

JuPy Python Tutorial: Installation Instructions

Version: March 29, 2022

Welcome to JuPy, the interactive Python Tutorial!

The JuPy tutorial requires Anaconda and some additional packages. The installation is described in this document.

The installation as described in this document creates a separate environment named "jupyter-course" with all required packages. Of course, you may also perform the installation in Anaconda's "base" environment. In this case you will be informed that some packages are already installed.

This document assumes Windows as operating system. The installation for other operating systems follows similar steps.

Note: Please make sure that the JuPy Python course is extracted inside your home directory, in Windows this is `Users\Username`. The course will be extracted in a folder named `JuPyTutorialV2En`.

Important Note

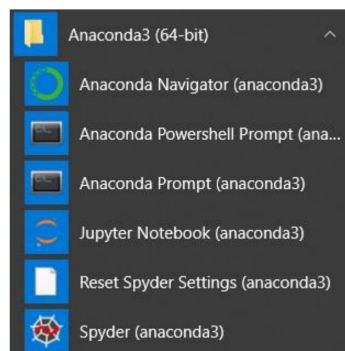
To use the JuPy tutorial, JupyterLab must **always** be started inside the same environment (e.g. "jupytercourse"), in which you installed the packages as described in this document.

Step 1: Installation of Anaconda

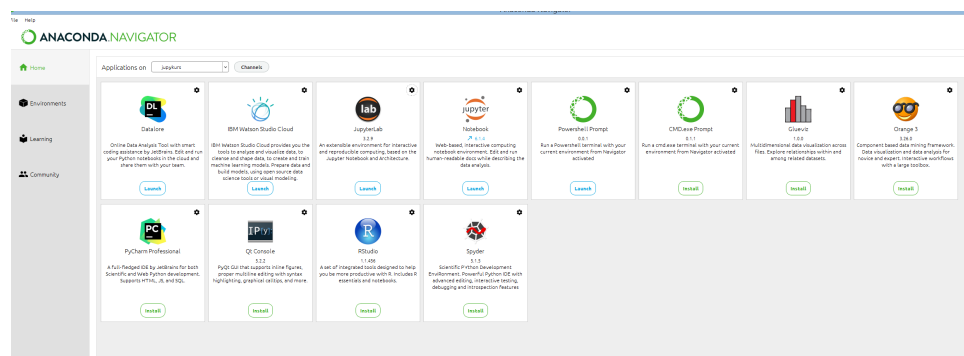
- (a) Visit the site <https://www.anaconda.com/products/individual>
- (b) At the bottom of the page you find the download link
- (c) Choose the installer recommended for your operating system and install Anaconda.



- (d) In the Windows start menu you should now find the Anaconda folder:
- (e) Select Anaconda Navigator and start it.

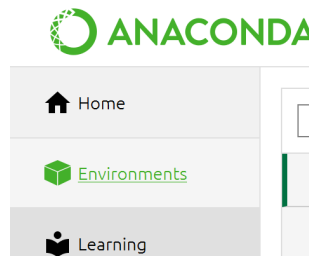


- (f) You will see the navigator screen with the available Apps, e.g. JupyterLab.

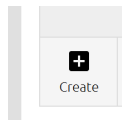


Step 2: Installation of an Environment

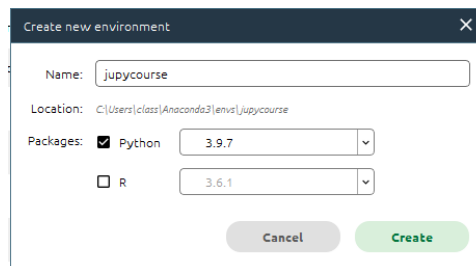
- (a) Start the Anaconda Navigator.
- (b) Go to Environments:



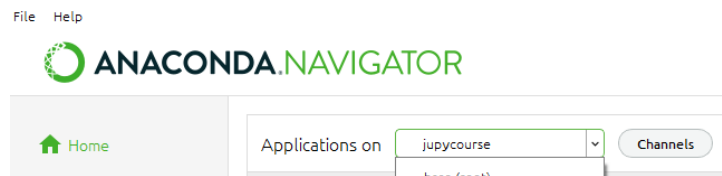
- (c) Click on the "Create" button at the bottom of the page:



- (d) Name the new environment "jupycourse"¹ and select 3.9.7 as Python version²:



- (e) Go to "Home" and select the "jupycourse" environment:



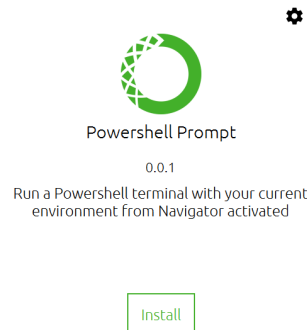
¹Hint: In order to avoid problems make sure that the environment name does not contain uppercase letters, special characters or blanks.

²You may equally select a higher Python 3.9.x version.

