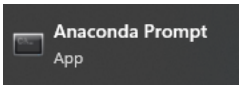
Software Installations and some tips

Contents

Install Anaconda

1. Download the Anaconda installer (https://www.anaconda.com/)
   - Select the Windows version.
2. Go to your Downloads folder and double-click the installer to launch.
3. Click Next.
4. Agree with the terms.
5. Install just for you.
6. Click Next again.
7. Continue with the selected options (Figure 1) and click Install.
8. Proceed until the end (clicking on Next or Finish).
9. Open Anaconda and test if you have everything:
   1. Click on your Windows start button, search for Anaconda prompt and open it.



   2. When opened type `conda info` and you should get something like:

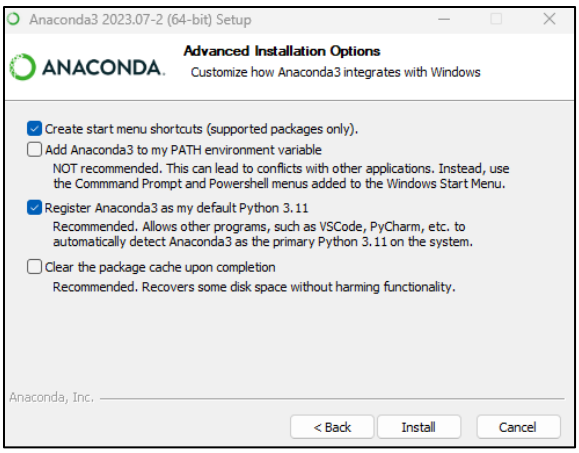


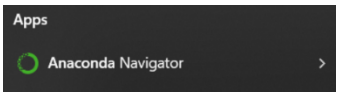
Figure 1. Selected options for step 7

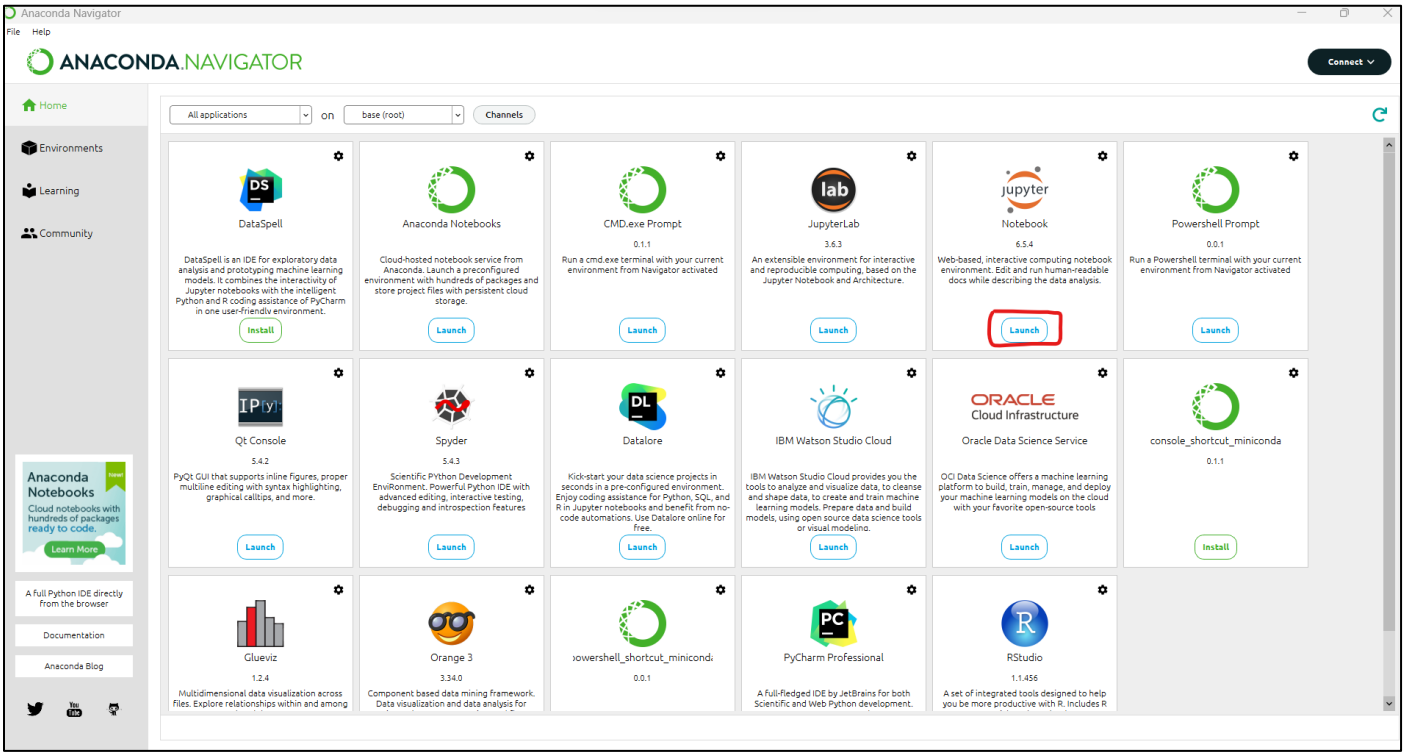
```
(base) C:\Users\CatarinaLeote>conda info

     active environment : base
    active env location : C:\Users\CatarinaLeote\anaconda3
            shell level : 1
       user config file : C:\Users\CatarinaLeote\.condarc
 populated config files : C:\Users\CatarinaLeote\.condarc
          conda version : 23.7.2
    conda-build version : 3.26.0
         python version : 3.11.4.final.0
