Getting Started with Anaconda: Installation and Basics

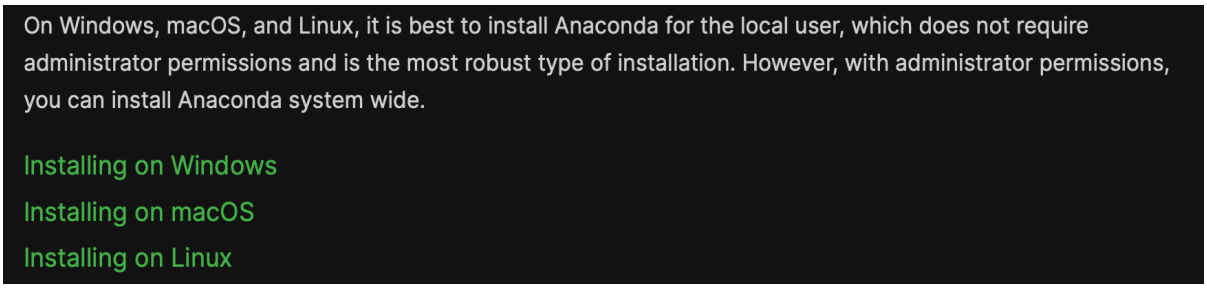
Anaconda is a powerful platform for data science and programming in Python. Anaconda installation includes python, extra python packages and Jupyter notebook.

This document will guide you through the installation and basic usage of Anaconda on various operating systems.

Section 1: Installation

1.1 Installing Anaconda:

- Download Anaconda from the official website:
  https://docs.anaconda.com/free/anaconda/install/
  Click the installation link on the website for macOS, Windows, Linux accordingly:



- Follow the installation guide for your platform on the official website. For macOS, we recommend installing using wizard, rather them command line.
- Once installed, verify the installation of the Anaconda Navigator:
  - On **Windows / Mac**, search for Anaconda Navigator in your system's applications.
  - On **Linux**, run terminal (*Ctrl* + *Shift* + *T*) and type:

    ```
    anaconda-navigator
    ```

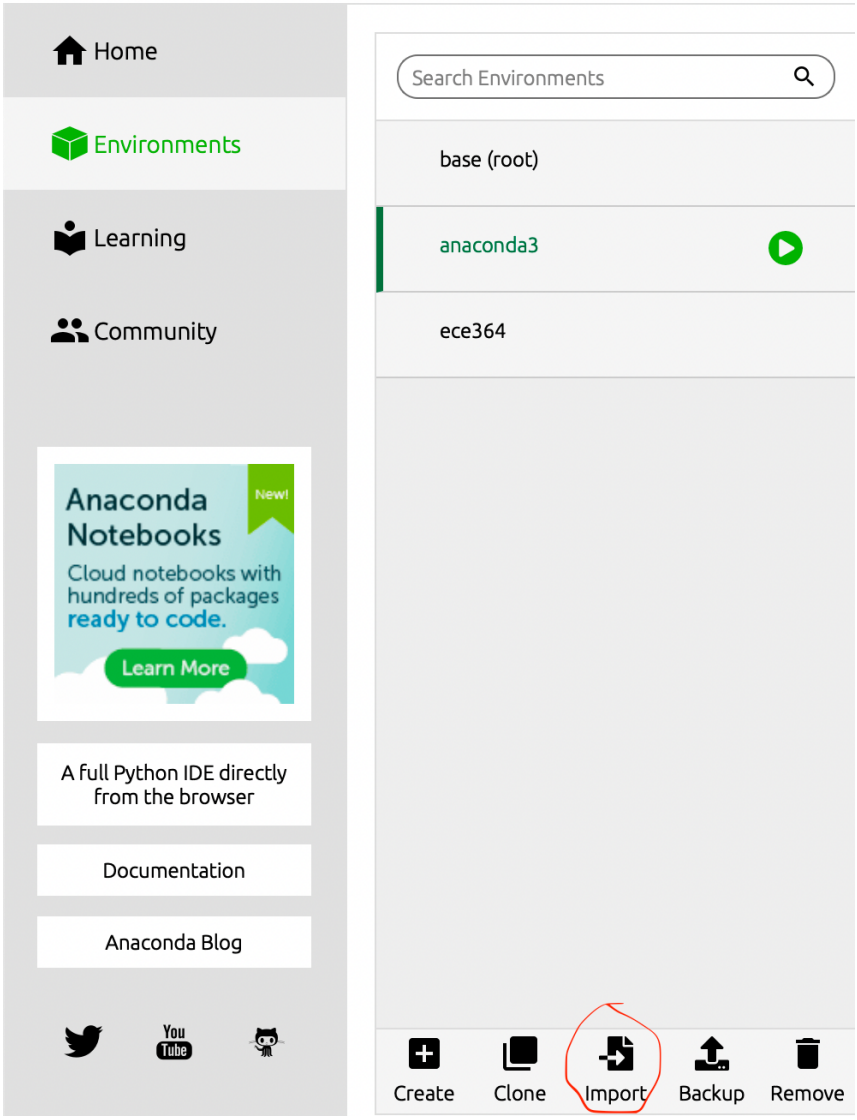
- In the home tab, find the "jupyter notebook" application and click "install".

