Getting started with Python-

Installing Python

Contents

Installing Python on Windows, Mac and Linux OS

- Python is a high level, interpreted language that usually comes pre-installed on all computers.

- Because Python is widely used for various purposes, it has a lot of packages available which are all compatible with different versions of the language. This can be painful for a beginner to manage, right at the introduction to his or her journey.

- The easiest way of installing Python for data science is to use the Data Science Package Manager, Anaconda. It is the simplest way to install Python with all the libraries you need, it manages all package compatibility issues and doesn't interfere with the required system libraries.

- If you still wish to download python separately, you can go to http://www.python.org and select the version that is suitable for your Operating system and hardware. Be careful to select the latest stable version.

Anaconda & the Conda Distribution

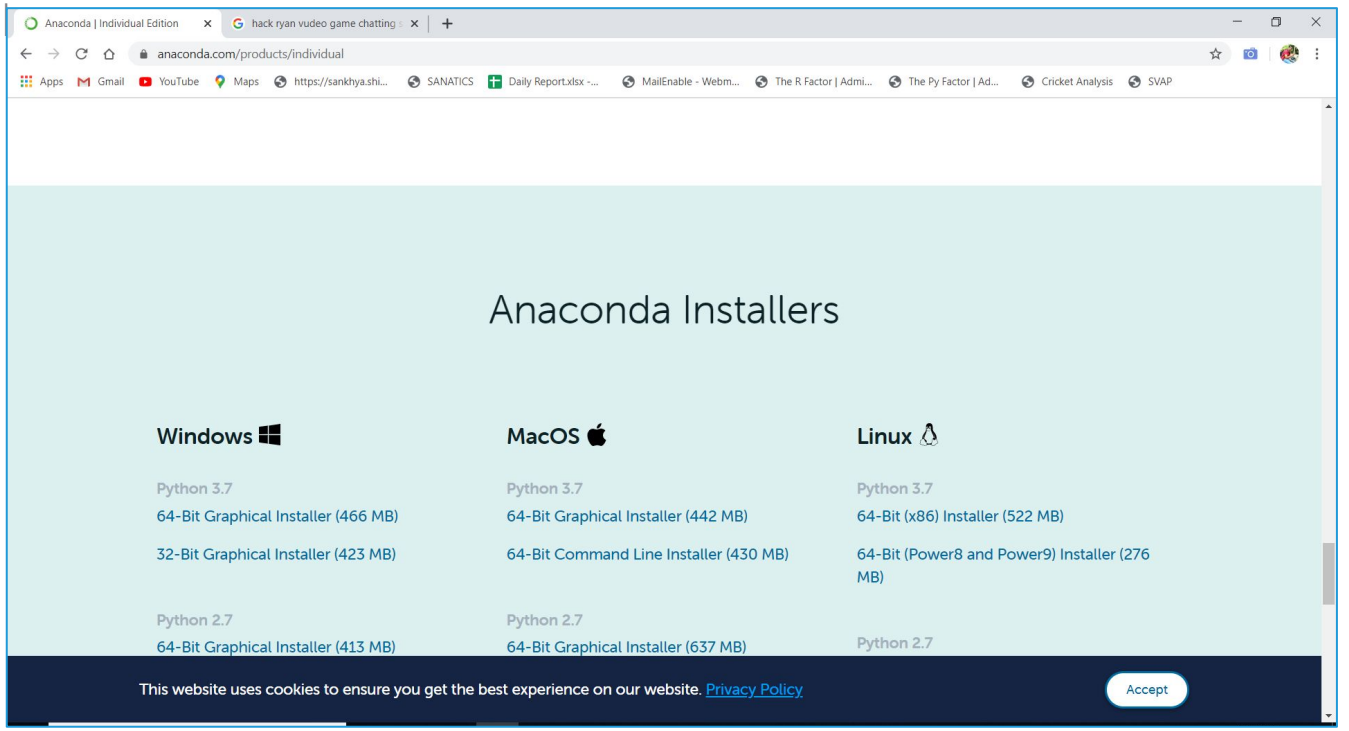
- The Conda distribution is an open data science platform powered by Python. It consists of two package managers – Anaconda & Miniconda.
- Anaconda package list includes:
  - easy installation of Python(2.7.12, 3.4.5, 3.5.2 and 3.6)
  - updates of over 100 pre-built and tested scientific and analytic Python packages
  - over 620 more packages available via a simple command:

    "`conda install <packagename>`".
  - open source development environments such as Jupyter/IPython and Spyder and is supported by Sublime Text 2 and PyCharm.
- However, Anaconda takes up a lot of disk space which is why Miniconda comes in as an alternative – it includes only conda and Python, where all the other packages can be installed separately as per your needs.