       virtual packages : __archspec=1=x86_64
                          __win=0=0
      base environment : C:\Users\CatarinaLeote\anaconda3  (writable)
     conda av data dir : C:\Users\CatarinaLeote\anaconda3\etc\conda
 conda av metadata url : None
          channel URLs : https://repo.anaconda.com/pkgs/main/win-64
                         https://repo.anaconda.com/pkgs/main/noarch
                         https://repo.anaconda.com/pkgs/r/win-64
                         https://repo.anaconda.com/pkgs/r/noarch
                         https://repo.anaconda.com/pkgs/msys2/win-64
                         https://repo.anaconda.com/pkgs/msys2/noarch
         package cache : C:\Users\CatarinaLeote\anaconda3\pkgs
                         C:\Users\CatarinaLeote\.conda\pkgs
                         C:\Users\CatarinaLeote\AppData\Local\conda\conda\pkgs
      envs directories : C:\Users\CatarinaLeote\anaconda3\envs
                         C:\Users\CatarinaLeote\.conda\envs
                         C:\Users\CatarinaLeote\AppData\Local\conda\conda\envs
              platform : win-64
            user-agent : conda/23.7.2 requests/2.31.0 CPython/3.11.4 Windows/10 Windows/10.0.22621
         administrator : False
            netrc file : None
          offline mode : False
```