Section 2: Using Anaconda Navigator with graphical interface.

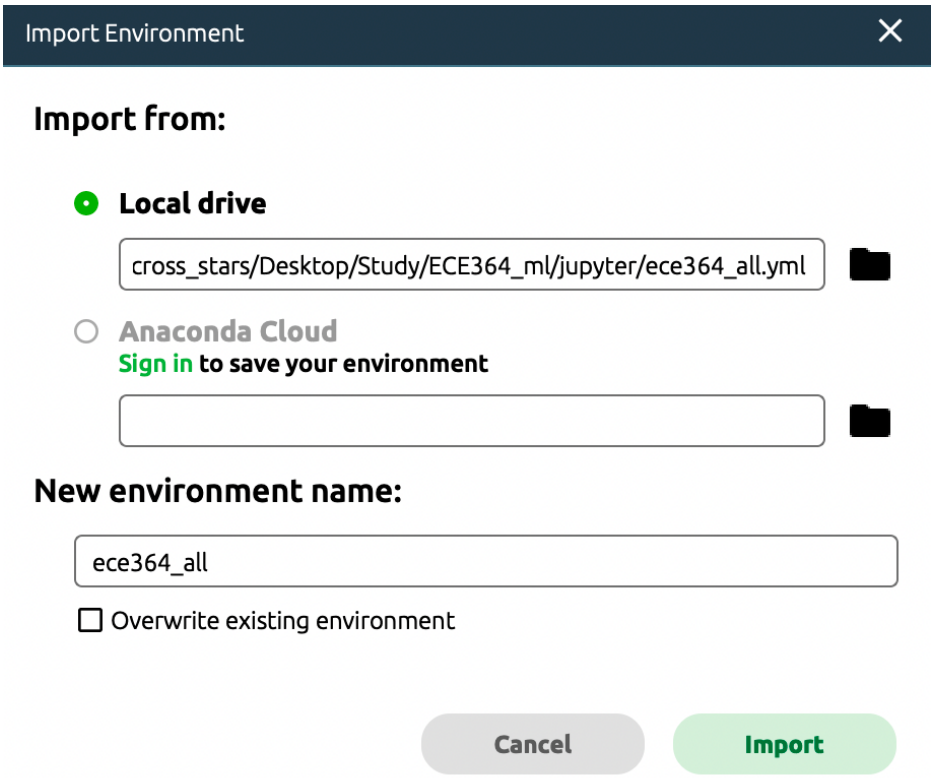
2.1 Importing environment from yml file:

- Download the yml.file

- Open Anaconda Navigator.
- Click on the "Environments" tab.
- Click the "Import" button:



- Select the path in your local drive to the environment file (.yml) and give your environment name, then click the “Import” button.