Installing Anaconda (Simulation)

Steps (for all OS):

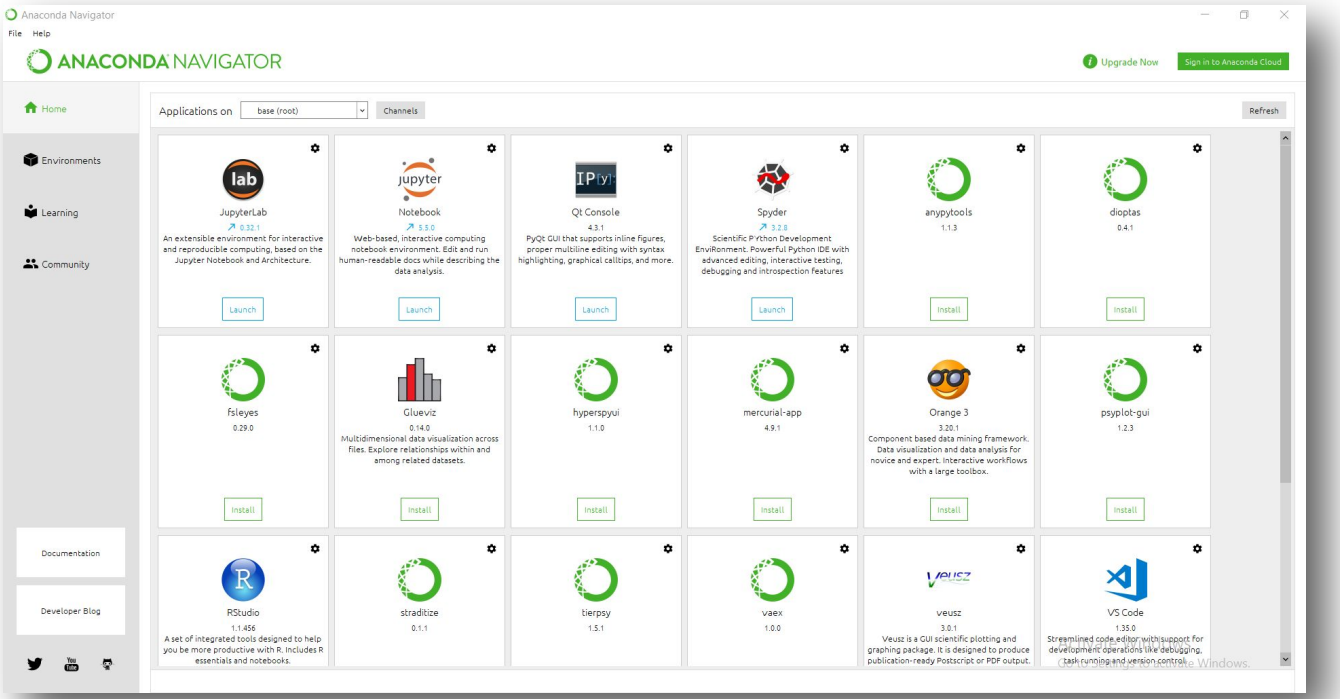
- Go to https://www.anaconda.com/products/individual to download the installer. Click on the installer link according to your system. It will take a while to download the .exe fi



Note : The interface of this site might change, but installer can be downloaded from this link.