10. Now you can use your Anaconda installation wherever you want.

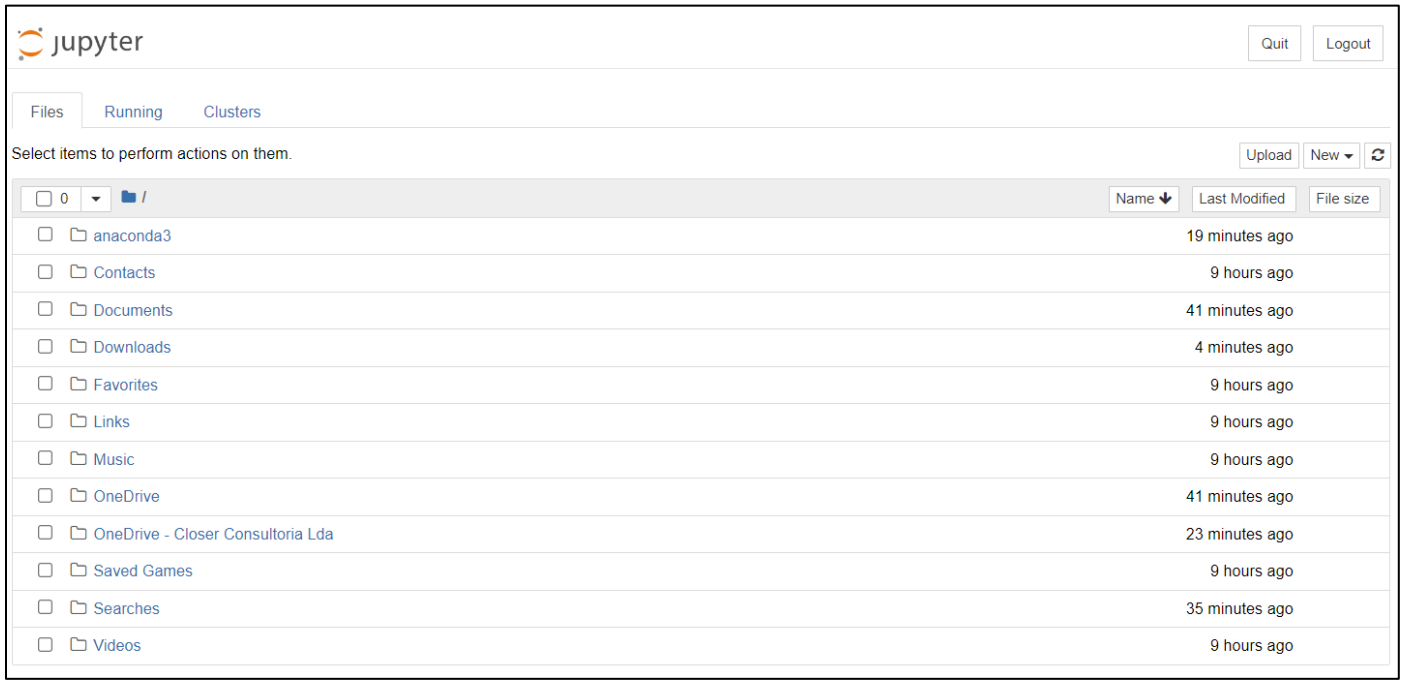
    1. Try for example to open the Anaconda Navigator on your Windows start button.



