

Configuration Manual

MSc Research Project
MSc in Data Analytics

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Programme: MSc in Data Analytics

Year: 2018

Module: MSc in Research Project

Lecturer: Dr. Catherine Mulwa

Submission Due Date:

18/04/2019

Project Title: Configuration Manual

Word Count: XXX

Page Count: XXX

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Configuration Manual

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MSc Research Project in Data Analytics

18th April 2018

1 Introduction

The configuration manual guides through step-by-step guide required software installation for implementation and evaluation of the research.

System Requirements:

- OS: Windows 10
- OS Type: x64Bit
- RAM: 8 GB
- Memory: 256 GB
- Processor: 5th Gen Intel i5

The operations are to be performed in Anaconda distribution. It is library and package manager with TensorFlow running at backend with several other packages and libraries used in Python programming language. The next section gives detailed instructions of installation of Anaconda and TensorFlow.

2 Installation of Anaconda and TensorFlow

- Download the Anaconda Python Distribution by visiting this link – Python v3.7 <https://www.anaconda.com/distribution/> (Fig. 1)
- Install the anaconda. Open Anaconda navigator after installation.
- On the left side of the Anaconda navigator, enter the environment tab.
- Bottom of the environment tab, select and create option button. As, new version of TensorFlow not that compatible with Keras that's why we are creating a separate environment for TensorFlow and naming it as tf. (Fig. 2)
- After creating the environment, drag down options and choose 'All' and type in 'TensorFlow' in search bar.
- Beside 'TensorFlow', select and install on the bottom of the page. Now, we have successfully installed and created a separate environment for TensorFlow in Anaconda Navigator.
- Now, we have two options either to run everything in TensorFlow or base(root) environment depending on the need of the algorithms.

