Installing Anaconda and Packages

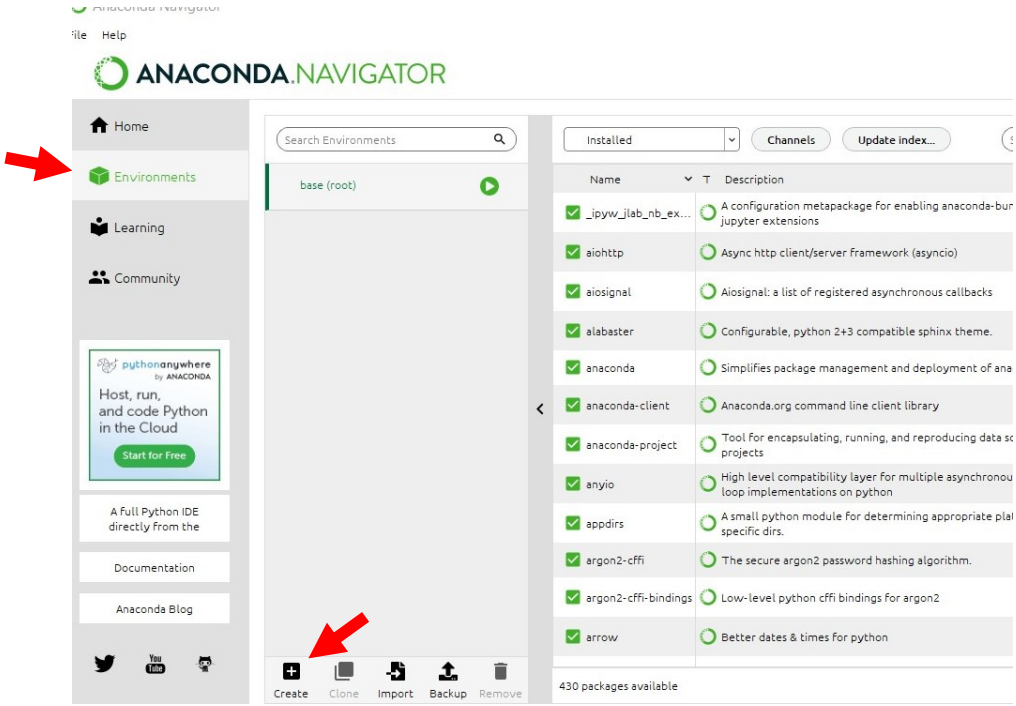
We will work with Anaconda, a python distribution that already have installed many packages for machine learning and data science. Anaconda also have a very convenient editor called Spyder which allows you to edit your code, run the whole code or interactively (line by line). Spyder also has viewers for the data, displaying graphs, etc. You can get a quick idea of how you would be using spyder in this article

It is important that you have Anaconda and Spyder working in your laptop before we start the course so you can execute the examples in your own laptop. If you have issues, please send me an email and I will try to help.

Instructions to install Anaconda and necessary packages

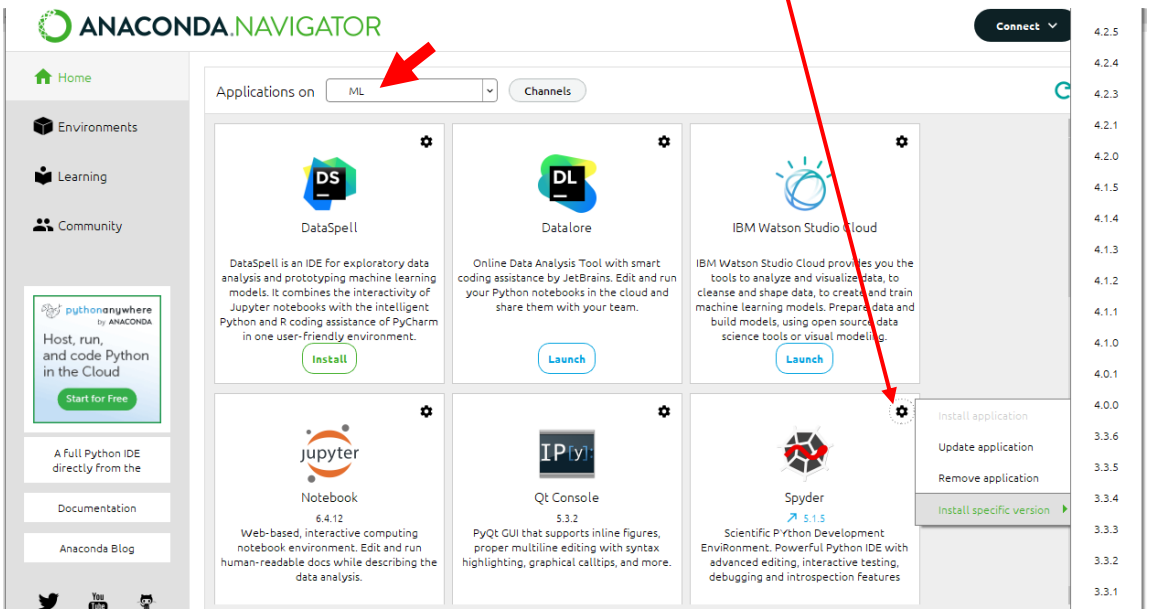
I will work in a windows platform. Using mac is similar but may require some tweaks. It is recommended to follow the same order described below:

1. **Install Anaconda** (last version) from https://www.anaconda.com/
2. **Open Anaconda navigator:** Be patient as it is slow many times. It may offer you to update it, do it in that case.
3. **Create a new environment in Anaconda:** Go to the tab *"Environments"* and click on *"Create"*. Add a name to the environment (e.g. ML). You can pick the python version but the default one should be the correct one (must be some python 3.9 version). Although creating a new environment is an optional step, it usually saves you from future issues such as incompatibilities, system permissions or dealing with new versions of python

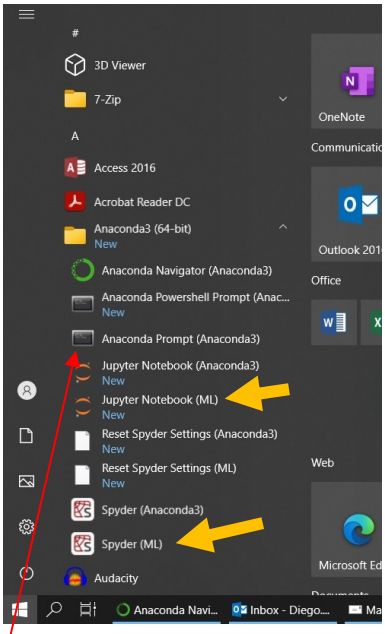


4. Go back to Home tab, select the environment you created (instead of base (root)) and install: **Spyder 5.1.5** and **Jupyter Notebook**.
   Important: when you create a new environment, by default, the navigator offers you to install the version 5.2.2 of Spyder but that version has many compatibility problems. So, don't click on the

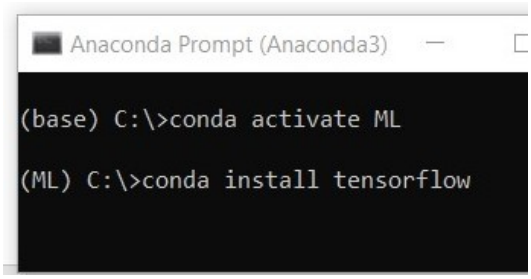
button install. Instead, you have to click on the small gear icon, select to install a “specific version” and click on the version **5.1.5**.



5. Now if you go to the Anaconda folder in the menu, you’ll see two Spyder and two Jupyter icons. This is because you’ll have one for the “base” environment and one for the environment that you have just created (see screenshot below)



6. **Install a number of packages** that we will use in the course (maybe I add more to the list):
    a. Open an **Anaconda Prompt** and change to the environment you created by typing `conda activate ML`. The prompt will change from “base” to ML (or the name you picked).



b. Install **tensorflow** by typing `conda install tensorflow` (after some checks, it will ask you to confirm with y/n + return)
c. Similarly, install **keras** by typing `conda install keras`
d. Do the same for the following packages:

```
conda install matplotlib
conda install graphviz
conda install spacy
conda install pydot
```

Note: Alternatively, you can install the packages from the *Anaconda Navigator* → *Environments* tab → change "Installed" to "Not installed", search for the packages in the list, select them and click on "Apply".

Checking that the installation is working

Once you have completed all the steps above, open Spyder (the one corresponding to the environment you created) and try executing the following commands in the console:

```
import tensorflow
import keras
import numpy
import matplotlib
import spacy
import pandas
```

If you get no errors, then your installation should be ready.