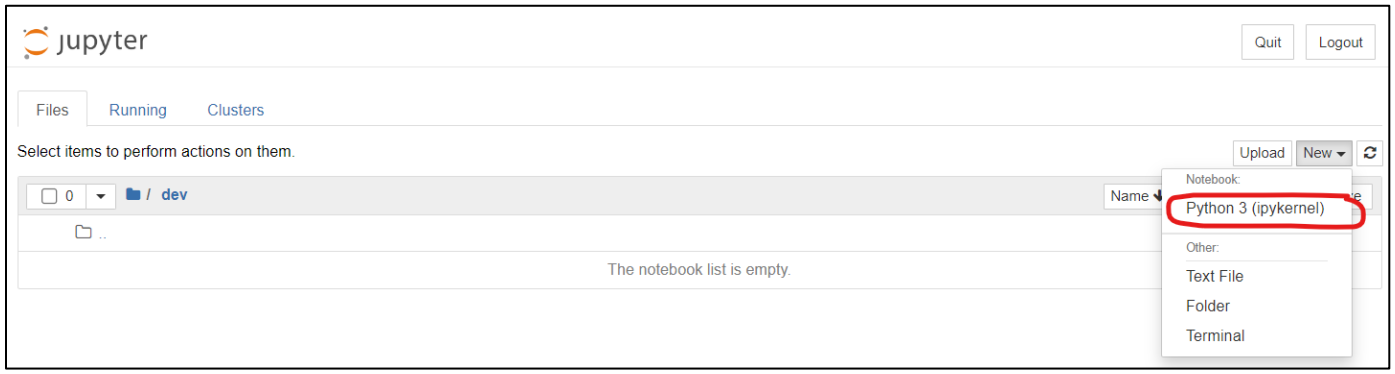


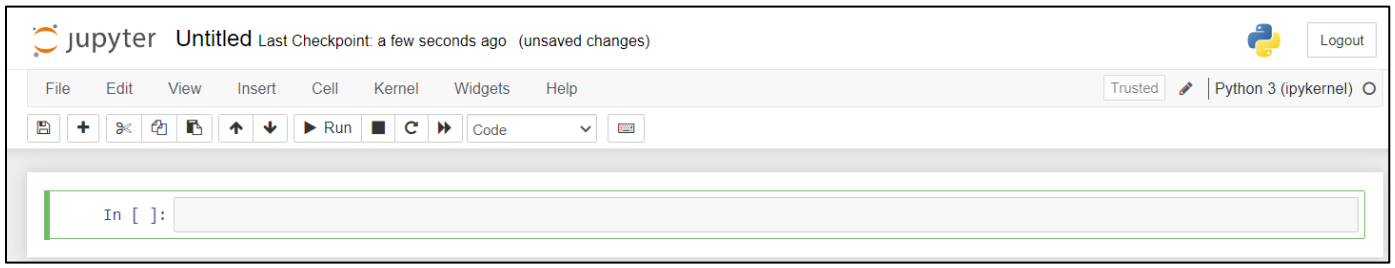
    2. And you can open the Jupyter Notebook tool (marked in red).

That will open this page (in an internet browser):



3. Where you can choose a specific location and create a new Jupyter notebook for your developments:





[Optional] – Create an Environment

1. Once you have Anaconda installed, you can create an environment. Anaconda environments are isolated workspaces that allow you to manage and isolate different sets of Python libraries and packages. This helps prevent conflicts between packages and ensures that your projects are using the specific versions of libraries they need.
2. Start by opening again the Anaconda Prompt.
3. To create a new environment, you need to type `conda create --name <nome_do_ambiente>` where <env_name> is the name you have chosen for your environment, for example "env_test".
   You will get something like this:

```
Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate env_test
#
# To deactivate an active environment, use
#
#     $ conda deactivate
```

4. You now have your environment (the same as the base version of Anaconda) and can start your developments. As the previous instructions say, you just have to activate it by typing `conda activate <nome_do_ambiente>`, in this case env_test.
5. You can always list all your environments typing `conda env list`:

```
(base) C:\Users\CatarinaLeote>conda env list
# conda environments:
#
base                  *  C:\Users\CatarinaLeote\anaconda3
env_test                 C:\Users\CatarinaLeote\anaconda3\envs\env_test
```

6. As explained in the first step, environments help you to ensure that your projects are using the specific versions of the libraries they need. Imagine you want to share your project with a colleague, and you send him your code (just a python script, for example). For him to run it correctly, you have to send him your environment, which will ensure that both are in the exactly the same state. How can you do this?
   - You can type `conda env export --from-history > environment.yml` (you have to have your environment activated for this) and this will create an .yml file with all the packages in your environment. Like this:

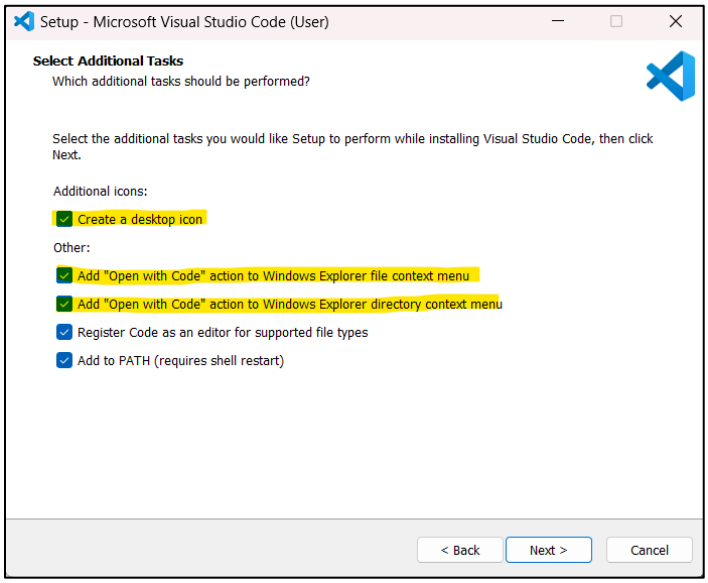
environment.yml

```yaml
name: base
channels:
  - defaults
dependencies:
  - _anaconda_depends
  - python=3.11
  - setuptools
  - pip
  - wheel
  - anaconda-catalogs
  - anaconda-client
  - anaconda-project
  - anaconda-navigator
  - conda
  - conda-build
  - conda-content-trust
  - conda-libmamba-solver
  - conda-pack
  - conda-package-handling
  - conda-package-streaming
  - conda-token
  - conda-verify
  - menuinst
  - console_shortcut
  - powershell_shortcut
prefix: C:\Users\CatarinaLeote\anaconda3
```

