

## Loading Anaconda Environments

This document aims to teach students how to set up local environments with Anaconda.

The document includes sections for both Windows 10 and OSX. A preliminary section explains the structure of a case.

### Preliminary

Lessons are facilitated using **case** directories, which contain multiple, operating-system specific environment files, as well as data (e.g., images or **csv** files). From a student's perspective, the entry point of these cases is the Jupyter notebooks, marked by their **.ipynb** extension.

Basically, environment files list the set of software dependencies needed for a case's notebooks to properly run.

The following example illustrates the directory structure of a case:

```
case_3.2
  case_3.2.ipynb
  osx_env.yml
  win_env.yml
  data
    FAOSTAT_data_9-17-2019.csv
    world_map_coffee_1961-1971.png
    world_map_coffee_2007-2017.png
```

**Please note the following details about this example lesson directory:**

- The lesson includes one or more **jupyter** notebook (**\*.ipynb**) files.
- Separate environment files (denoted by the **\*.yml**) extensions are included.
  - Presently, we include two such files: **osx\_env.yml** and **win\_env.yml**.
  - These files list dependencies required to run the notebooks included in the lesson directory.

### Installing Anaconda

Please visit the anaconda download portal and install the **python 3.x** version appropriate for your operating system:

- <https://docs.anaconda.com/anaconda/install/>

### Windows

This section describes how to load an environment using the **Anaconda Navigator** tool installed with the default Windows Anaconda distribution.

To start, open the **Anaconda Navigator** application from the Windows Start Menu.

Load the `win_env.yml` included in case directory into **Anaconda Navigator**. Please use the **Import** button to initiate loading. If an environment exists sharing the target case name, delete that environment. The **Specification File** corresponds to the field of the `win_env.yml` file you created. Press the **Import** button once the **Name** and **Specification File** fields are populated with the appropriate values. The **Name** field should auto-populate after loading the environment file.

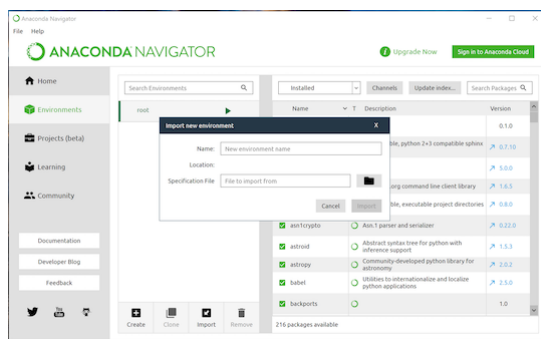


Figure 1: Environment Creation

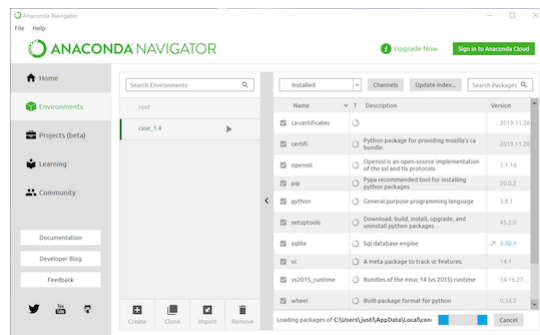


Figure 2: Package Loading

Navigate to **Home** on the left-hand menu and locate the **Jupyter Notebook** tile on the main pane. If the application is not installed, press the **Install** button on the **Jupyter Notebook** tile. Select the environment corresponding to the environment/case from the drop down (“Applications on environment”). To launch the notebook with the environment, press the **Launch** button on the **Jupyter Notebook** tile.

With a **Jupyter** session open in the browser launched in the previous step, navigate to the directory containing the appropriate case.

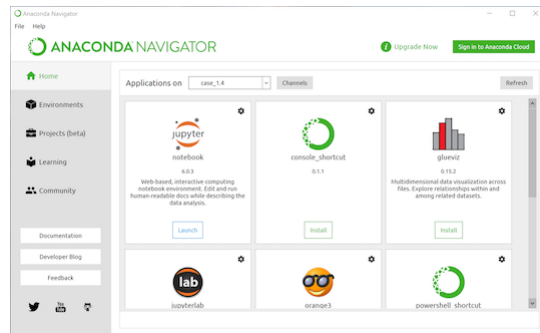


Figure 3: Launch Jupyter

## OSX

This section describes how to load Anaconda environments on **OSX** using the terminal.

Please open a terminal window from the **Applications/Utilitites** directory.

Next, please check that anaconda is properly installed by issuing the following command:

```
conda -V
```

If the shell echoes “coda” followed by a version (e.g., “4.7.12”), then your installation succeeded.

Configure **conda** to work with **pip** to manage external dependencies. Run the following command:

```
conda config --set pip_interop_enabled True
```

Using the terminal, navigate to the directory on your local machine where the case directory distributed by your instructor is stored:

```
cd <path-to-case-directory>
```

From the context of this directory, load the dependencies associated with the current lesson:

```
conda env update --file osx_env.yml
```

Please note that the loading of the environment takes a few minutes sometimes.

Activate the environment using the command printed to the console:

```
conda activate <case-name>
```

Finally, launch a jupyter notebook.

```
jupyter notebook
```