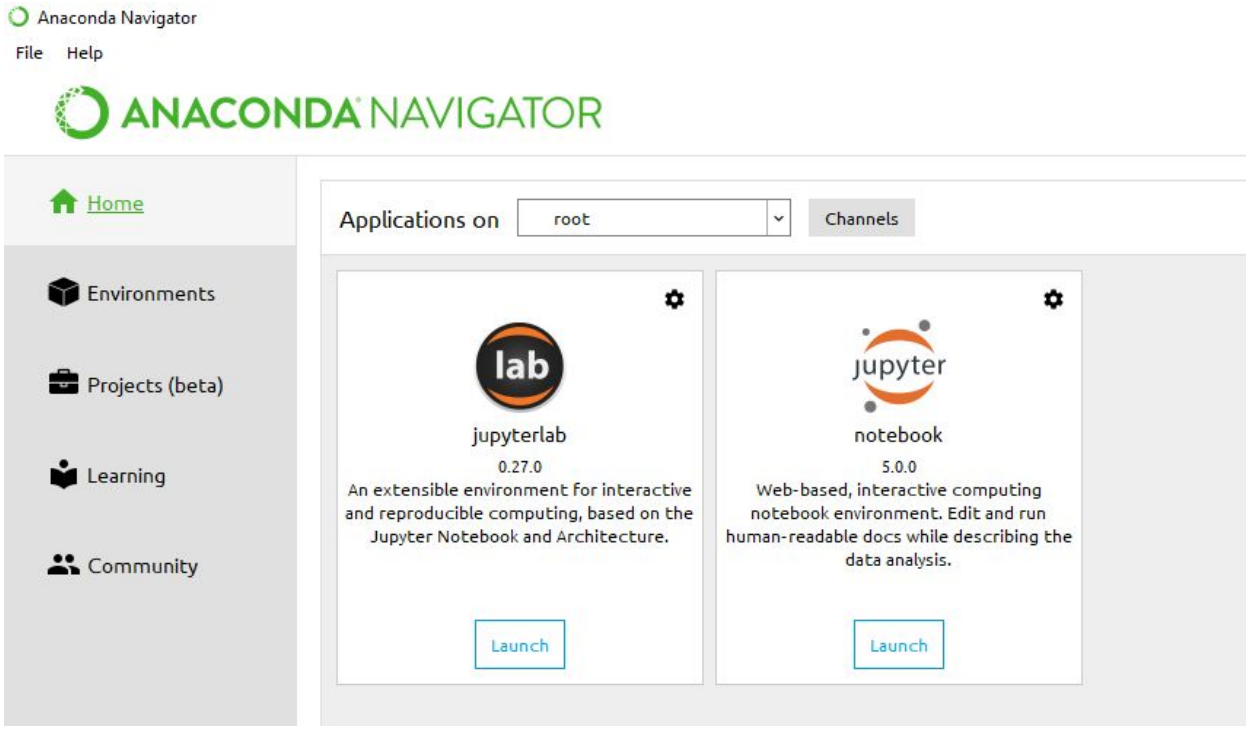


Figure 1. Anaconda Navigator Interface

Click on **Environments** on the left panel. This page will allow the user to enable/disable packages as well as manage different environments. The drop-down menu displays packages that are installed and enabled via a checkbox on the left side. To search for packages that are not installed, choose **All** or **Not Installed** from the drop-down menu. Then in the search bar, type in the package name to see if it can be installed via this route. Check the box on the left side to switch the package "on" in the environment.