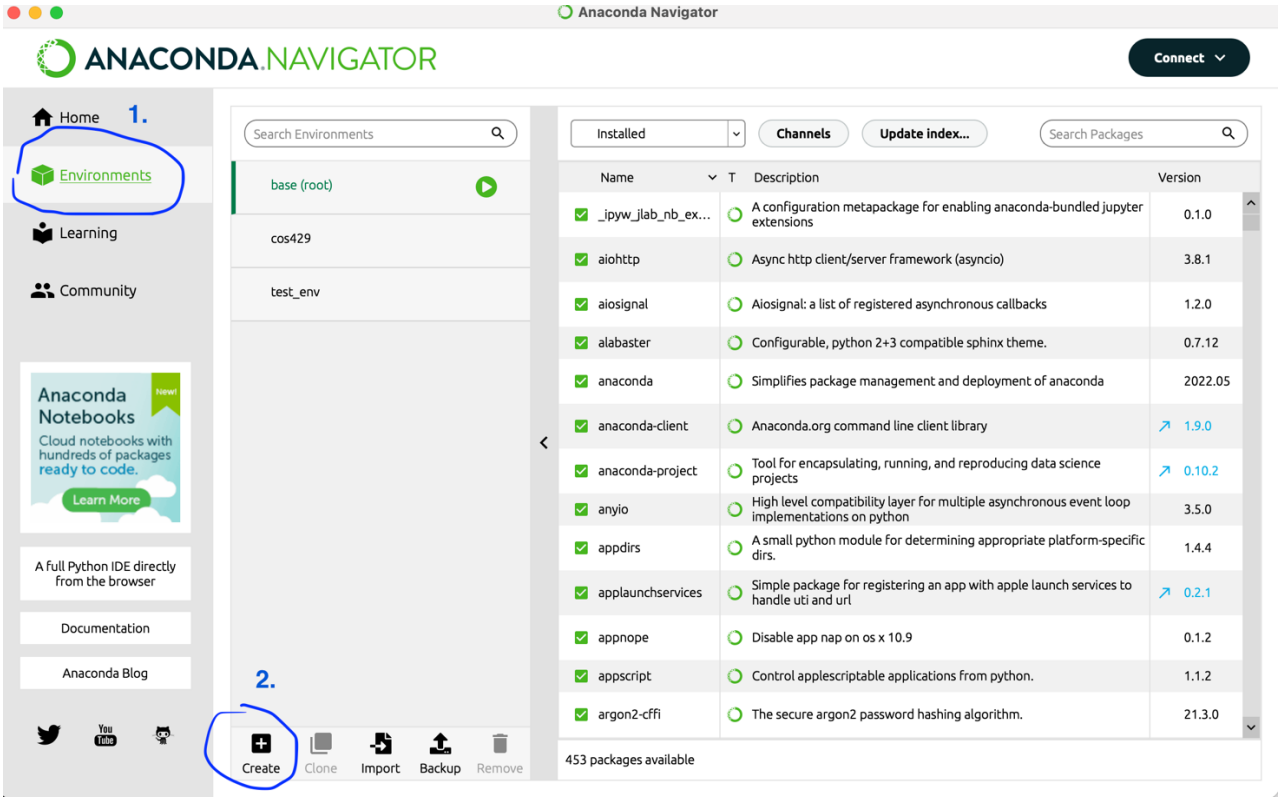
If you successfully imported the environment from yml file, you may skip the 2.2 (Creating a New Environment) and 2.3 (Installing Packages).

