Development Environment

# Manual Installation

The following commands were applied to set up the development environment.

## Download SO

The OS Ubuntu 16.04 Desktop 64 bit (or higher) has been selected because is the only linux-variant supported by TensorFlow.

The ISO image can be downloaded from:

[http://releases.ubuntu.com/](http://releases.ubuntu.com/16.04/)

## Install Software

### Update Ubuntu Repository

With the following command will be updated the Ubuntu’s internal repository.

$ sudo apt-get update

### PIP (python dependency management)

The next commands install a popular dependency manager for Python called PIP. With PIP will be installed the remaining packages and dependencies in a simple way.

$ sudo apt-get install python-pip python-dev # for Python 2.7

#### Upgrade PIP:

To ensure that the latest version of PIP is installed, execute the following command.

$ pip install --upgrade pip

### Install Tensorflow

The following commands will install Tensorflow with CPU support.

$ pip install tensorflow

For more information: <https://www.tensorflow.org/install/install_linux>

### Keras

$ sudo pip install keras

### ScikitLearn

$ sudo pip install scikit-learn

### Pandas

$ sudo pip install pandas

$ sudo pip install xlrd

### Clips Pattern

$ sudo pip install pattern

### Install Jupyter

The following command will install Jupyter notebook.

$ pip install jupyter

Allow jupyter network traffic from outside of the virtual machine:

$ sudo ufw allow 8888

For more information: <https://help.ubuntu.com/community/UFW>

### OpenSSH Server

Install SSH server to allow interaction to the virtual machine through remote command line interface:

$ sudo apt-get install openssh-server

Allow SSH network traffic from outside of the virtual machine:

$ sudo ufw allow 22 #

# Use Virtual Machine (ready-made environment)

Username: udlap

Password: udlap

\*The user udlap has sudo privilege.

## Download

Download VirtualBox

<https://www.virtualbox.org/wiki/Downloads>

Download virtual os image (tested on virtualbox 5.2.12)

<https://drive.google.com/open?id=1WB08FVEglkYjOoGvsCoJ_EjXYQMDd1_e>

## Import the virtual OS image in virtualbox

1. Open virtualbox.
2. Select File > Select Import Appliance.
3. Select the “Ubuntu 16.04 - Keras.ova” file.
4. Select Next.
5. Select Import and wait until the virtual machine has been imported.

* For more datails watch the video

# Connect to Linux Box

**From terminal:**

Open remote terminal connection to the linux box:

$ ssh -p 2222 udlap@localhost

Inside of the linux box run the following command to start jupyter notebook server:

$ jupyter notebook --ip='\*' --NotebookApp.token=

Open in the browser <http://localhost:8888>