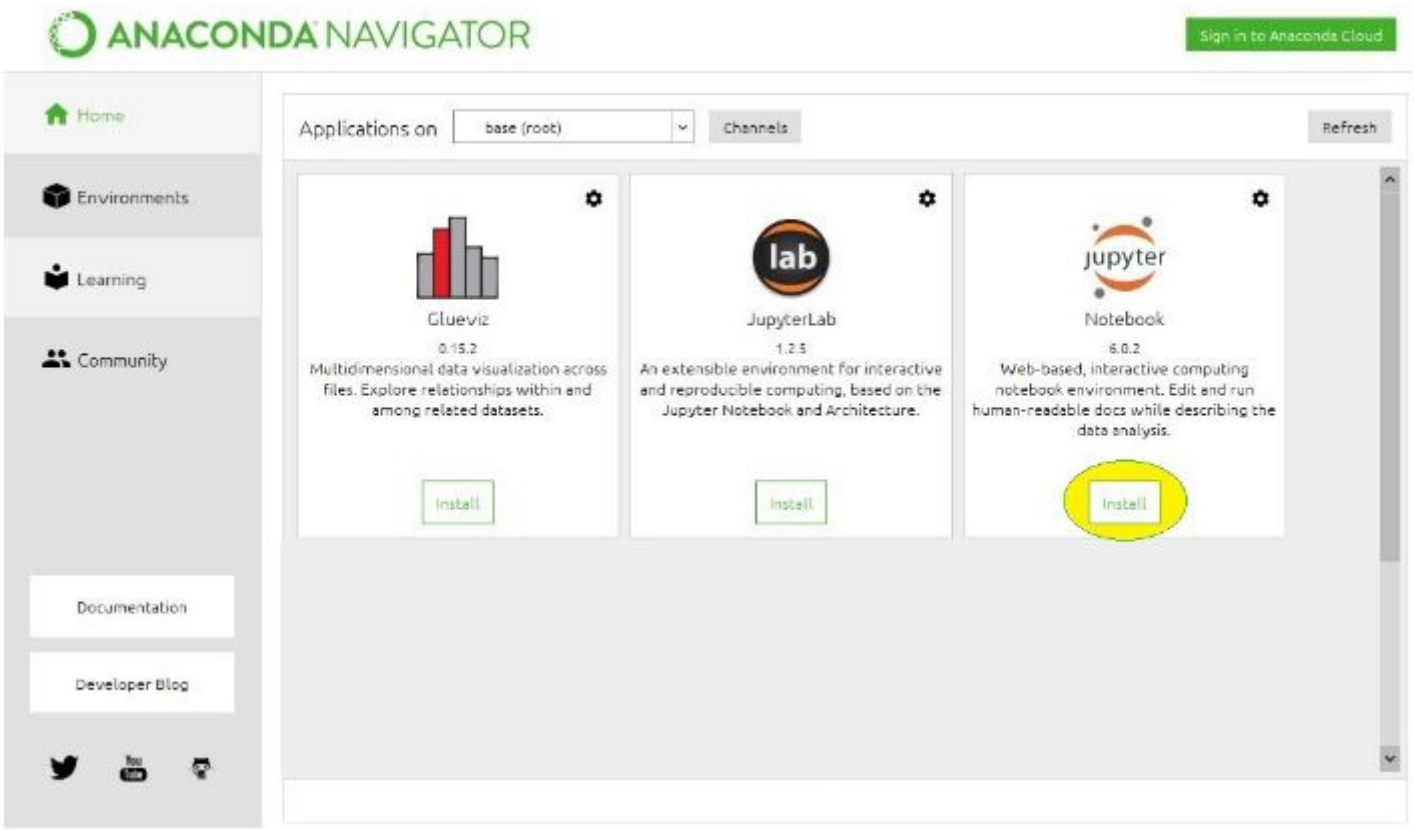
Installing Anaconda (Simulation)

- After completing the installation process, launch Anaconda Navigator. The screen will appear as shown below.
- It provides Various python IDE(s) like Jupyter, Qt Console, Spyder etc. You can install the necessary Python IDE suitable for your application and system.