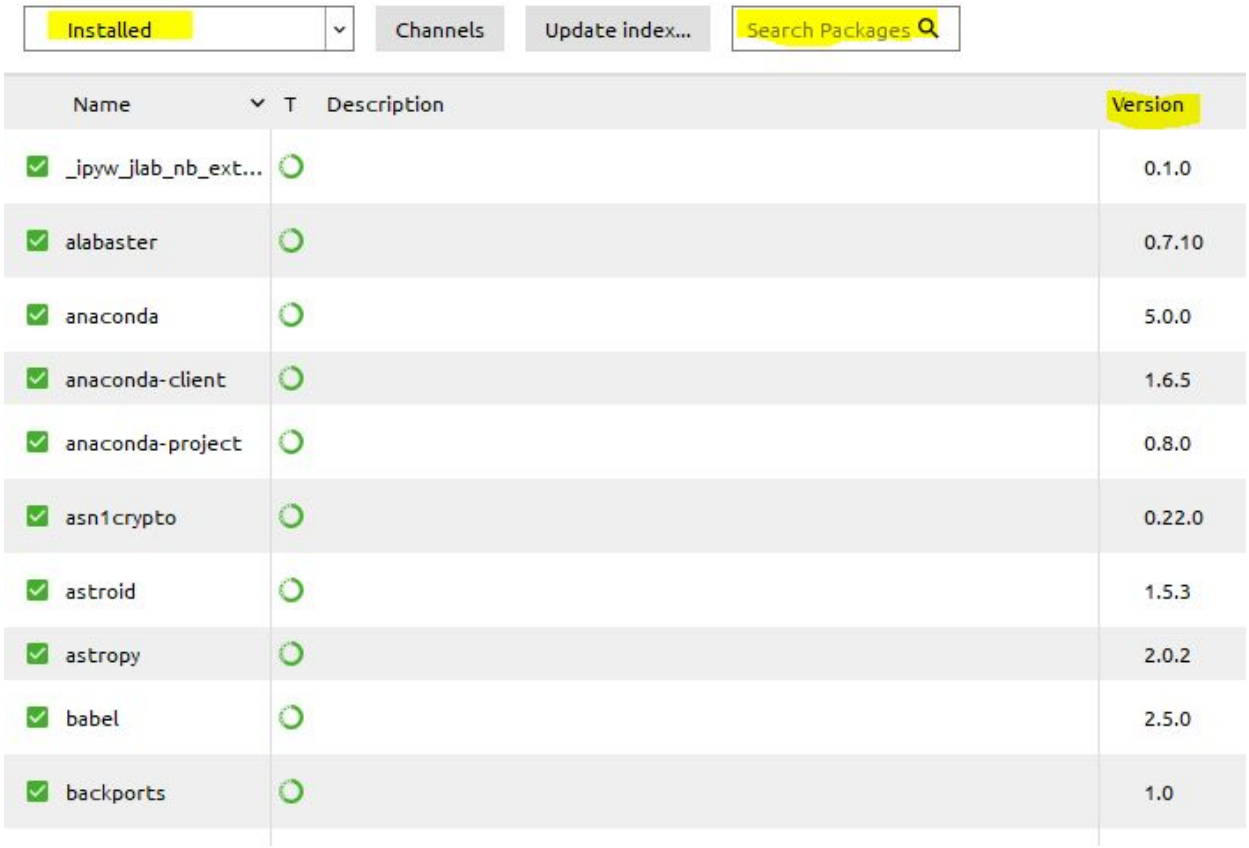
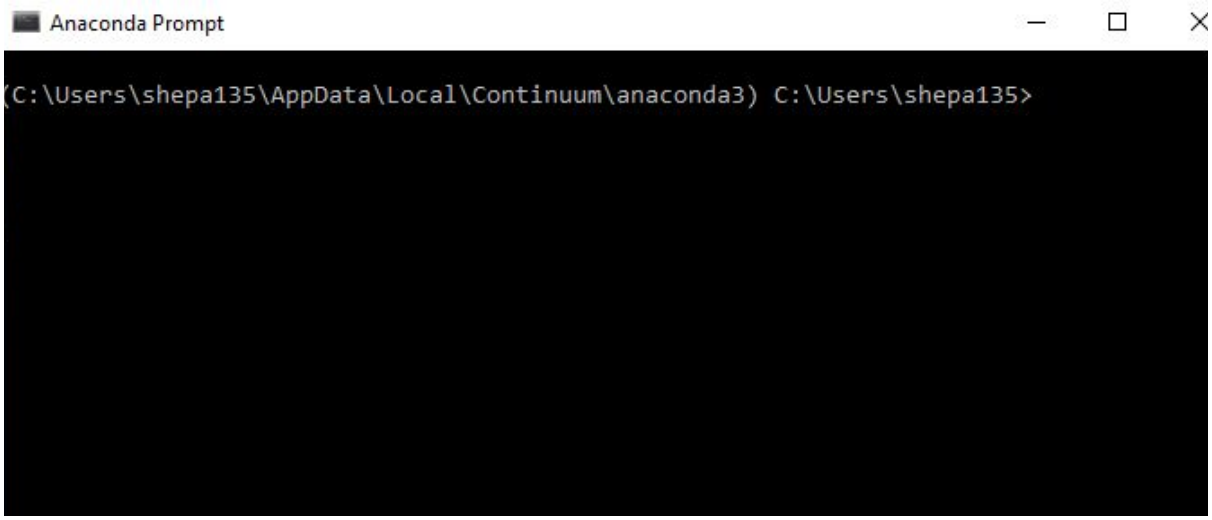


Figure 2. Anaconda Navigator Environments page.

