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Getting Planet Data using the Commandline

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How do I get Planet data?

There are a few different ways to get Planet data. The following list the different methods and tools for acquiring Planet data.

1. The easiest way is to download data through the Planet Explorer website after registering and creating an account. This website makes the latest single image data sets available to view. You can select an area of interest (AOI) to see what data are available for that area. You can download individual scenes.
   Images from the Basemaps Viewer can only be downloaded in the website by selecting each quad individually. For large data downloads, we recommend using the planet command line utility.
2. planet command line utility: This utility is an open source python code that has various options to select and/or download data that meet certain criteria (cloud cover, date ranges, etc.). It is available here.
3. Planet API: this is an application program interface that can download to develop their own programs to automatically select and download imagery. This is intended for power users who may (for example) want to incorporate new data automatically into a website. You can find out more about it here.

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Instructions for the Planet command line utility on Linux

If you have an account on Agave or another ASU computer server using the Linux operating system, you can usually activate python by doing the following:

```
module load python/3.7.1
```

The following command will download and install the planet API and commandline utility under your user directory.

```
pip install planet --user
```

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Instructions for the Planet command line utility on Linux (continued)

With those tools installed and enabled, you can now run the planet commandline utility.

```
[myusername@agave1:~]$ planet
Usage: planet [OPTIONS] COMMAND [ARGS]...

  Planet API Client

Options:
  -w, --workers INTEGER  The number of concurrent downloads when requesting
                         multiple scenes. - Default 4
  -v, --verbose          Specify verbosity
  -k, --api-key TEXT     Valid API key - or via ENV variable PL_API_KEY
  -u, --base-url TEXT    Change the base Planet API URL or ENV PL_API_BASE_URL
                         - Default https://api.planet.com/
  --version              Show the version and exit.
  --help                 Show this message and exit.

Commands:
  data     Commands for interacting with the Data API
  help     Get command help
  init     Login using email/password
  mosaics  Commands for interacting with the Mosaics API
```

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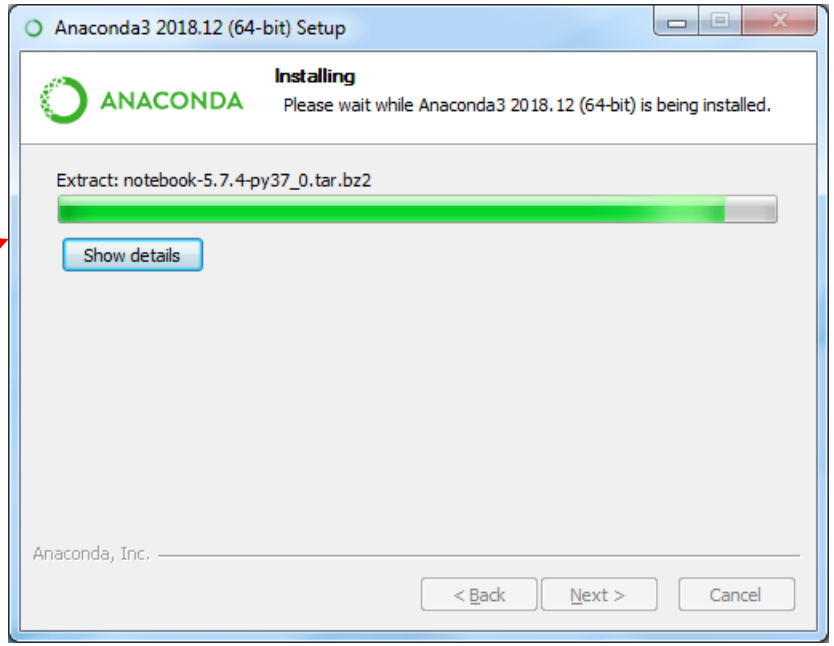
Free tools that you can get online for PC or Mac

If you want to get the Planet commandline utility to work on your local machine (PC or Mac), you may want to get a distribution of Anaconda, which includes Python. Otherwise, the next slide will explain how to set it up on a Linux server where various distributions of Python are available.

- https://github.com/planetlabs/planet-client-python
  Download this github repository as a zipfile and save it on your computer.

- https://www.anaconda.com/distribution/
  download and install this.