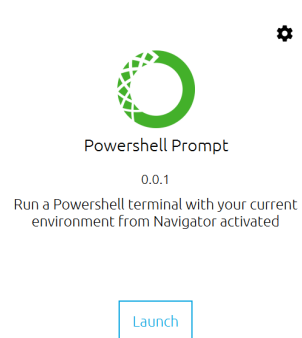
Step 3: Configuration of the Environment

- (a) In order to install packages and configure the environment we need to execute some commands. We will use the Powershell that needs to be installed first.

Go to the Powershell Prompt tile and click on "Install":



- (b) Launch the Powershell Prompt:



- (c) Please enter the following commands in the specified order in the prompt. The commands will install the required packages.

You might be asked to confirm the installation with "y".³

```
conda install -c conda-forge nodejs=17.4.0
conda install -c conda-forge numpy=1.21.5
conda install -c conda-forge matplotlib=3.5.1
conda install -c conda-forge scipy=1.7.3
conda install -c conda-forge ipython=7.31.1
conda install -c conda-forge jupyterlab=3.3.0
conda install -c conda-forge ipyml=0.8.8
```

- (d) Now we must install JupyterLab:

```
jupyter lab build
```

- (e) Now the Widgets Extension must be activated with the following command:

```
jupyter nbextension enable --py widgetsnbextension
```

- (f) Close the Powershell Prompt.

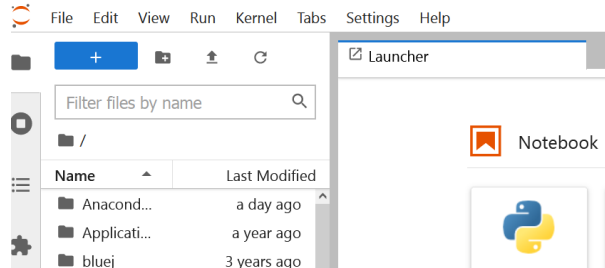
- (g) Quit Anaconda.

- (h) Please make sure that Firefox is installed and set as your default browser.

³Please specify the version numbers exactly as stated.

Step 4: Starting JupyterLab and the JuPy Tutorial

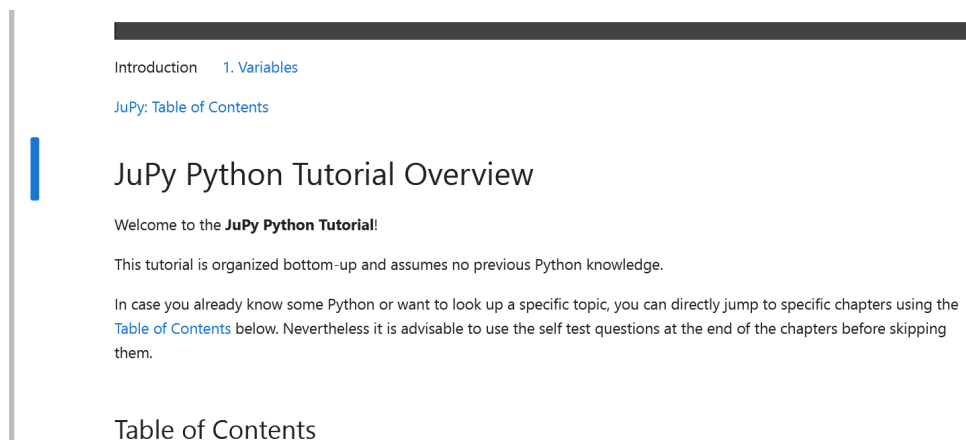
- (a) Start Anaconda and choose the "jupycourse" environment.
- (b) Go to the "JupyterLab" tile and launch it.
- (c) JupyterLab will open in your standard browser.



- (d) Go to the file browser, open the directory "JuPyTutorialV2En" and start the tutorial by double-clicking on the file "00_Introduction.ipynb".



- (e) You can now use the JuPy tutorial:



Hints:

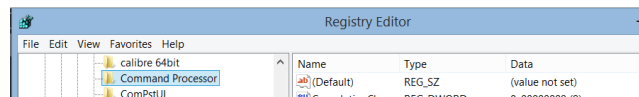
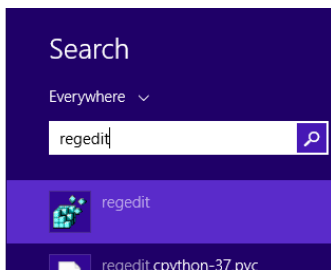
- Problems with the interactive exercises can often be resolved by restarting the JupyterLab extensions. Please start the Powershell Prompt and enter the following commands:

```
jupyter lab clean  
jupyter labextension install @jupyter-widgets/jupyterlab-manager  
jupyter lab build  
jupyter nbextension enable --py widgetsnbextension
```

- If you get the error with *Exit code: 1* when launching Anaconda Apps, please do the following:

Enter "Registry Editor" or "regedit" in the Windows search bar and open the application. Go to the path

Computer\HKEY_CURRENT_USER\Software\Microsoft\Command Processor
and delete – if present – the file "Autorun".



We hope you will enjoy the Jupy Tutorial!



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