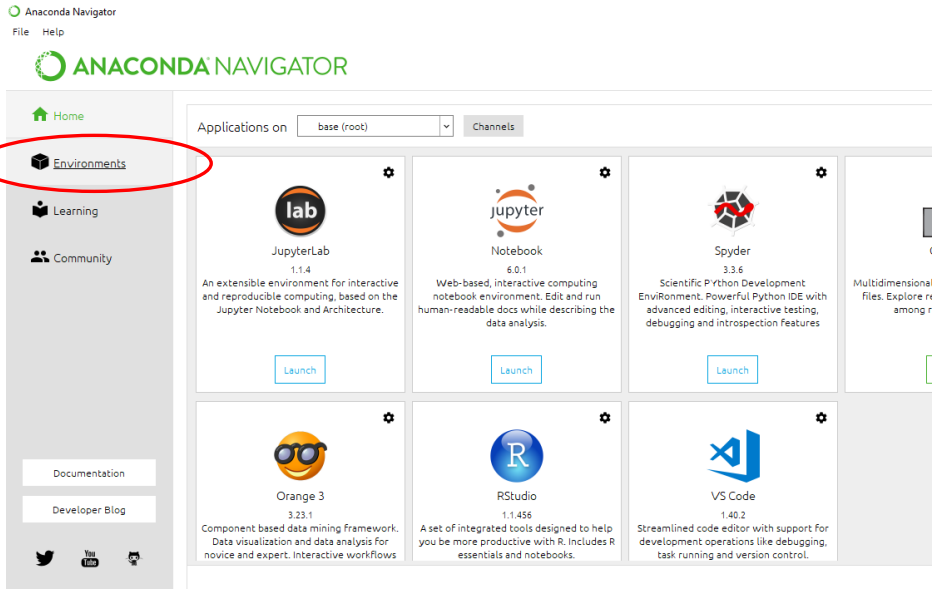
Installation manual for SHIPcal (Windows)

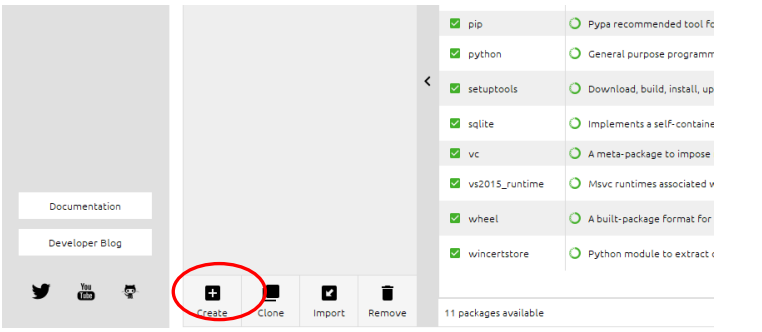
SHIPcal is written in python. If you do not have python installed in your computer you need to install it in order to run the simulator.

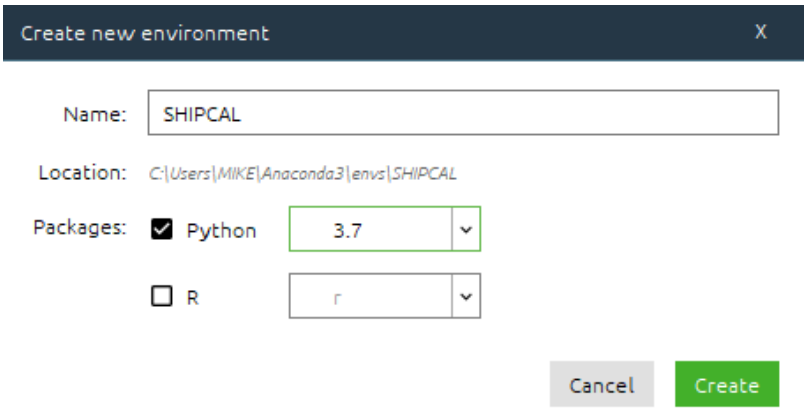
Step1) If you are not an advanced python user it is recommended to install python using Anaconda. Anaconda Distribution is one of the easiest way to use Python in Windows. In order to download and install anaconda please follow the following link (https://www.anaconda.com/distribution/)

Step2) After installing Anaconda open the Anaconda Explorer and open Environments