(You need 2.2 and 2.3 only if you want to create your environment from scratch)

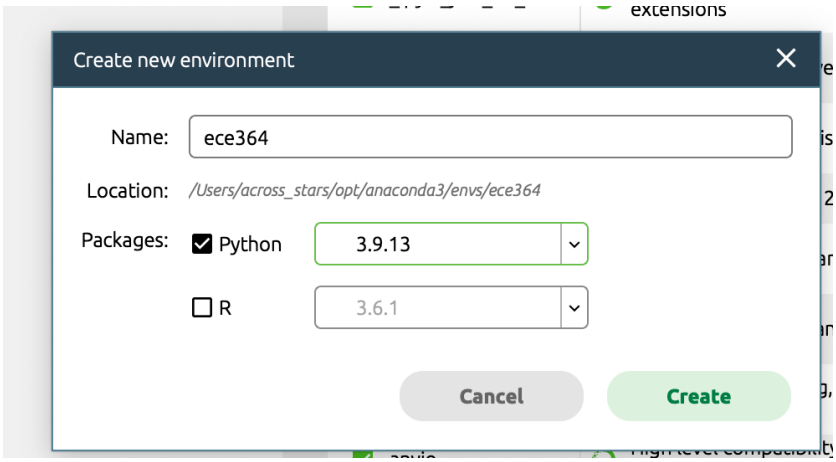
2.2 Creating a New Environment:

After launching Anaconda, by default, you are in ***base*** environment. We recommend creating a new environment for every major project to isolate different version of packages from each other. E.g., for this class, you might want to create an environment ***ece364*** and install all necessary packages there:

- Open Anaconda Navigator.
- Click on the "Environments" tab.
- Click the "Create" button to create a new environment.



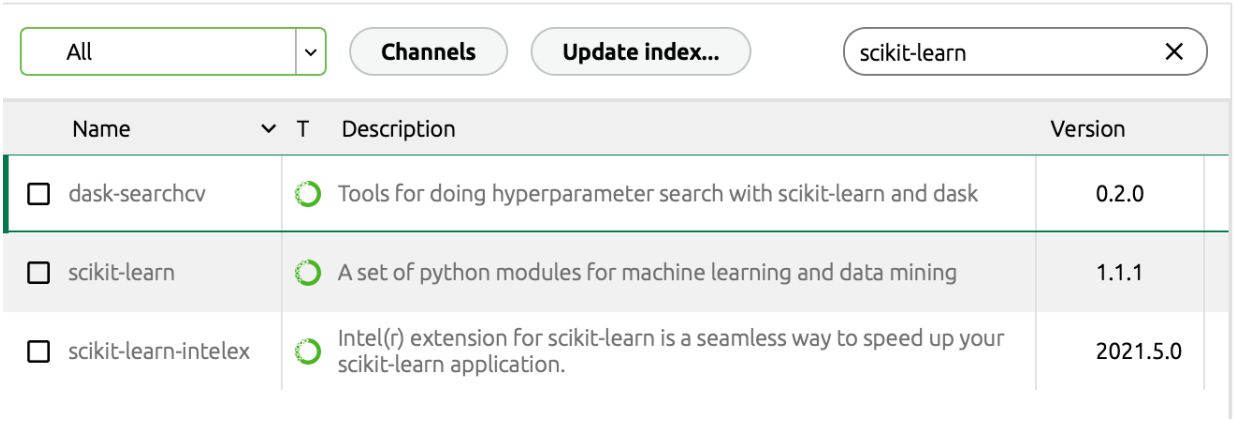
- Specify the environment name and choose the Python version.



- Click "Create" to complete the process.

