HeaDS

Get started with Python

Local installation

Basic UNIX/OS X and DOS commands

UNIX/OS X	DOS	Description
cd	cd	On Windows, prints the current directory. On Unix returns the user to his home directory.
cd *dirname*	cd *dirname*	Change directory. Can also give path (/path/to/folder).
ls	dir	List contents of current directory
pwd	cd	Tells you where you currently are (full path).
mkdir *dirname*	mkdir *dirname*	Make a new directory.
cp *filename1 filename2*	copy *filename1 filename2*	Copies filename1 to filename2 (*filename2* can be replaced with whatever name you want to give the new file).
rm *filename*	del *filename*	Removes a file.
rm -r	deltree	Recursively deletes entire directory tree. Be very careful if using this!
more	more	Shows the first part of a file, just as much as will fit on one screen. Just hit the **space bar** to see more or **q** to quit. You can use **/pattern** to search for a pattern.
echo $PATH	echo %Path% set Path	Print the value of the environment variable (Path).

Setting up GitHub account

- Create a GitHub account

https://github.com/join?ref_cta=Sign+up&ref_loc=header+logged+out&ref_page=%2F&source=header-home

- Install Git locally

https://www.atlassian.com/git/tutorials/install-git

  - MacOS: ”Git for Mac Installer”
  - Windows: ” Git for Windows stand-alone installer”
  - GitHub Desktop: https://desktop.github.com/

Cloning a repository

```
$ git clone https://github.com/account_name/repository_name.git
```

Install Python

- Python 3.11: https://www.python.org/

- Anaconda:
  https://docs.anaconda.com/anaconda/install/
  https://docs.anaconda.com/navigator/tutorials/

  - **MacOS**

```
$ python --version
```

```
$ which python
```

  - **Windows**

```
> python --version
```

```
> where python
```

What is ”.zshrc” and how to use it

- **MacOS**
  - Open the bash file (zshrc or zprofile)

```
$ vi ~/.zprofile
```

```
# Setting PATH for Python 3.11
# The original version is saved in .zprofile.pysave
PATH="/Library/Frameworks/Python.framework/Versions/3.11/bin:${PATH}"
export PATH
```

$ which python

  - Make the alias available in the session

```
$ source ~/.bash_profile
```

Creating a virtual environment

- **MacOS**
  - Install virtualenv

```
$ python3.11 -m pip install virtualenv
```

  - Create a new virtual environment

1. Take note of the full path to the Python version you would like to use inside the virtual environment.
2. Navigate to the directory where you would like your virtual environment to be (e.g. user's root).
3. Create the virtual environment at the same time you specify the version of Python you wish to use. `env_name` is the name of the virtual environment and can be set to anything you like.

```
$ virtualenv -p /path/to/python env_name
```

```
$ source path/to/env_name/bin/activate
```

```
$ deactivate
```

Creating a virtual environment

- **Windows**
  - Create a new virtual environment using Conda installation

```
> conda create -n env_name python=3.11
```

```
> conda activate env_name
```

```
> conda deactivate
```

