# Recommended guidelines (Tensorflow)

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## 1 Introduction

If you have already installed any Python distribution feel free to work with it. The following guidelines are the recommended distributions, environments and libraries for this course

Anaconda is a distribution of the Python and R programming languages for scientific computing that aims to simplify package management and deployment. To start, first install anaconda, installation steps can be found at :

`https://docs.anaconda.com/anaconda/install/index.html`

Within Anaconda, you can work with conda that is an environment and package manager. With conda you can create an environment with any version of Python. The following steps will guide your through the installation process and required/recommenced packages and libraries. First, open the Anaconda Prompt and follow below steps:

1. STEP 1 - To create an environment type in your Anaconda terminal (Fig. 1):

   `conda create --name myenv`

   Note : Replace myenv with your own environment name.

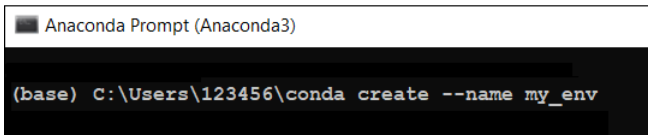


Figure 1: Create your enviroment

   When conda asks you to proceed, type y: `proceed ([y]/n)?`

   This creates the myenv environment in /envs/. No packages will be installed in this environment.

2. STEP 2 (Optional) - To create an environment with a specific package :

Example :

```
conda create -n myenv scipy
```

Notice that you can skip STEP 4 and simply create your environment with Tensorflow:

```
conda create -n tf_env tensorflow
```

Otherwise, STEP 4 will show you how to install libraries once you have created your own environment.

3. STEP 3 - Activate your environment:

   You can now activate your environment (Fig. 2) through the command:

   ```
   conda activate my_env
   ```

   When your environment is active, it should be indicated as in the following figure:

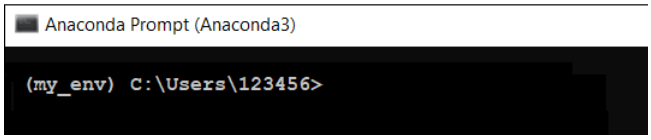


Figure 2: Active enviroment

4. STEP 4 - Installing Tensorflow and other libraries:

   TensorFlow requires a recent version of pip, so upgrade your pip installation to be sure you're running the latest version, so type the following command:

   ```
   pip install --upgrade pip
   ```

   Then, install Tensorflow with pip with the following command:

   ```
   pip install tensorflow==2.10
   ```

   Notice that the above command line can be used to install other packages and libraries. Additionally, also install (you can install multiple packages):

   ```
   pip install matplotlib scikit-learn
   ```

5. STEP 5 (Optional) - Installing Spyder:
   Spyder is an open-source cross-platform integrated development environment (IDE) for scientific programming in the Python language (Fig. 3). If you already have a preferred IDE feel free to use it, otherwise you can install Spyder with the following command :

   ```
   conda install -c anaconda spyder
   ```

Although in this course we will not use GPU-based training, for further projects you can check more information on Tensorflow and GPU support at: `https://www.tensorflow.org/install/`

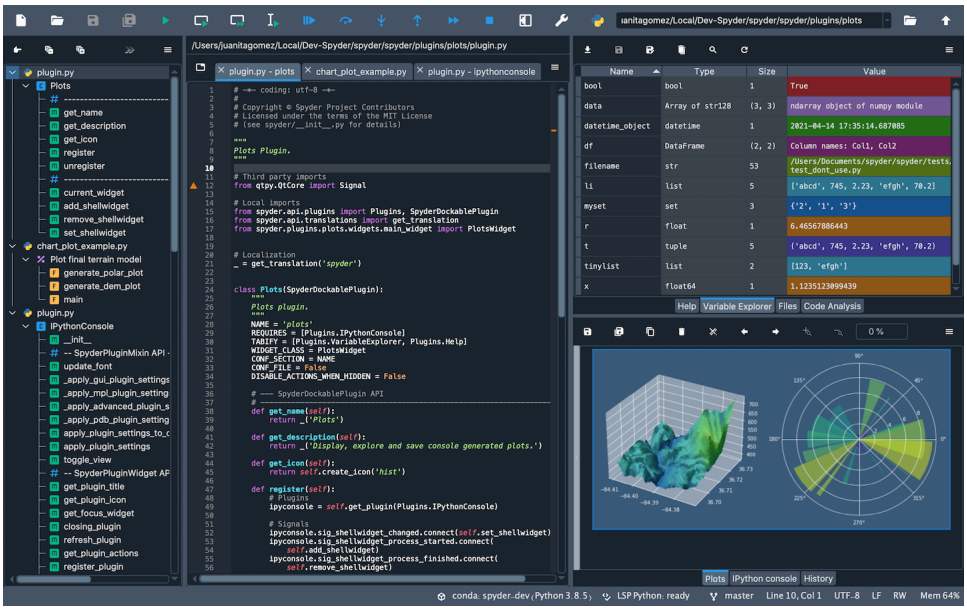

Figure 3: Spyder

And for more information of conda :
https://conda.io/projects/conda/en/latest/user-guide/tasks/manage-environments.html