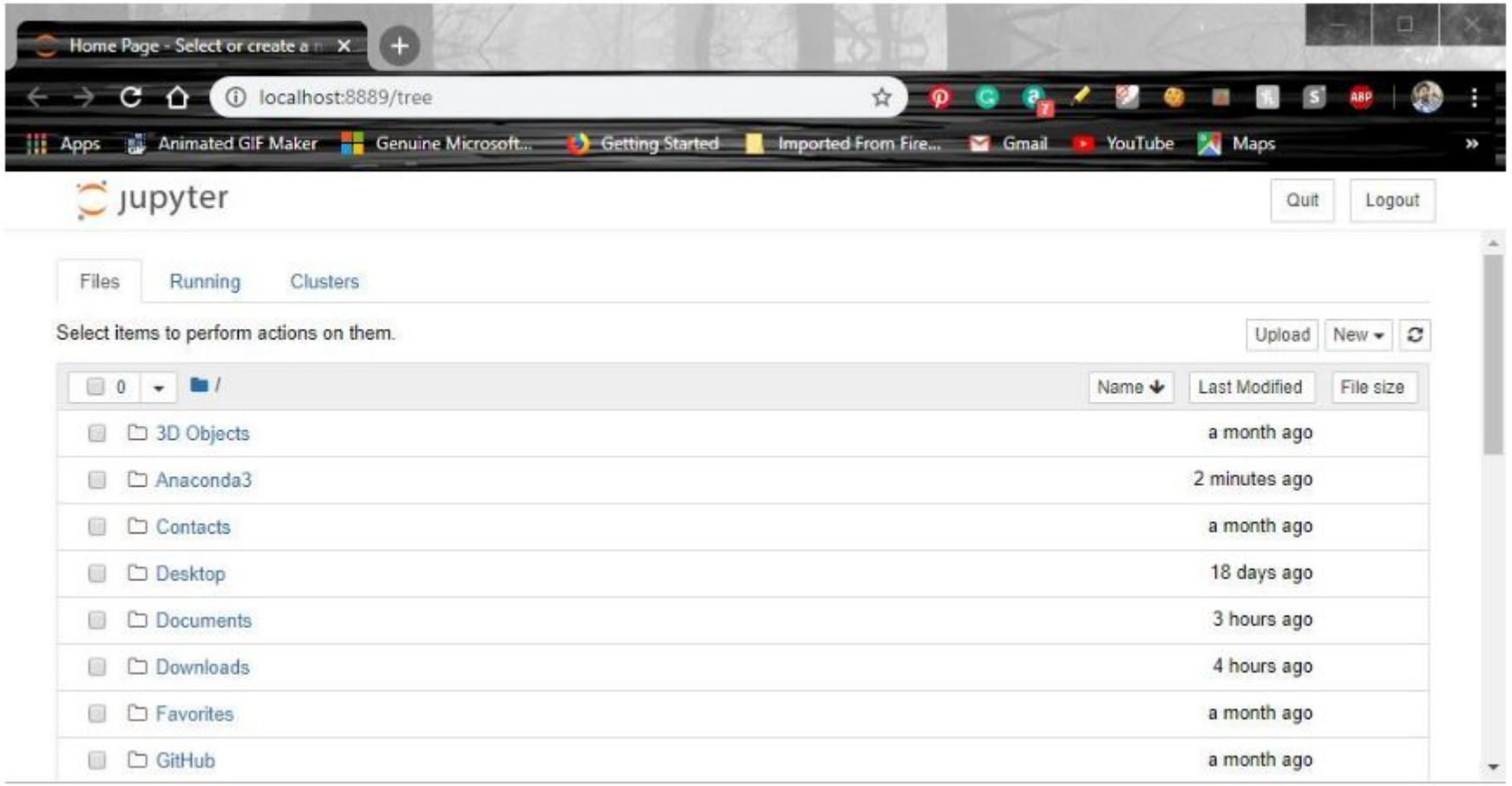
Using Jupyter as an IDE

- To install Jupyter using Anaconda:
- **Click on the Install Jupyter Notebook Button:**



Jupyter – User Interface (Simulation)

- **Begin the Installation**
- **Load Packages**
- **Finish Installation**
- **Launch Jupyter**



Using Jupyter as an IDE

Installing Jupyter Notebook using pip:

- **PIP** is a package management system used to install and manage software packages/libraries written in Python.
- These files are stored in a large “on-line repository” termed as Python Package Index (PyPI).
  pip uses PyPI as the default source for packages and their dependencies.
- To install Jupyter using pip, we need to first check if pip is updated in our system. Use the following command to update pip:

```
python -m pip install --upgrade pip
```

- After updating the pip version, follow the instructions provided below to install Jupyter:
- **Command to install Jupyter**