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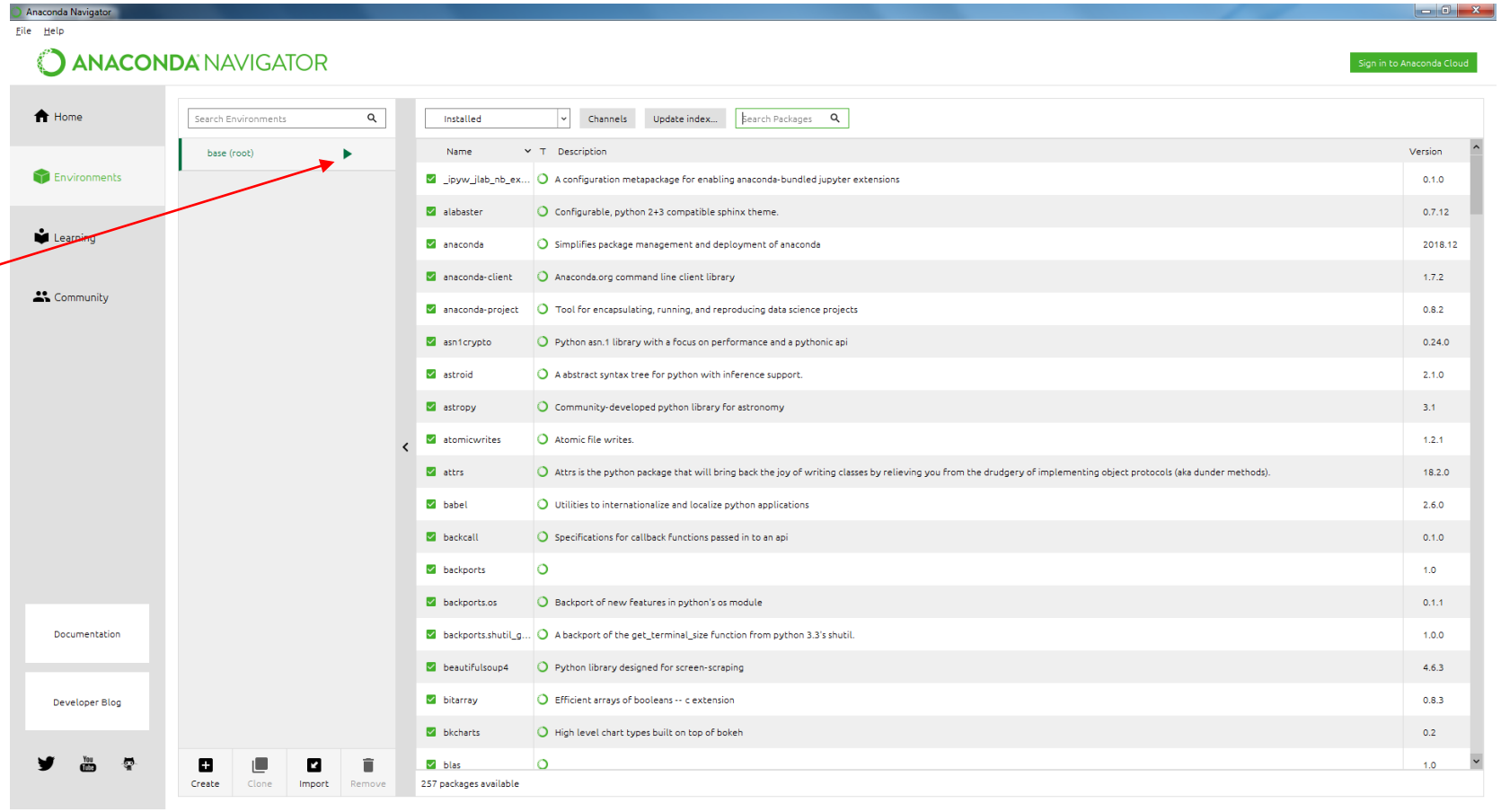
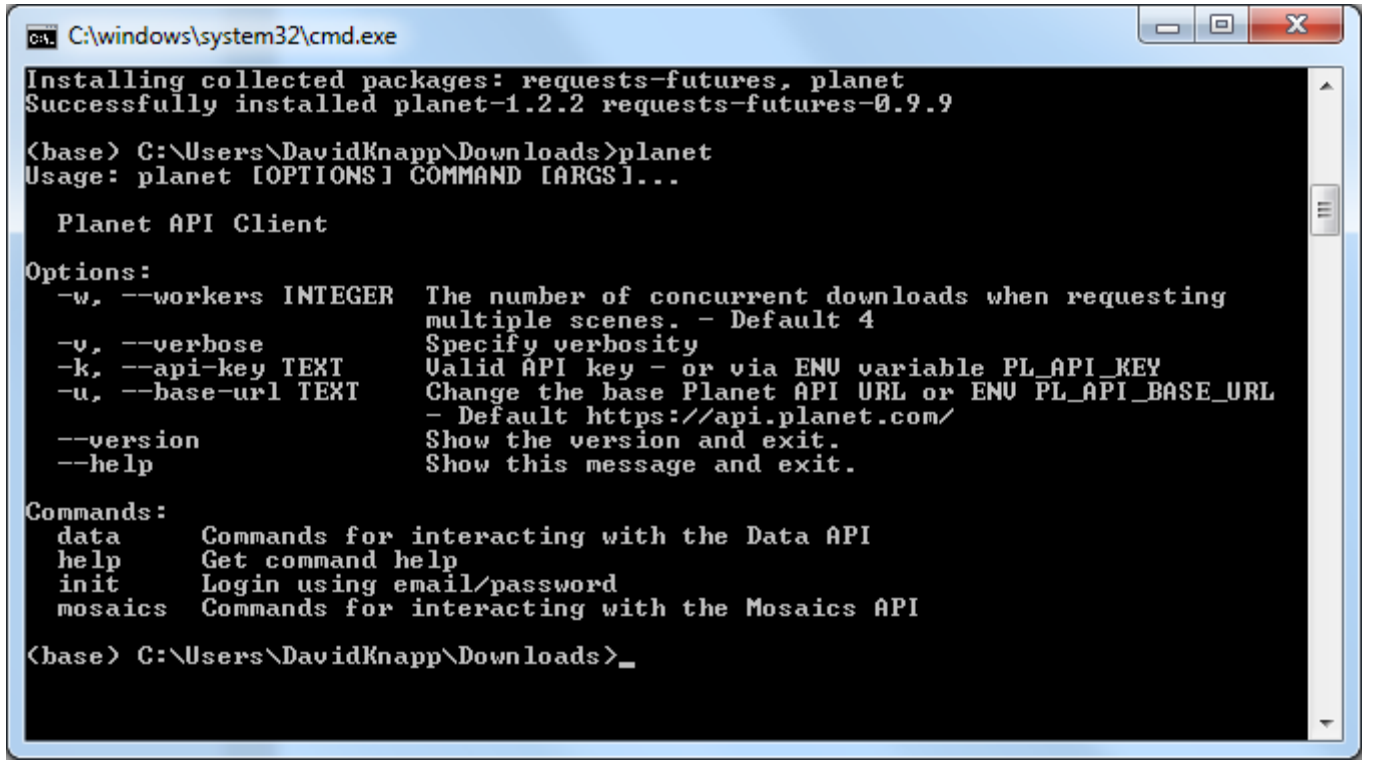
Click Here and select "Open Terminal"