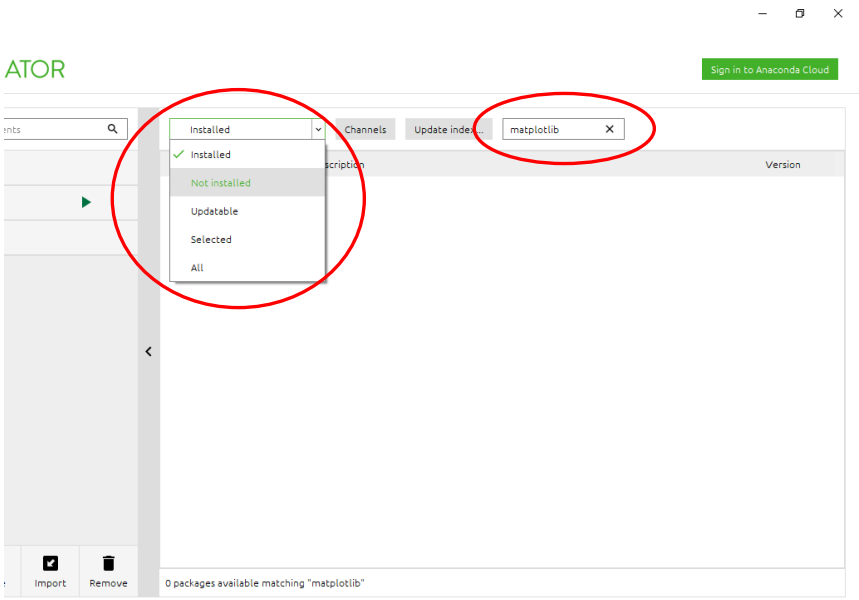
Step 3) Create a new environment and call it SHIPcal



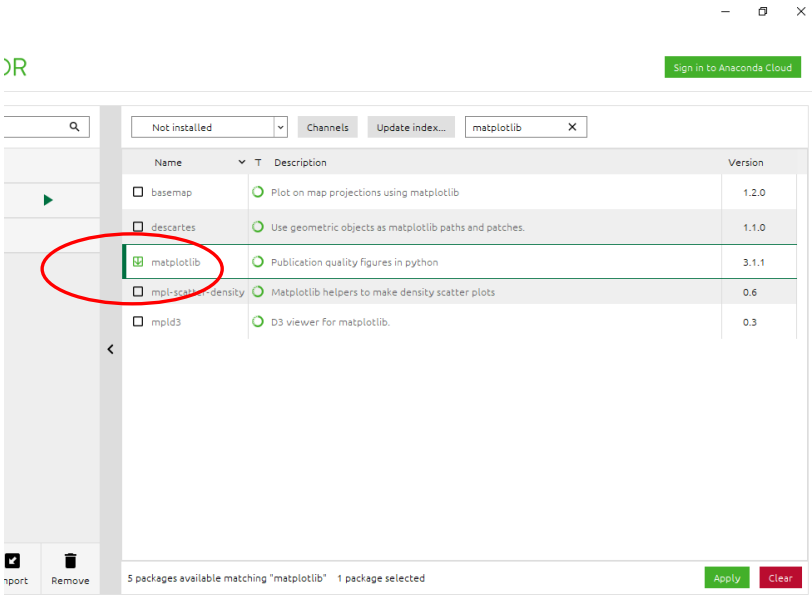


Step 4) Now you have to install the libraries needed for SHIPcal. Select **Not installed** and in the search tool write the following libraries:

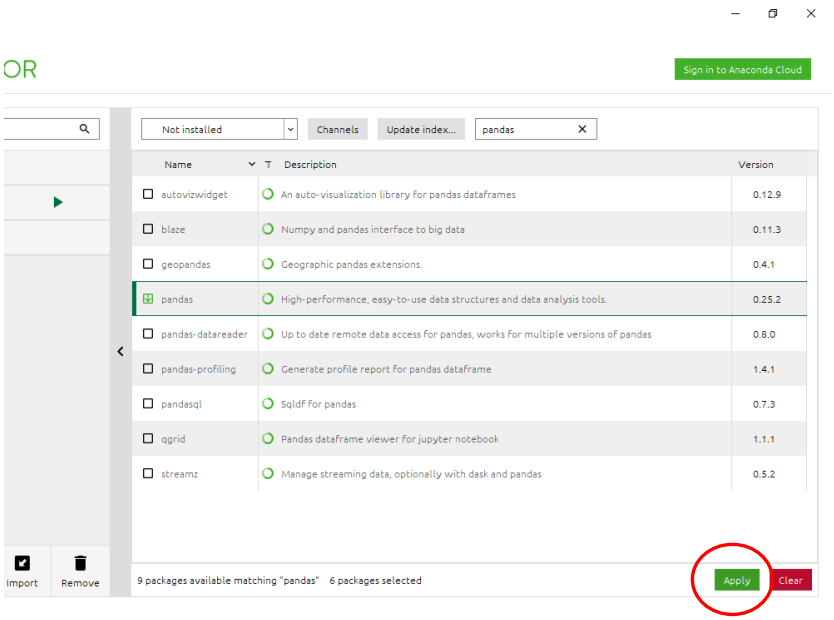
- Django (needed for connecting SHIPcal python code with the browser)
- Numpy (needed for performing mathematical calculations)
- Scipy (needed for performing mathematical calculations)
- Pandas (needed for managing data in SHIPcal)
- Pillow (needed for plotting)
- Matplotlib (needed for plotting)



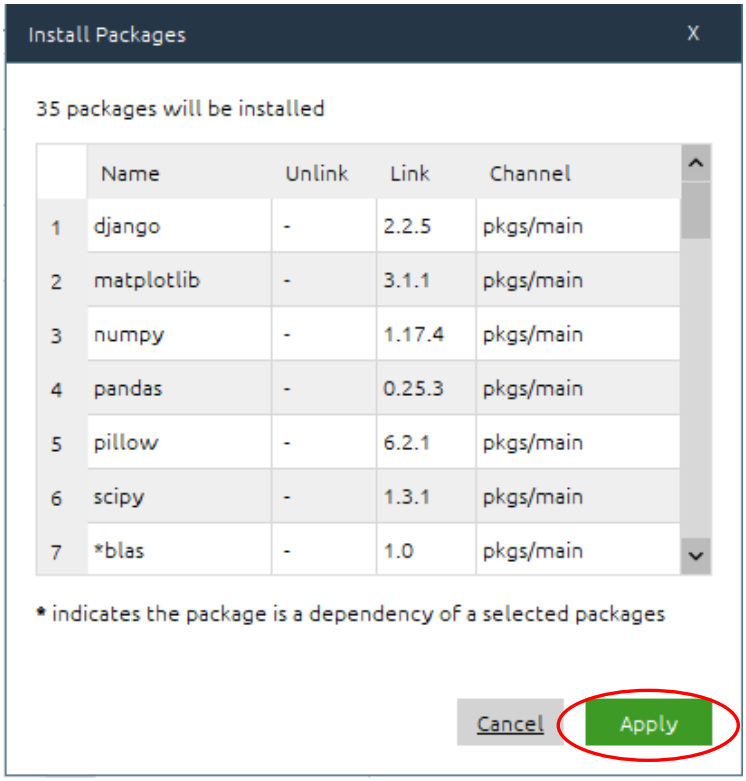
In every library you need to tick the checkbox to tell Anaconda to install the library