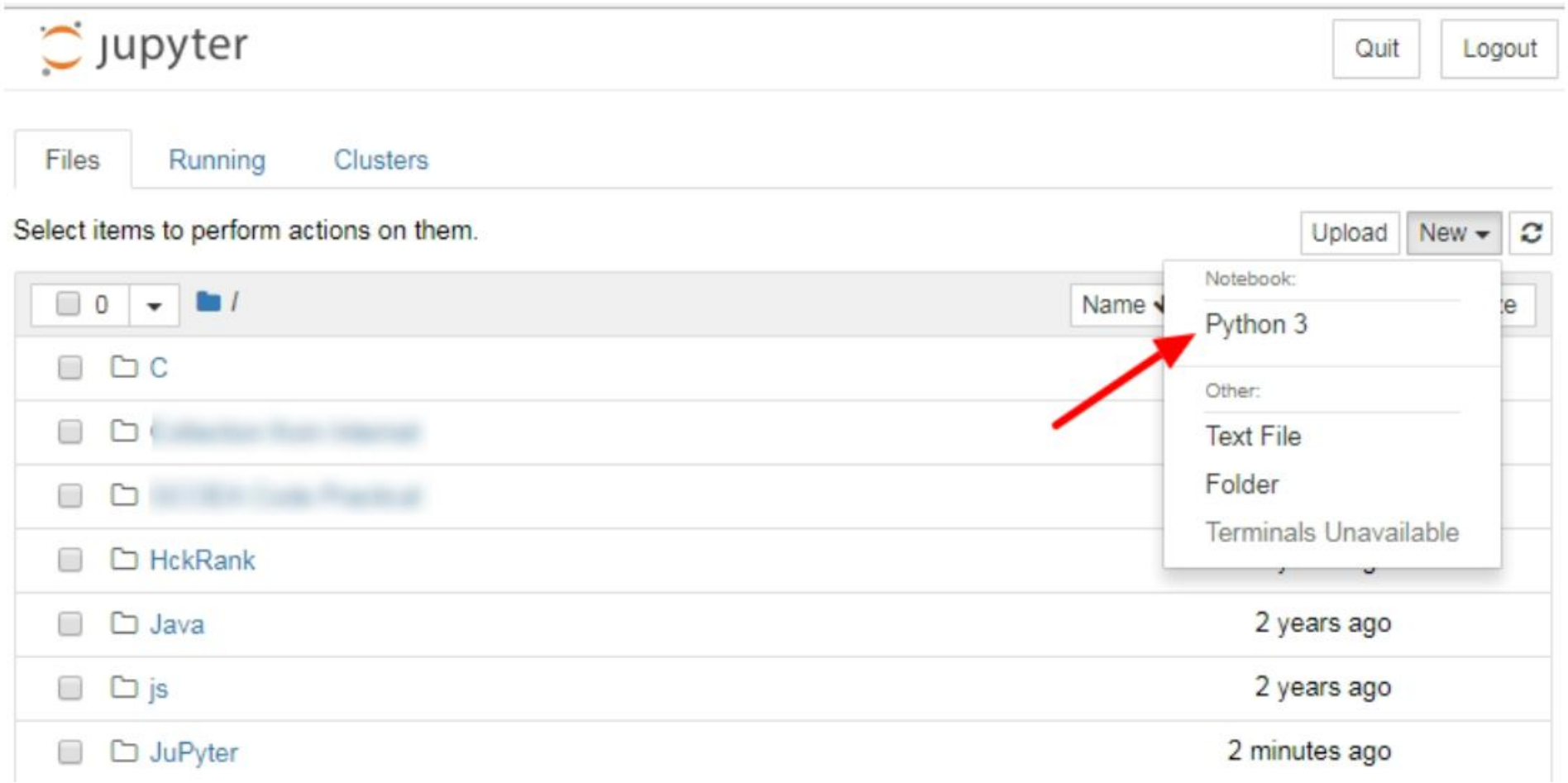
```
python -m pip install jupyter
```

- After installation is complete, use the following command to launch jupyter:

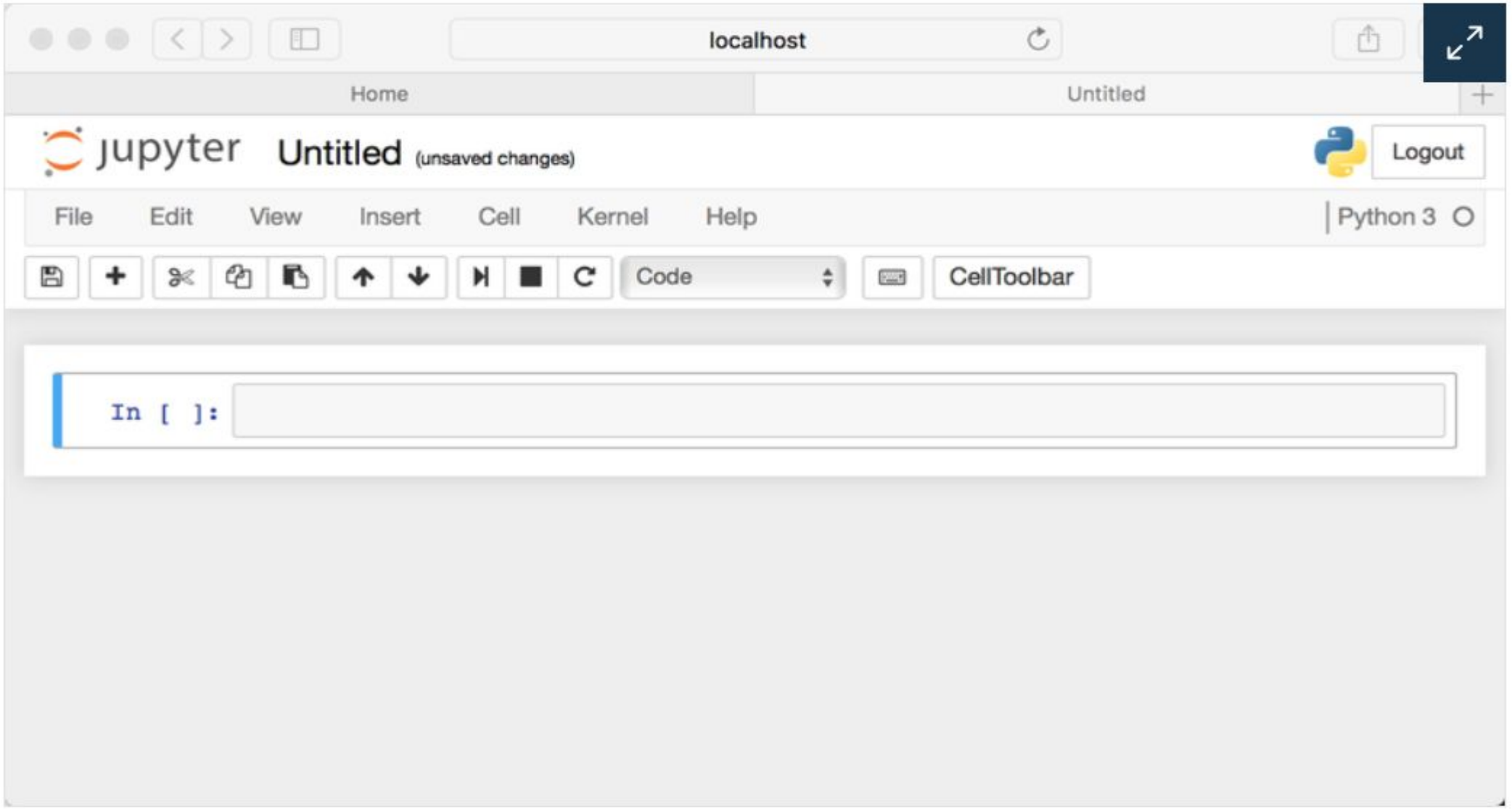
```
jupyter notebook
```

Jupyter – User Interface (Simulation)

Click on the *New* button (upper right), and it will open up a list of choices, choose Python 3.



Jupyter – User Interface (Simulation)