Install python packages

- **MacOS**

```
$ pip3 install pandas
```

Or

```
$ pip3 install --ignore-installed -r requirements.txt
```

- **Windows**

```
> conda install pandas
```

Or

```
> conda install --file requirements.txt
```

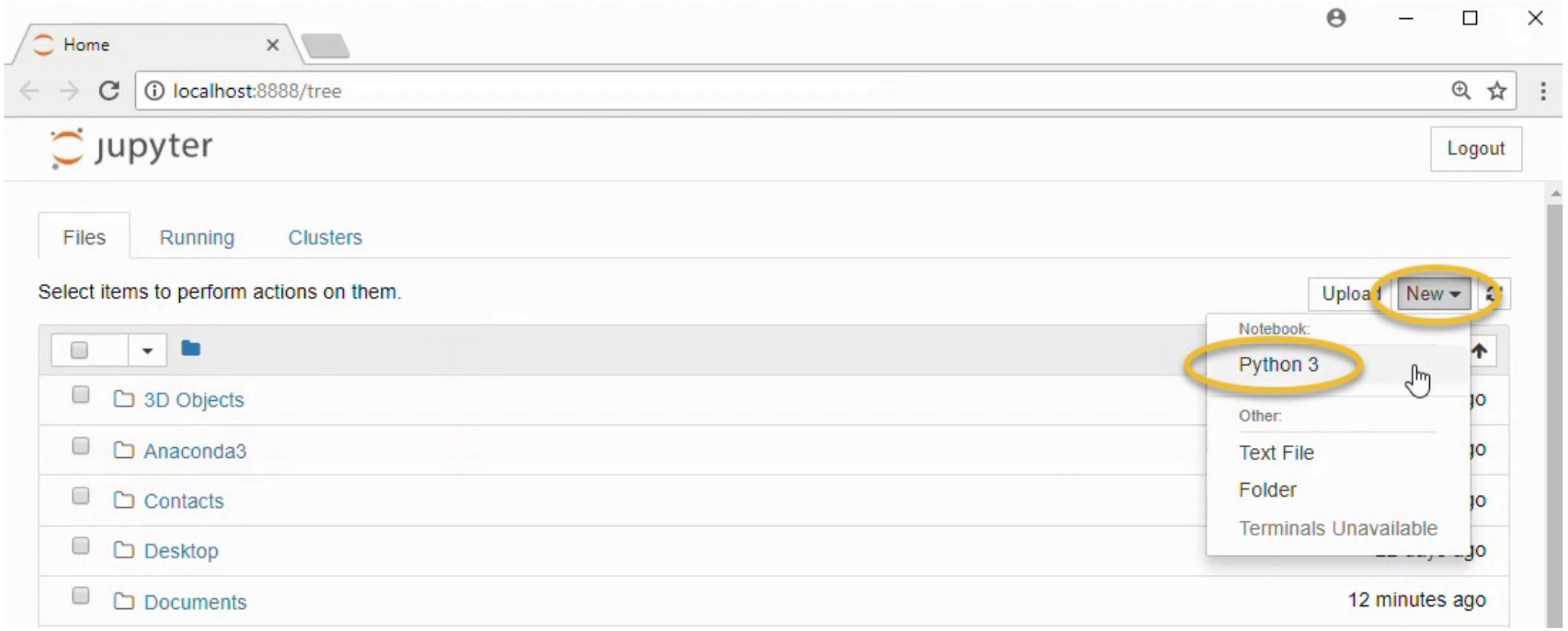
requirements.txt

```
pandas==0.24.2
Flask==2.0.3
Jinja2==3.1.1
passlib==1.7.1
neo4j==4.2.0
PyYAML==5.1.1
wget==3.2
requests==2.22.0
biopython==1.73
obonet==0.2.5
rarfile==3.1
dash==1.2.0
Werkzeug==2.0.0
redis>=3.2.1
matplotlib>=3.1.1
```