2.3 Installing Packages:

- In Anaconda Navigator, select your environment.
- Choose “All” in the drop-down menu:

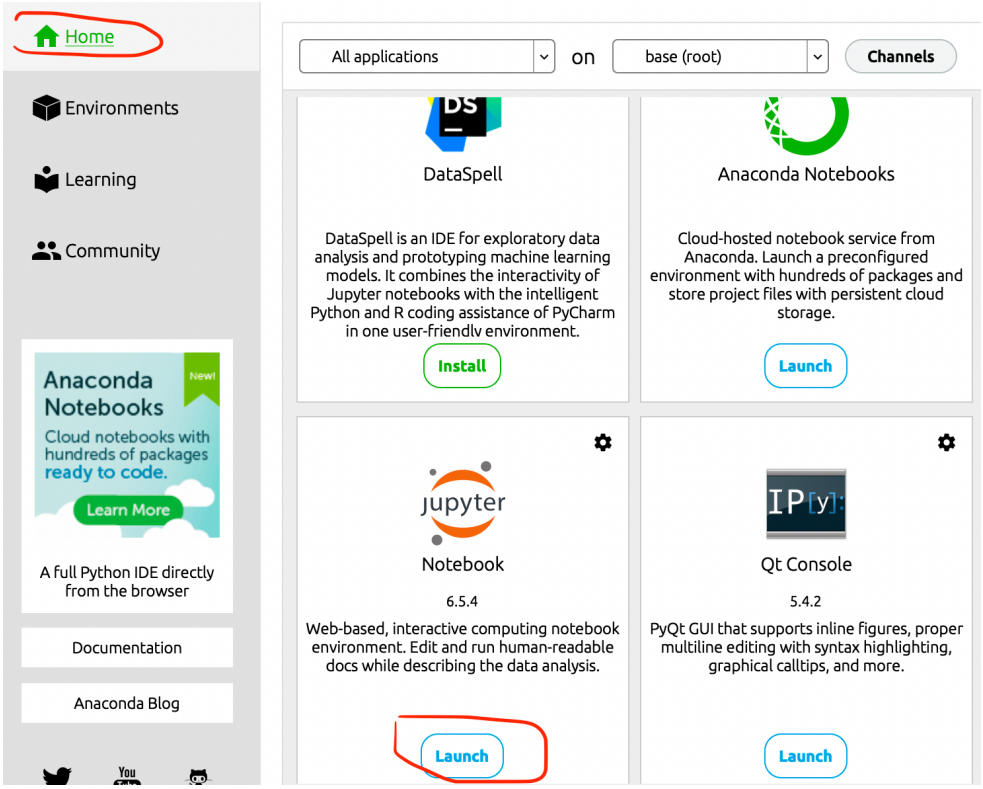


- Type the name of required package in "Packages" tab to search, next select the package you need and click “Apply”. For the first assignment, you need to add the following packages into your working environment:

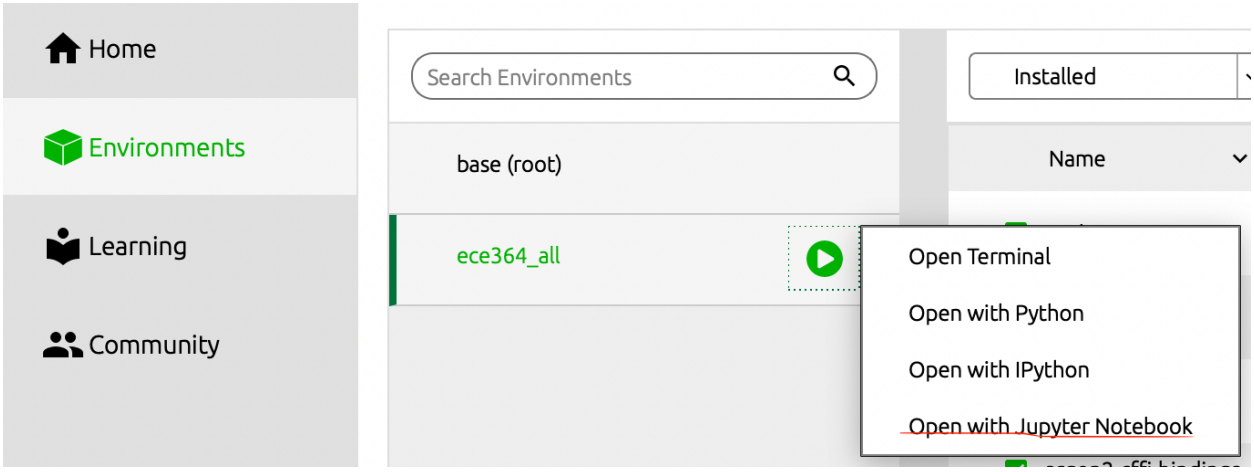
  Pandas, numpy, matplotlib, matplotlib-inline, seaborn, scikit-learn