   - If you want to create an environment based on an environment.yml file, you can type `conda create --name <env_name> -f environment.yml`

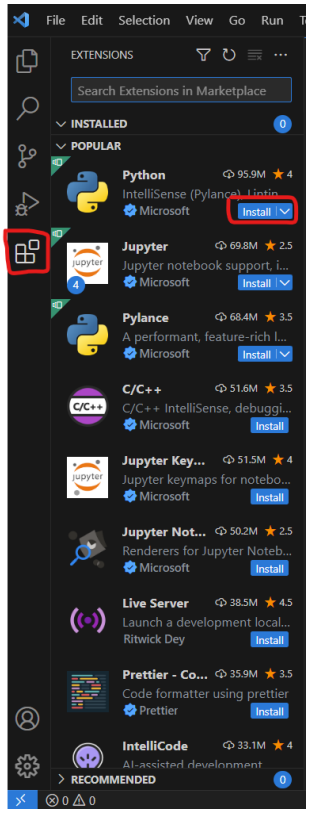
[Optional] – Install VSCode

1. Download the Visual Studio Code installer (https://code.visualstudio.com/)
2. Go to your Downloads folder and double-click the installer to launch.
3. Accept the agreement.
4. Click Next until you get the following options:



   - Normally, we select these additional options (marked in yellow), but they are optional, so if you don't want to, you don't have to.
5. Click Next, Install and then at the end, Finish.
6. And now you have the VSCode installed.

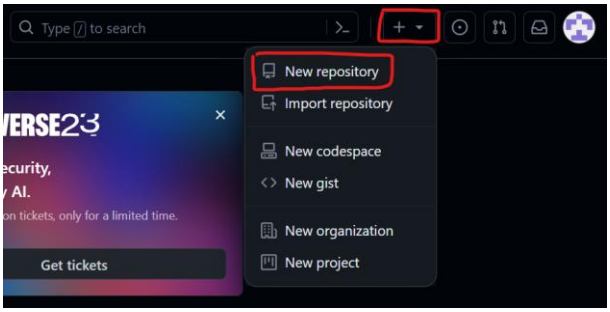
   To use it properly for python you have to install a specific extension:
   - In the VSCode left menu, there is a "puzzle" button that corresponds to these VSCode extensions. When you select it, you can see all the possibilities you have to install on your VSCode. To run python scripts, you need to install the Python extension (also marked in red).
   - Once you have installed the extension, you need to select and interpreter. You can always choose the Anaconda's "base" (the base environment) or another environment that you have created.



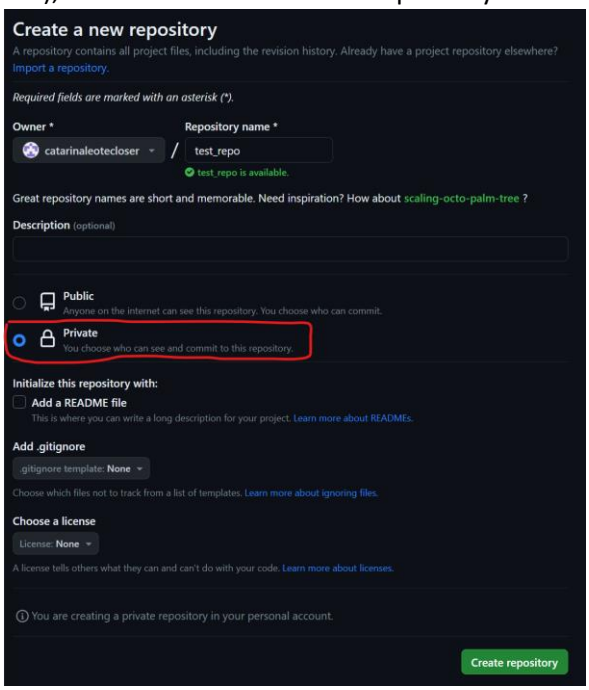
[Optional] – Create a Git repository in GitHub