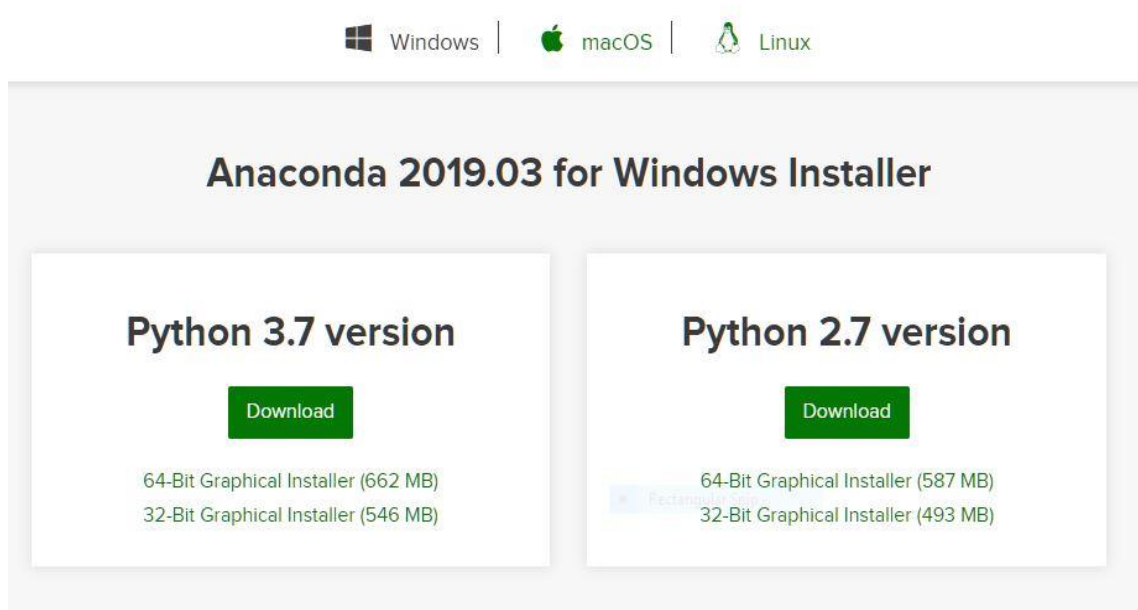


Fig. 1 Anaconda Distribution

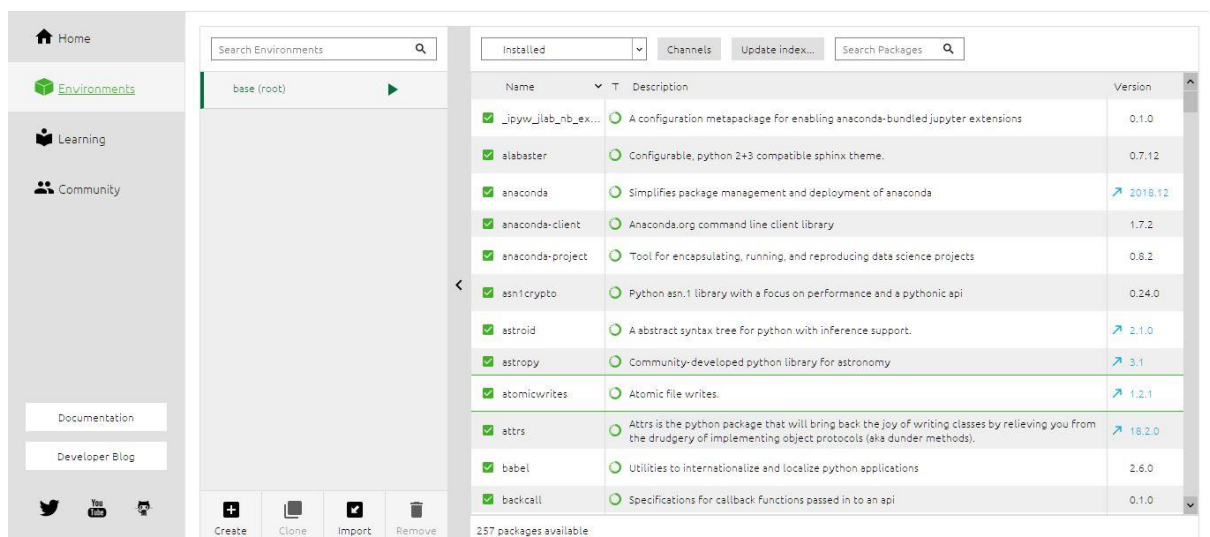


Fig. 2 Anaconda Environment

The next section is about installation of Python IDE with required libraries.

3 Installation of Python IDE and Libraries

As, Anaconda comes with already installed Python, so we don't need to install it separately. Although, we have two options of running Python: (a) Spyder and (b) Jupyter Notebook. Spyder is python IDE. Both are available for installation. Below are steps required for installation of Spyder IDE.

- Open Anaconda Navigator and on the top left, chose created environment.
- Click on 'Spyder' tab in the base environment and launch the application. (Fig. 3)

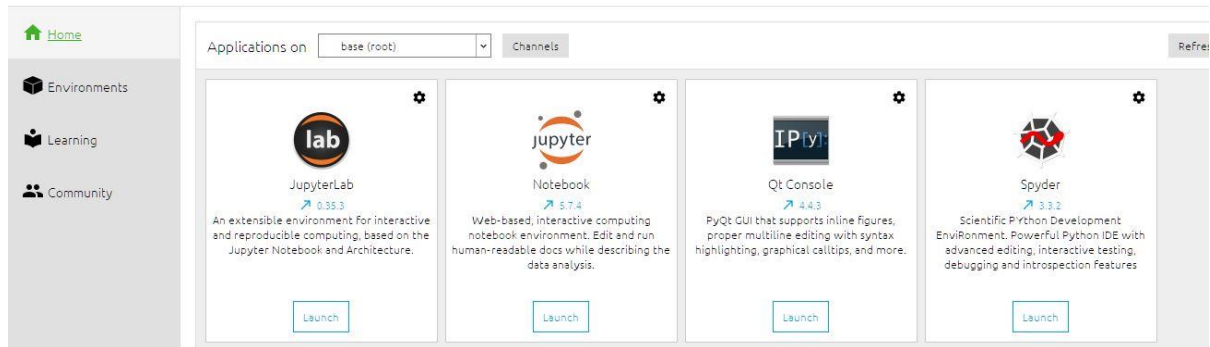


Fig. 3 Spyder Installation

- Spyder comes with loads of pre-inbuilt libraries, but to run some algorithms specific packages are required. This can be done with terminal command in anaconda environment.

4 Installation Libraries

In this section, the libraries required while implemented the models are listed.

- Keras
- TensorFlow
- scikit-learn
- pandas
- NumPy
- matplotlib
- seaborn

5 Steps for Execution

- After installation of Anaconda for opening of Churn Dataset, first start Jupyter notebook.
- When Jupyter notebook kernel starts up, it will start a local kernel and will open itself in default browser.
- In the browser portal navigate to the churn notebook and open it.
- The code can be executed by selecting 'run kernel' but before performing that step, change the directory location of the churn dataset read of pandas csv method.