2. Anaconda Prompt (Recommended)

Open up **Anaconda Prompt** through the Windows Start Menu. You should see a screen similar to the one below.



Command Line Interface

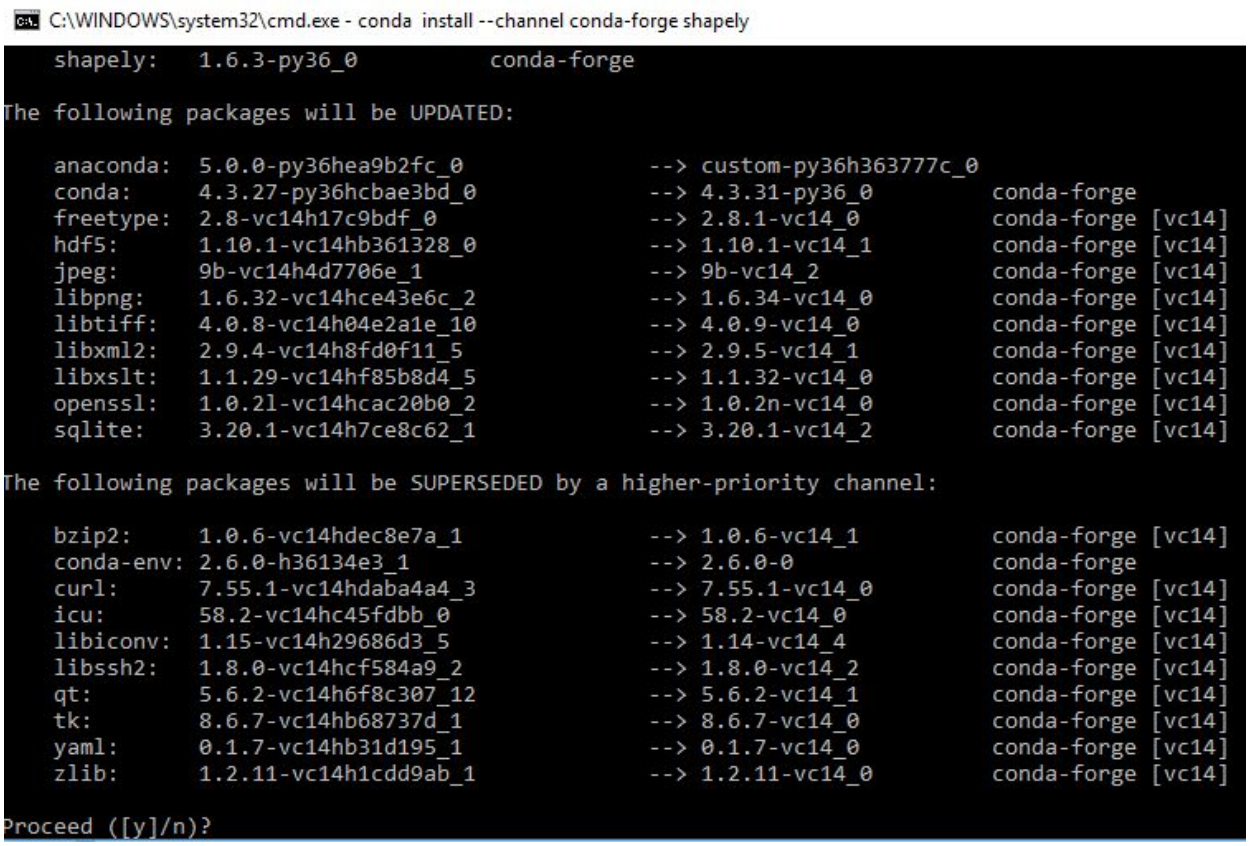
Use the bolded command below to install packages that are not readily available in Anaconda. Replace [SomePackage] with the package you wish to install.

First Option - Command for installation
conda install --channel conda-forge [SomePackage]

Second Option - Command for installation
pip install [SomePackage]

Note - Pip is a package management tool used to install and manage Python packages. Documentation for this utility can be found above in the Resources & Documentation section.

If asked to proceed, type **y** if you want to move forward with the installation. ***(See the image below.)***



Once the package is installed, you should be able to use the **import** statement to import and use the Python Package

If you try to install a package that is already installed you will get a message stating the "Requirement is already satisfied". ***(See the image below)***