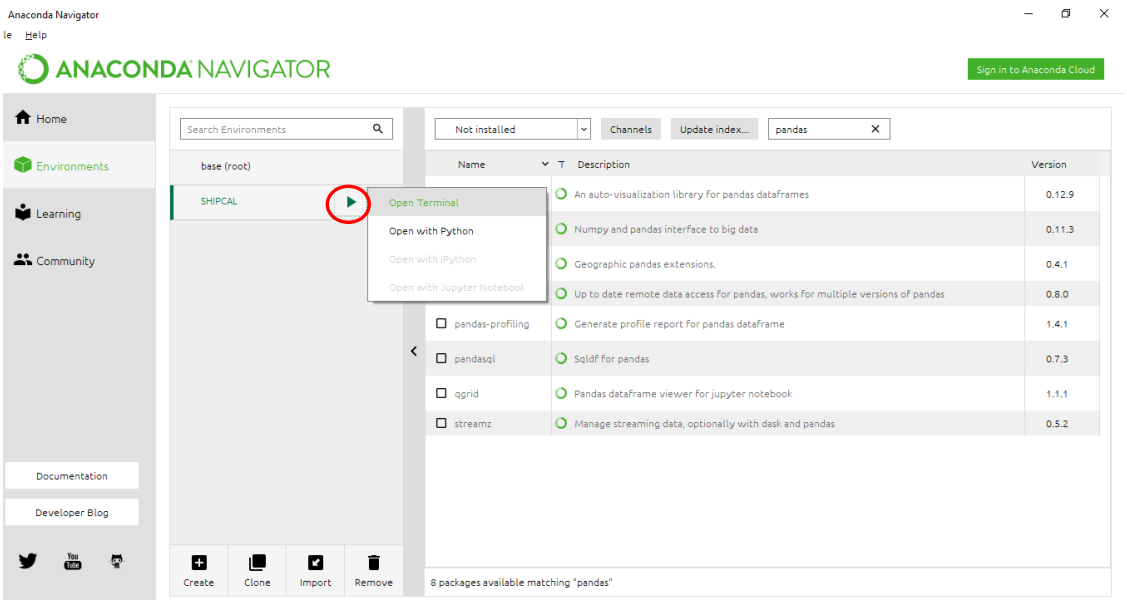
Once the six of them are selected press apply to allow the installation of the libraries start



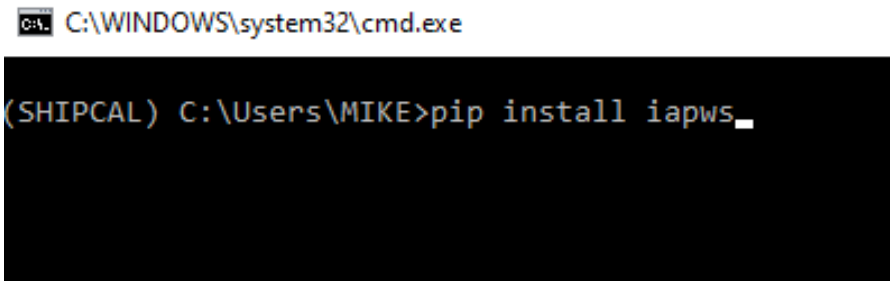
Anaconda will show the current version of the libraries and ask again to Apply. Apply and to start the installation



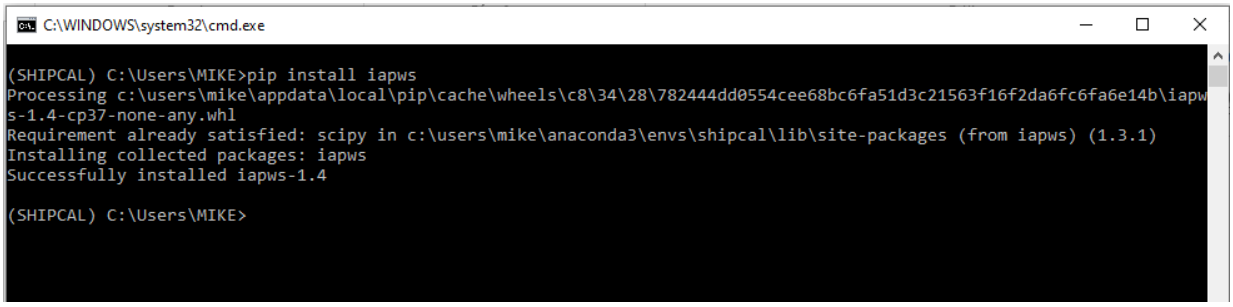
Step 5) After the installation go to environment and press the “play button” to access the environment SHIPcal, and select OPEN TERMINAL



Step 6) Once in the terminal you need to install one library more IAPWS (International Association of Properties for Water and Steam), this library is needed to access thermodynamic properties of water and steam. This library is not contained in Anaconda and you need to install it through PIP INSTALL typing the following: *pip install iapws*



Once the library is installed you should see a message like this:

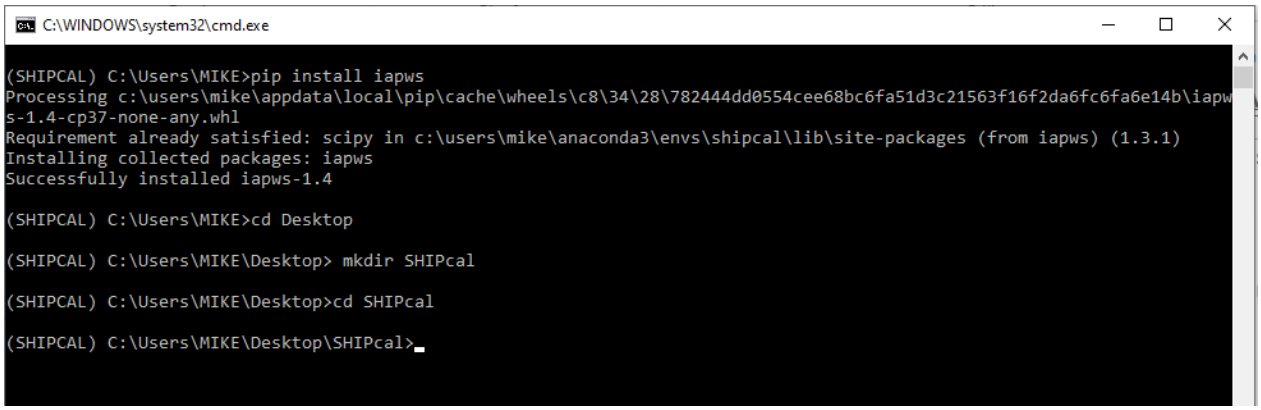


Step 7) Now it is necessary to create a directory to place SHIPcal. In this example the directory is created in the Desktop and it is called SHIPCal. To do so type:

cd Desktop

mkdir SHIPcal

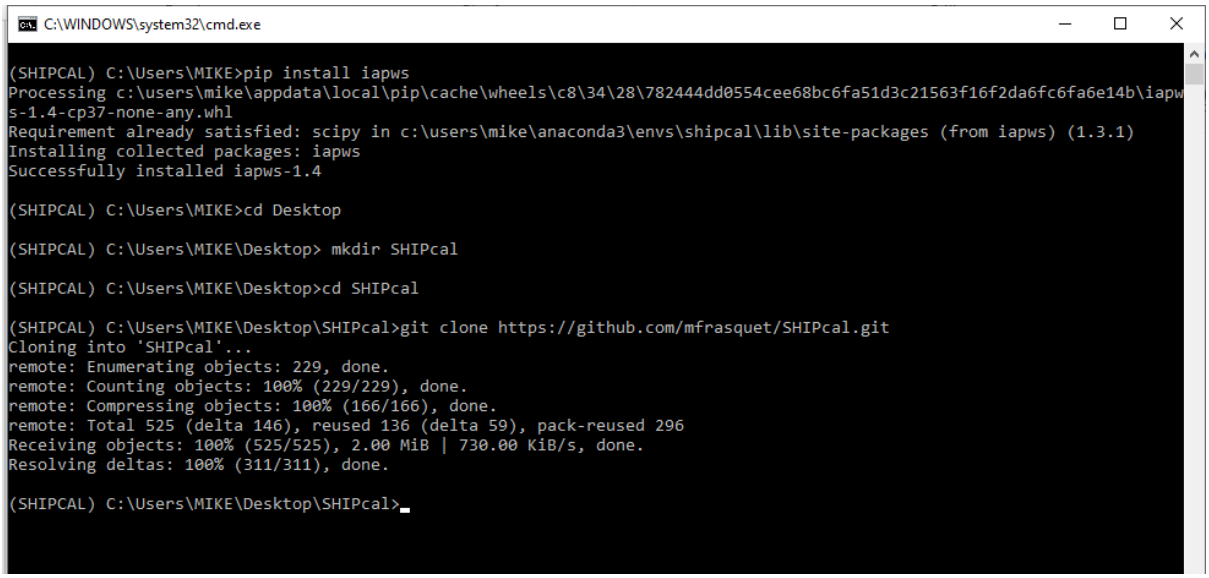
cd SHIPcal



Step 8) Once in the target directory we will clone the SHIPcal repository using the following line:

git clone https://github.com/mfrasquet/SHIPcal.git

If successful you should see something like this



Step 9) Now we will clone the repository containing the frontend using the line:

git clone https://github.com/mfrasquet/SHIPcal_frontend.git

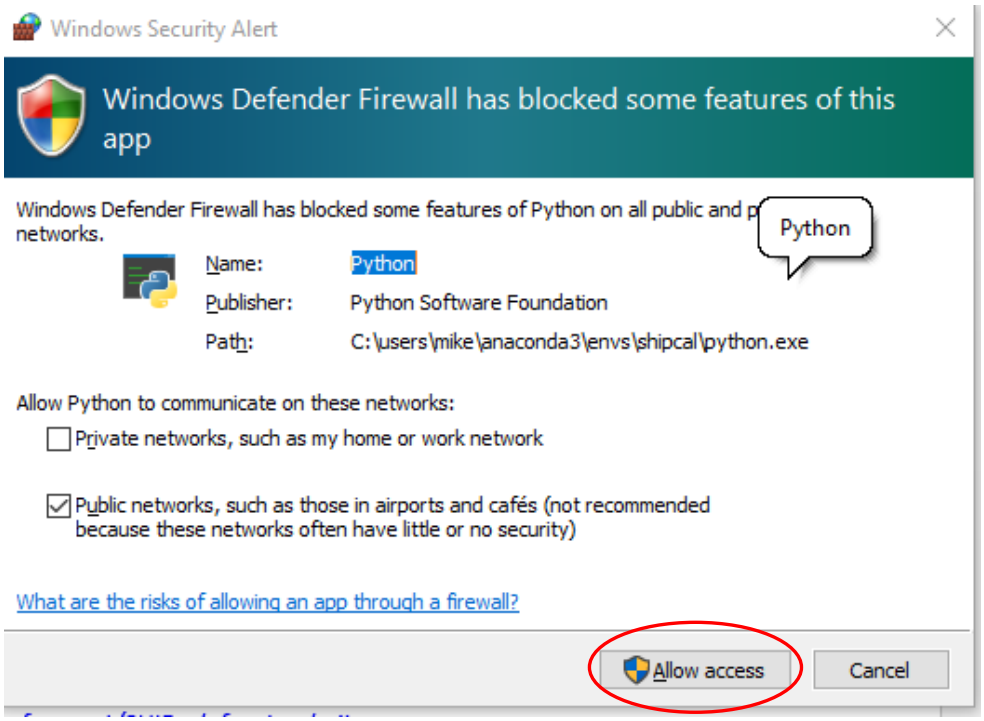
Step 10) Now we move to the directory containing the frontend

cd SHIPcal_frontend

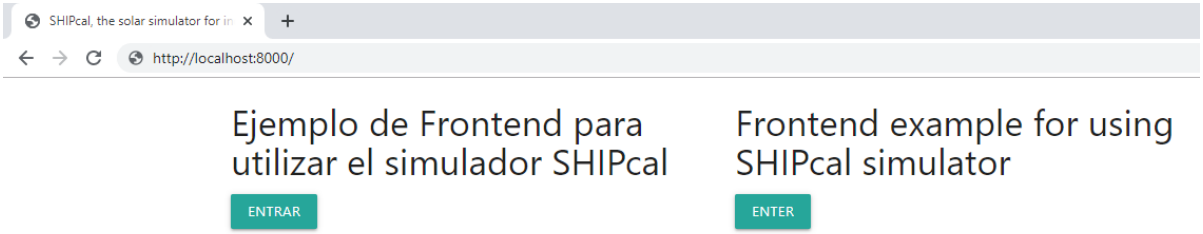
and we run the django server with the following line:

python manage.py runserver 0.0.0.0:8000

This will invoke SHIPcal applicaton in your browser. You will need to allow python to access your browser



Step 11) Now go to your internet browser and type the following url: http://localhost:8000/



Select your language and press ENTER. Your browser is fully connected with your local version of SHIPcal

If you want to stop SHIPcal go back to the terminal and press CTRL+C

To open again SHIPcal

Step 1) Open Anaconda Explorer

Step 2) Go to SHIPcal environment and access to the terminal like in the Step 5 of the installation manual

Step 3) Access the directory where you placed the frontend and run the django server like in the step 10 of the installation manual

Step 4) Got to your browser and type the url: http://localhost:8000/