Start using jupyter notebooks

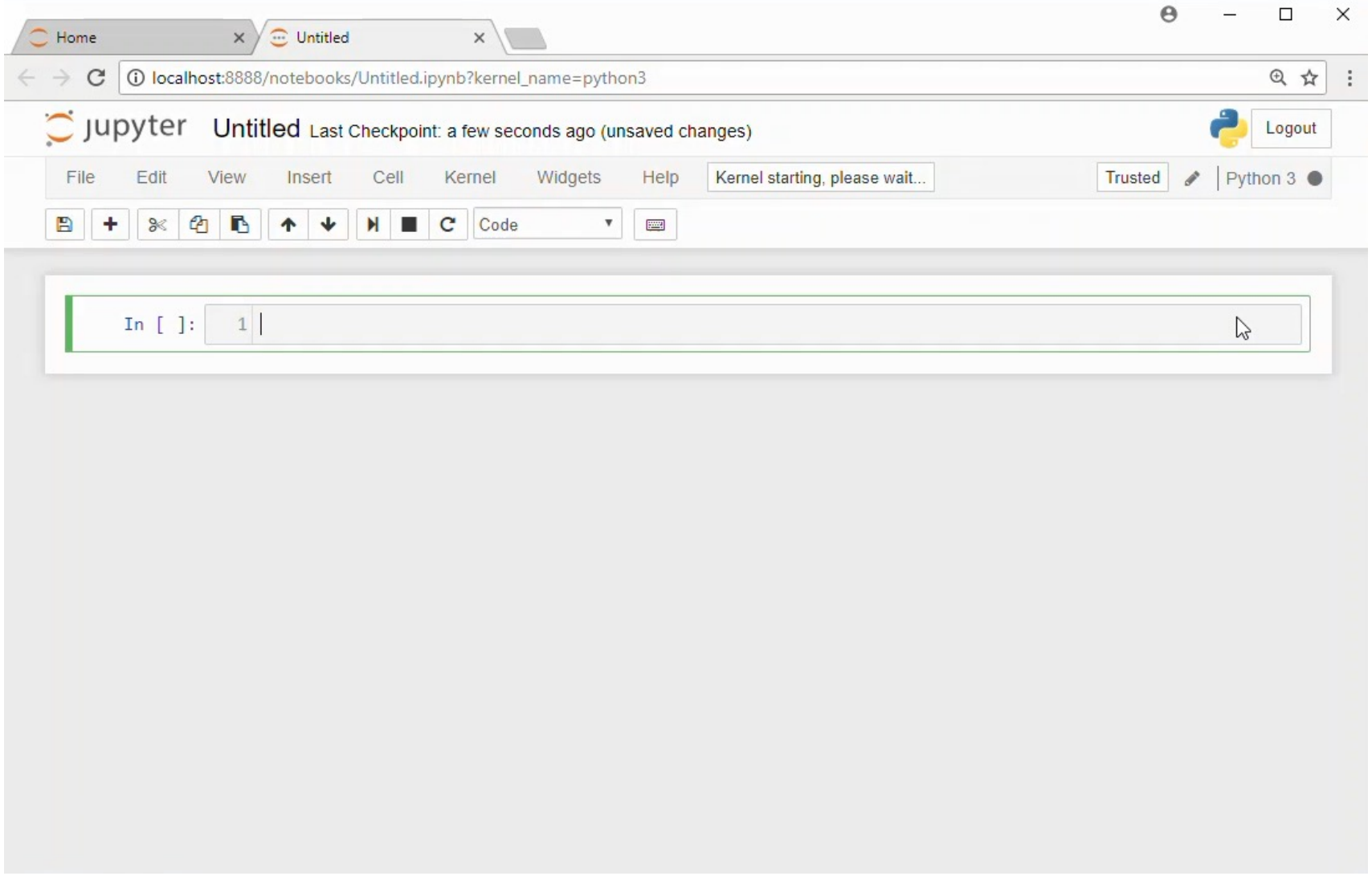
- **MacOS**

```
$ pip3 install jupyter
$ jupyter-notebook
```