In Anaconda Navigator, click on “base (root)” and open up a Terminal window. At the prompt, run the following:

pip install planet

This will download and install the planet API and associated utilities to your Anaconda Python environment.



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Planet API Keys

- In order to run the Planet API client, you must have an API Key.
- If you have a Planet account in the Incubator program, you will have an API key.
- To see your API key, go in Planet Explorer, click on the upper right, and go to "Account Settings" at the bottom. You should see your API key in your settings.
- It is a good idea to copy it and create an environment variable called PL_API_KEY set to that long string of letters and numbers. The planet client will look for that environment.
- Without the PL_API_KEY environment set, you have to enter your API Key in the command line with the -–api-key switch, which is no fun.
- You need to protect your API key. **DON'T SHARE IT WITH OTHERS.** If it is found that others are downloading data with your API key, it will attract attention and could impact any quotas that your project has on data downloads.

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Planet Commandline Utility

The Planet commandline utility has many different subcommand and options.
Here are just a few examples:

`planet data --help` (for interacting with the Planet Data API, i.e. individual scenes from Planet Explorer)
`planet mosaics --help` (for interacting with the Planet Mosaics API, i.e. basemaps)

Example usage (Linux or MacOS):
To list all of the basemaps available from Planet:

```
planet mosaics list --pretty | grep "name"
```

OR in Windows:

```
planet mosaics list --pretty | findstr "name"
```

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Planet Commandline Utility (Example)

Example usage:
To list all of the mosaic tiles for Puerto Rico from the global_monthly_2019_03_mosaic

```
planet mosaics download --rbox -67.24,17.947,-65.591,18.521      (continue line)
global_monthly_2019_03_mosaic
```

There are many options for filtering out certain images based on cloudiness, spatial coverage. Additional information about using the Planet commandline utility can be found here.