2.4 Running Jupyter from Anaconda Navigator.

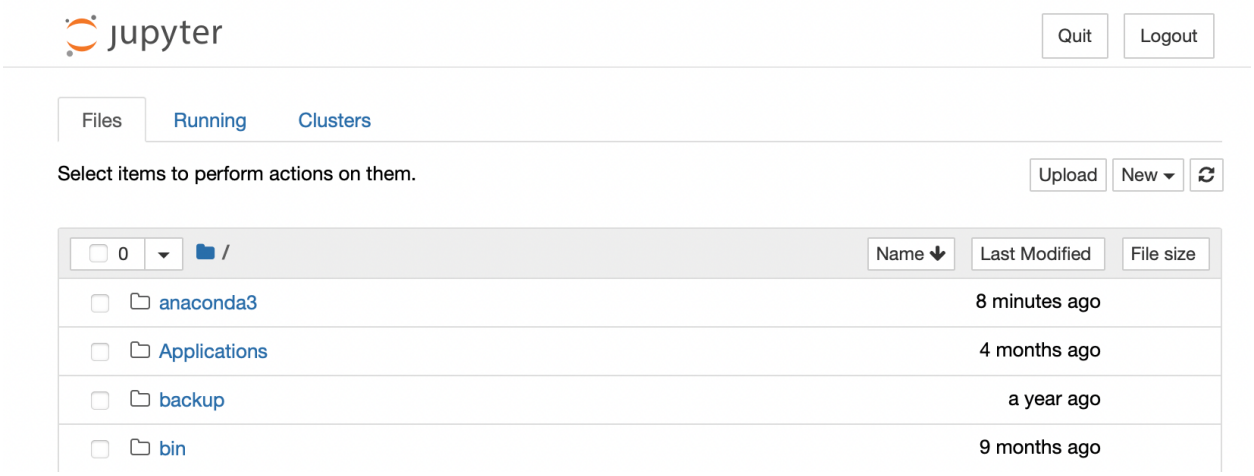
- Go to the home tab and find jupyter application. If you have “Launch” button, press it. Otherwise, press “Install” button, then launch.



- To run Jupyter, go to the environment tab, press the target environment to activate it. Then press the green “play” button and select Jupyter in the drop-down menu:



Jupyter should run in your default web-browser. Now you can navigate the folder tree:



We suggest creating a separate folder for your jupyter notebooks.

- Put the HW notebooks to the target folder. From the Jupyter interface click a notebook to run it.

2.5 Managing Environments:

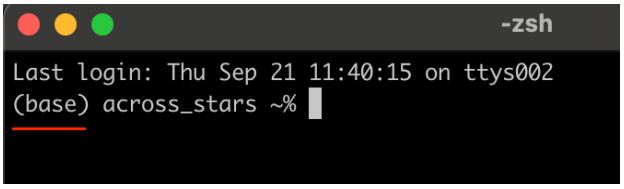
- You can activate and deactivate environments from the "Home" tab.
- Use the "Environments" tab to manage existing environments (import, remove them)

The next section is optional and intended only for those who want to work with anaconda from CLI.