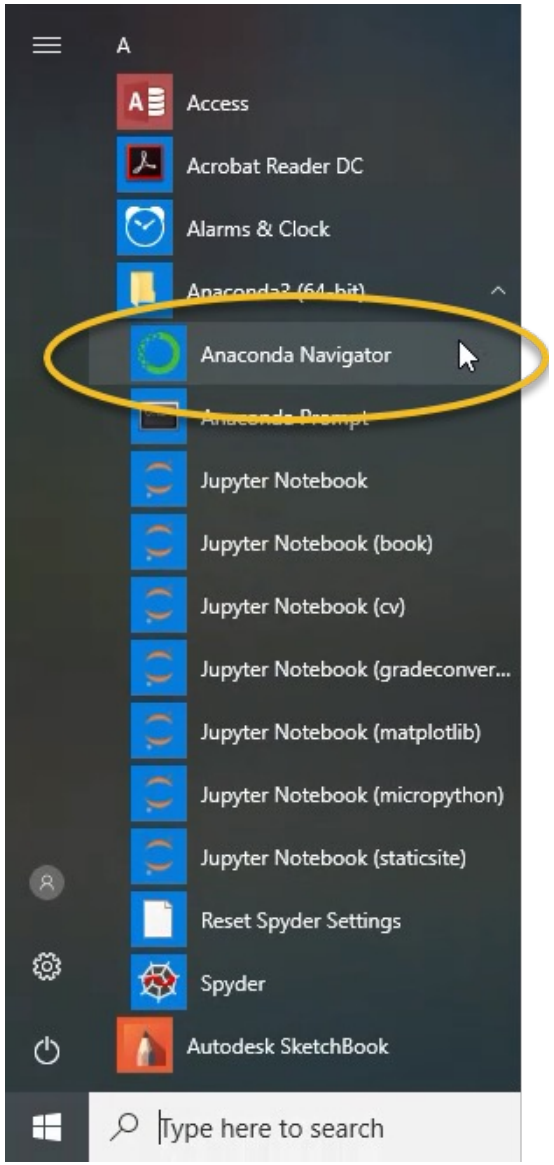
Start using jupyter notebooks

- **MacOS**



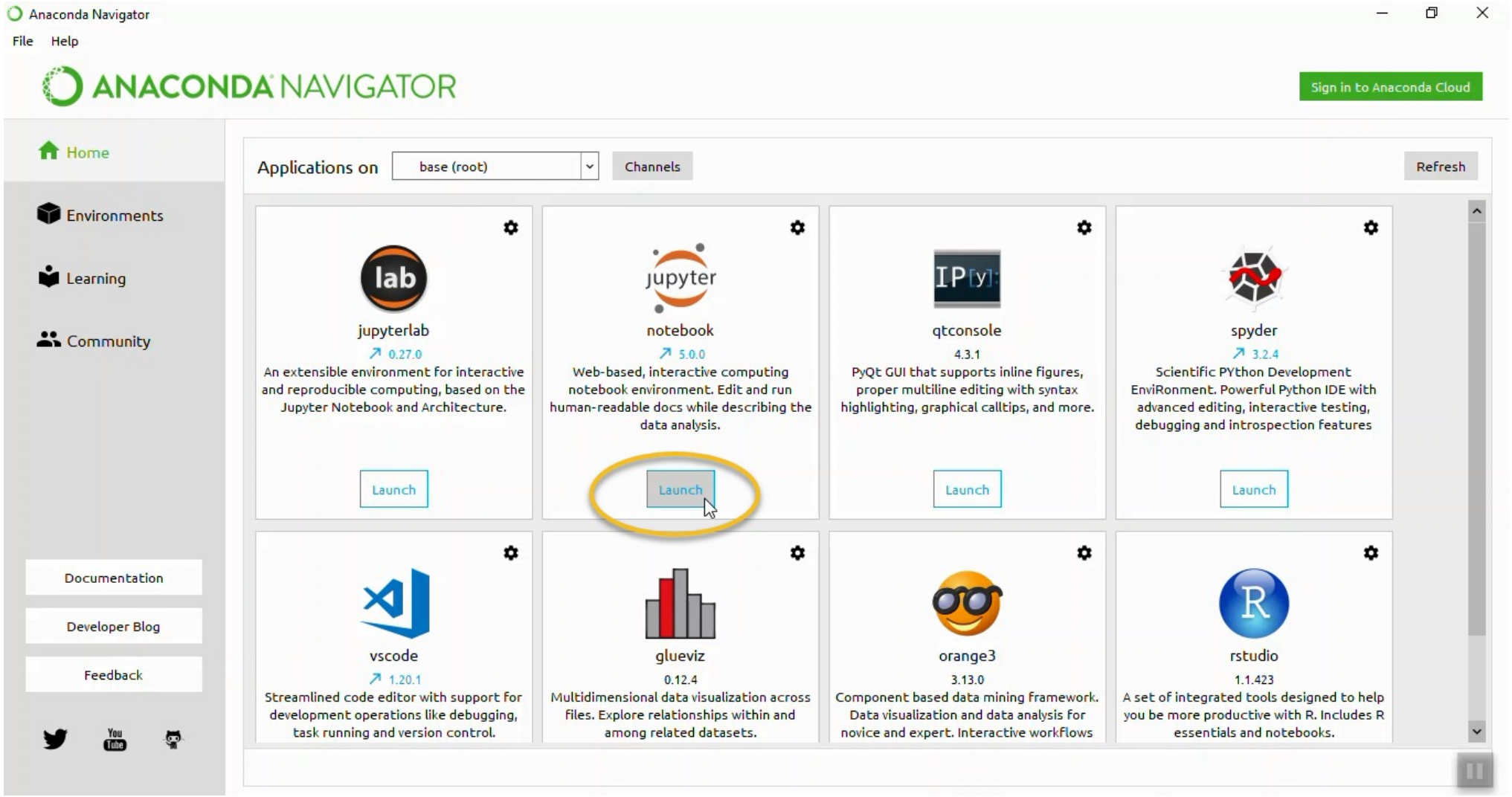
Start using jupyter notebooks

- **Windows (anaconda)**



Start using jupyter notebooks

- **Windows (anaconda)**



Start using jupyter notebooks

- **Windows (anaconda)**