1. Go to the GitHub website (https://github.com).
2. Create an account using your Closer credentials.

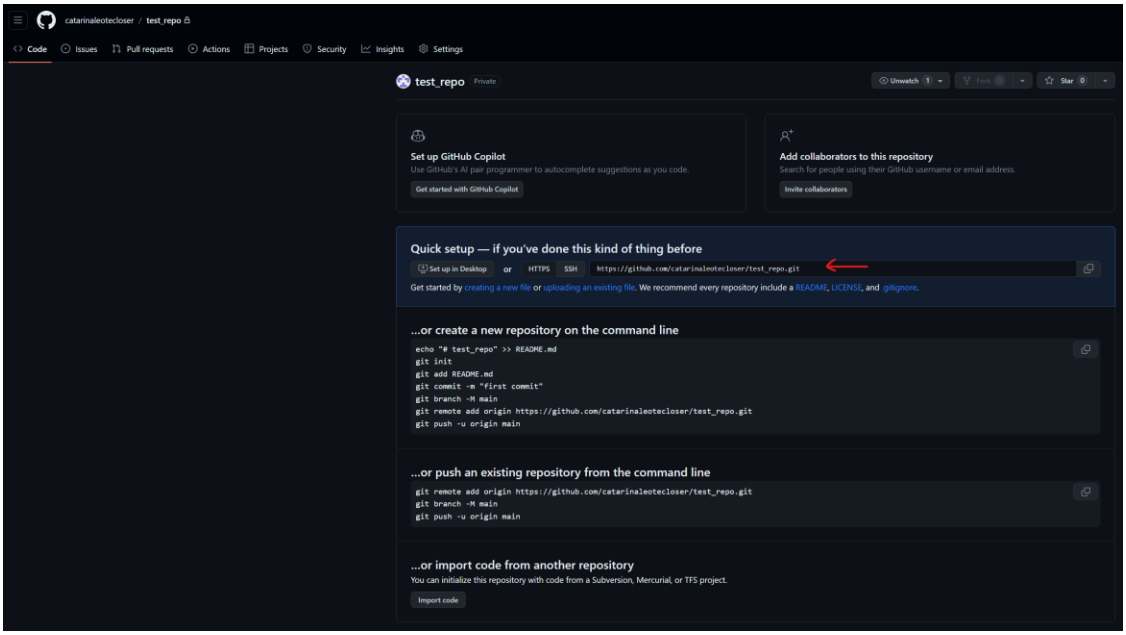
3. Once you have your account you can create a new repository selecting the "+" button on your top right corner and then select "New Repository"



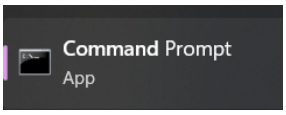
4. Fill in the repository name, description (option) and select that you want your repository to be private (marked in red), and then click on "Create repository" button.



5. You will get something like this:



6. Save your repo https for later (marked in red).
7. On your computer, you have to install Git first, for that you need to access Git website and download it (https://gitforwindows.org/)
8. Go to your Downloads folder and double-click the installer to launch.
   Click Next until the end and then Finish.
9. Open a terminal, for example on Command Prompt and go to the desired folder (for example dev) and type `cd caminho_para_a_pasta`. Once in the folder type `git init` (this will initialize a local git repository in this folder).



10. Now you want to clone your repository created (on step 4) and to do this you need to use the saved repository url (on step 6) and type in your terminal `git clone <link_repositorio>`, where you change the <repository_url> to your actual repository url. This will ask you for your password, once done, it will retrieve your repository (in my case, an empty repository) in the chosen directory.
11. You can now use your git repository.