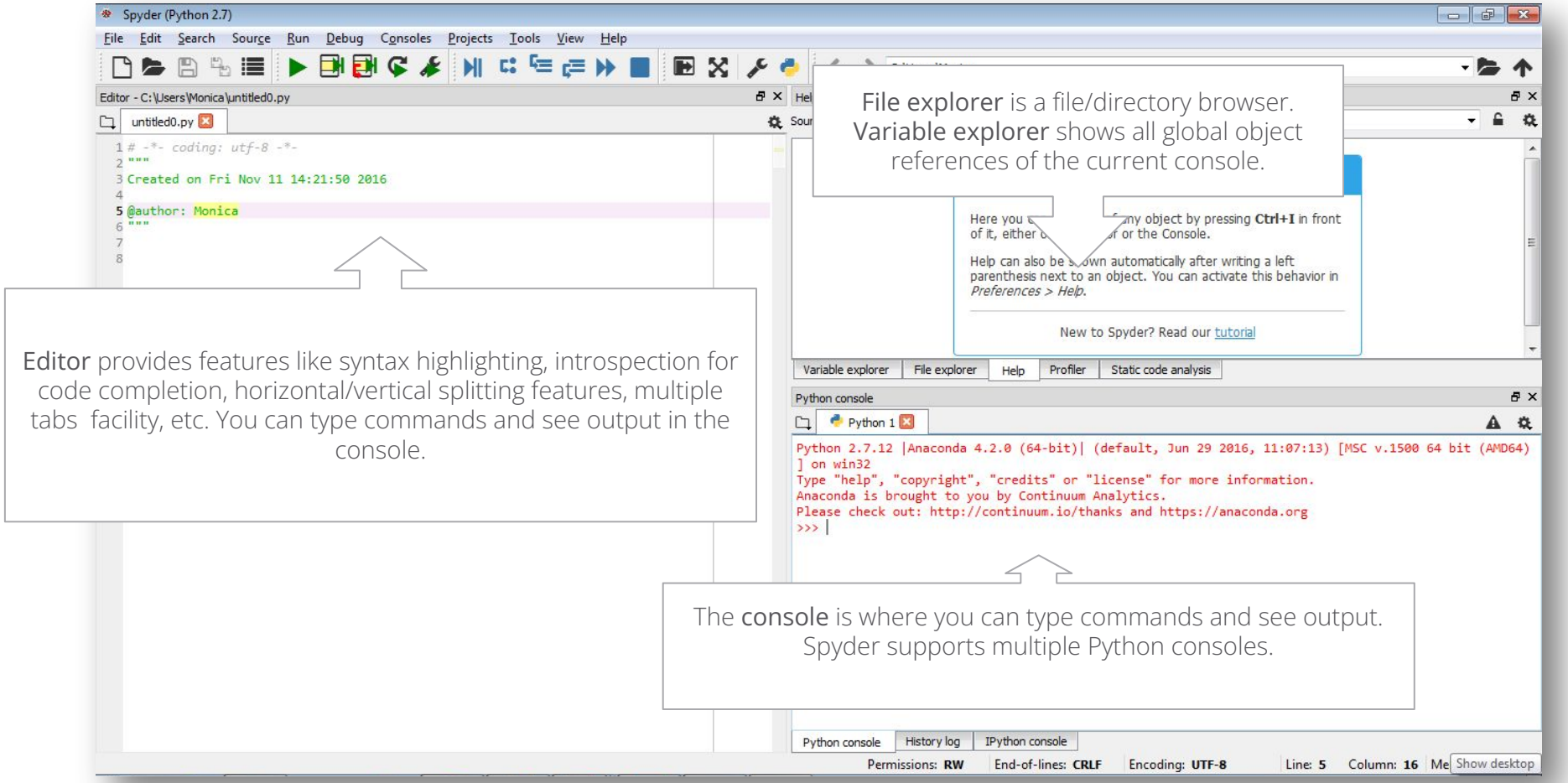


Using Spyder as an IDE

- Spyder is an interactive development environment for Python, including an editor and comes pre-installed with Anaconda.
- The name 'Spyder' is derived form "Scientific Python Development EnviRonment"
- One of its best features is its integration with Ipython – a command shell for interactive programming that is popular amongst Data-Scientists and Software Engineers alike as it improves productivity as it promotes an execute-explore workflow instead of an edit-compile-run workflow. Making it great for data exploration.
- R and MatLab users will be very comfortable using Spyder as its layout is very similar to the GUI available in these languages.

Spyder – User Interface (Simulation)

After Anaconda is installed, find 'Spyder' in your programs menu. It loads all the python libraries, so it may take a while to start up.



Using Google Colab as an IDE

Google Colab or “the Colaboratory” is a free cloud service hosted by Google to encourage Machine Learning and Artificial Intelligence research, where often the barrier to learning and success is the requirement of tremendous computational power.

Benefits of Colab

- Python 2.7 and Python 3.6 support
- Free GPU acceleration
- Pre-installed libraries: All major Python libraries like TensorFlow, Scikit-learn, Matplotlib among many others are pre-installed and ready to be imported.
- Built on top of Jupyter Notebook
- Collaboration feature (works with a team just like Google Docs): Google Colab allows developers to use and share Jupyter notebook among each other without having to download, install, or run anything other than a browser.
- Supports bash commands
- Google Colab notebooks are stored on the drive

Using Google Colab as an IDE

Getting Started

1. To start working with Colab you first need to log in to your google account,
2. Then go to this link https://colab.research.google.com.