

Introduction to Python

Course Material

Course files are available on the Texas A&M HPRC website:

https://hprc.tamu.edu/training/intro_scientific_python.html

Jupyter Notebook

We will be using the Terra portal to run **Jupyter Notebook** to view class material and run examples.

Requirements

To access the **Jupyter Notebook** application on the Terra portal, you must have an HPRC account. You will need to be on campus or connected via VPN. If you do not have an HPRC account or VPN, you can still view the notebook through google colab (instructions below).

Setup

- (1) Go to <https://portal.hprc.tamu.edu/> and click on **Terra OnDemand Portal** .
- (2) You may be asked to login to the Central Authentication Service (CAS) with your NetID and password.
- (3) On the top menu bar, click **Clusters** and then **>_terra Shell Access** .
- (4) Login using your NetID password and Duo authentication.
- (5) Enter the following commands which will create the directory **/scratch/user/NetID/python_exercise** :

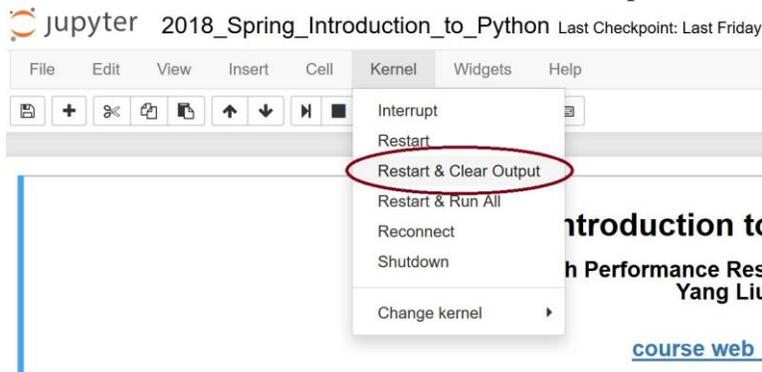
```
cd $SCRATCH
git clone https://github.com/Stuti1373/SciPy.git
cd SciPy
ls

or

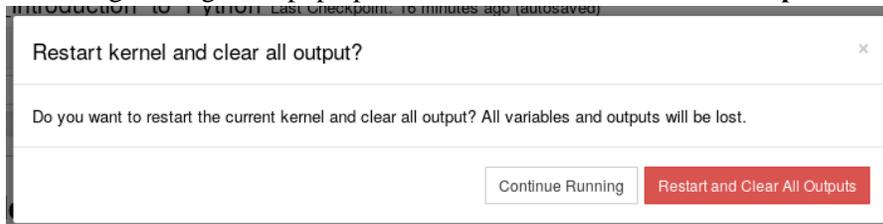
cp -r /scratch/training/SciPy/ .
```
- (6) Return back to the previous browser tab for the Terra Portal with the title "Dashboard".
- (7) On the top menu, choose **Interactive Apps** and the scroll all the way down to **Jupyter Notebook**.
- (8) This opens a dialog page. Scroll down to **Number of hours** and change the value to **3** to give you three hours to run Jupyter Notebook. Be aware that at the end of this time, your session will end, so remember to save your work before the time expires. Scroll to the bottom of the page and click **Launch** .
- (9) Once Jupyter Notebook launches, it will show you a listing of your scratch directory. Click on **SciPy** to navigate to the directory you just created with the git command above. Click on the **Scientific_Python.ipynb** file to open this notebook.

- (10) You may want to restart your kernel and clear all outputs.

To do this, click on “**Kernel -> Restart & Clear Output**”



A warning message will pop up, click “**Restart and Clear All Outputs**”



Finally, click the **save icon** on the top left-hand side to save the changes:



- (8) Once your changes have been saved, you are ready to begin the class.

IMPORTANT

The Jupyter notebook will only run for as long as the time you specified in the setup dialog. If you would like to save any changes you make to the file, please do so before the time expires or before logging out. You may also save the file to your local computer. This can be done by clicking on “**File -> Download As**” and choosing a file format.

Google Colab

- (1) Outside of the HPRC clusters, you can use Google Colab. Navigate to <https://colab.research.google.com/>.
- (2) Click on the **GitHub** tab and type **Stuti1373** in the search blank.
- (3) This should show a pulldown list of repositories. Choose **SciPy** and then click the file **Scientific_Python.ipynb**.
- (4) This will launch a Jupyter Notebook cloned from github. If you want to save the notebook as you proceed through the lecture, do so in the **File** menu.