Section 3 (optional): Using Anaconda Navigator in the Command Line

3.1 Activating and Deactivating Environments:

- Open a terminal. By default, you are in base environment:



- Create a new environment called `ece364`:

```
conda create --name ece364
```

- Activate the environment using the command:

```
conda activate ece364_name
```

3.2 Installing Packages to an environment via CLI (command line interface):

- Packages will be installed into your *active* environment, so don't forget to activate it first. For instllation commands, you may simply google the required package: *anaconda install <your package name>* and copy the commands from the official anaconda website. For the first assignment the commands will be:

```
conda install -c anaconda scikit-learn pandas numpy seaborn
```

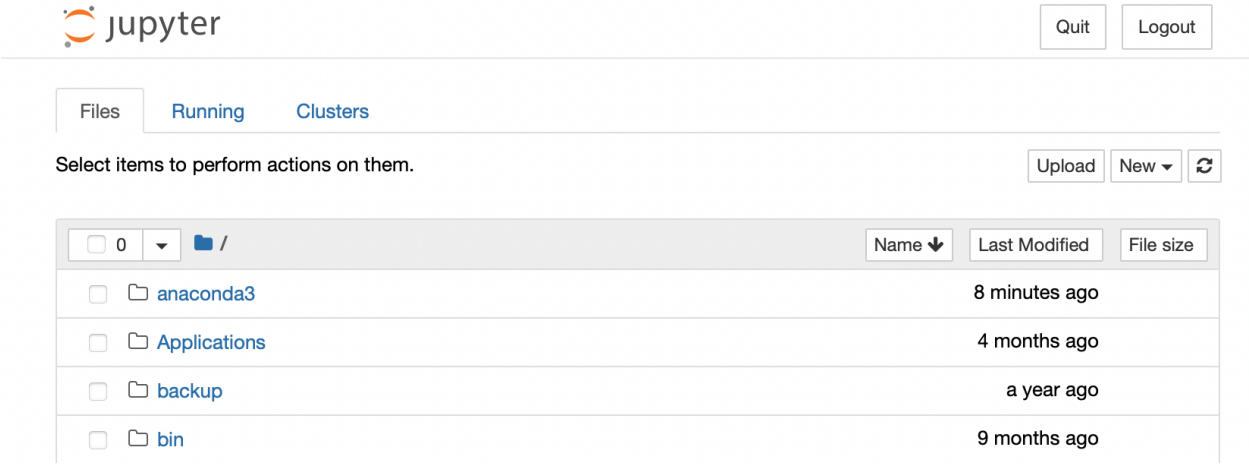
```
conda install -c conda-forge matplotlib pydotplus
```

3.3 Running Jupyter:

- Run jupyter in your active environment running the command:

```
jupyter-notebook
```

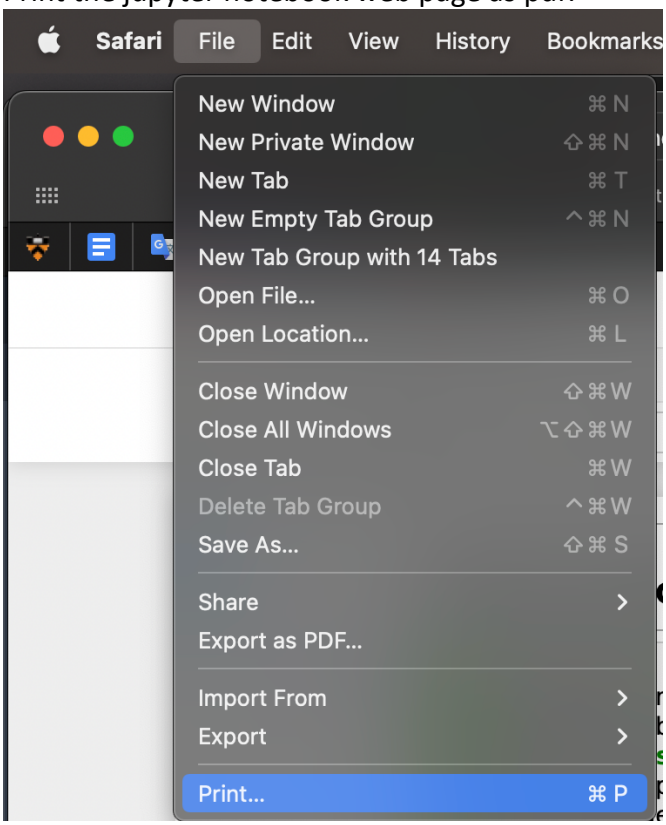
It should start in your browser. Now you can navigate the folder tree



