How to install Python and set up virtual environment

If you don’t have python installation on your system then the best way or rather, I should say recommended way to install the python is by installing the Anaconda distribution which already comes with most of the libraries that are needed for Data science to kick start.

Another benefit of using Anaconda distribution is that it also comes with Anaconda Navigator, a desktop graphical user interface (GUI) that allows you to launch various Data science applications like Notebooks, R Studio, Orange etc. and helps to manage conda packages, environments without ***using command-line commands***.

Let’s start the Data science journey by downloading the Anaconda Edition from <https://www.anaconda.com/products/individual#download-section> and follow the instructions indicated from your platform

After installation completes you can also verify the python from command-line using following command

python --version

***Creating Virtual Environment***: -

Every Data science project will need some external libraries which may not be the core part of the python and you will have to install it on your own using following command.

pip install <library\_name>

Note: - you can also install using Anaconda Navigator GUI, if you have one. Navigator can search packages on Anaconda.org or in a local Anaconda Repository

If you are working on multiple Data science project, then it may be the case that each project will require specific versions of libraries which may be different from the other projects. So having single python installation, these libraries would conflict and cause numerous issues.

Hence it is always recommended to not use the base(root) python installation for any of your projects and instead create Virtual Environments, which are nothing but the sandboxed python environment that maintain their own version of python libraries.

Using Anaconda Navigator, you can create virtual environments from “Environment” Tab on your left-hand side. But for those who prefer the command line follow below command on your terminal

# To create virtual environment for Anaconda

conda create -n <env\_name> python=3.9

Example to create a virtual environment with name ‘datascience’, then the command will look like:

conda create -n datascience python=3.9

# To activate this environment, use

#

conda activate datascience

#

# To deactivate an active environment, use

#

conda deactivate

Once the virtual environment of your choice is activated you can starts installing the libraries you need for your specific project using python package manager pip.