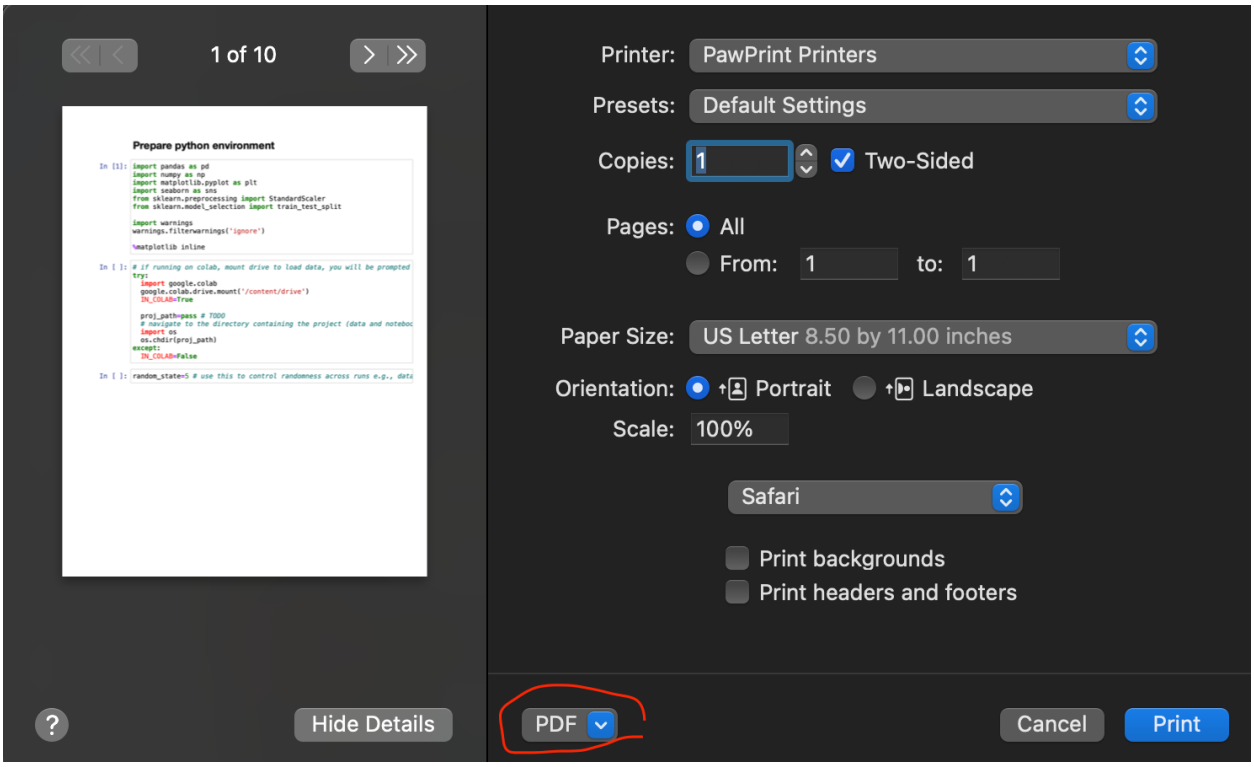
- Put the HW notebooks to the target folder. From the Jupyter interface click a notebook to run it.

Section 4: Saving solution as a pdf.

Print the jupyter notebook web page as pdf:



Choose “as pdf” in the printing options.



Please check that the result pdf before submission. You may need to decrease it (set scale <100%) if your notebook doesn’t fit the pdf document.