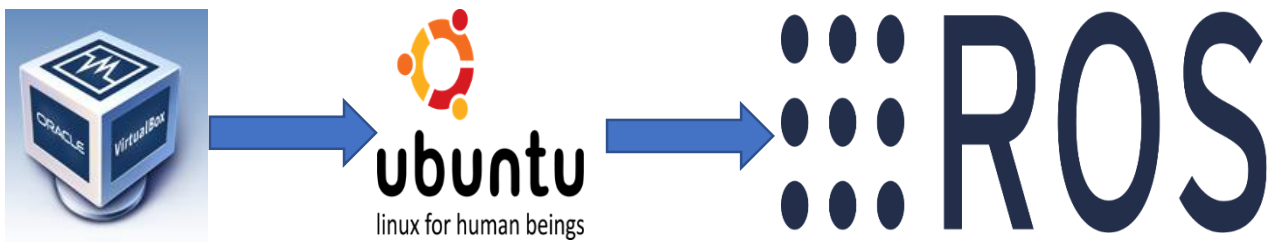

ROS (Robot Operating system) Noetic Installation on Ubuntu 20.04

Made by Mohammed Alomar

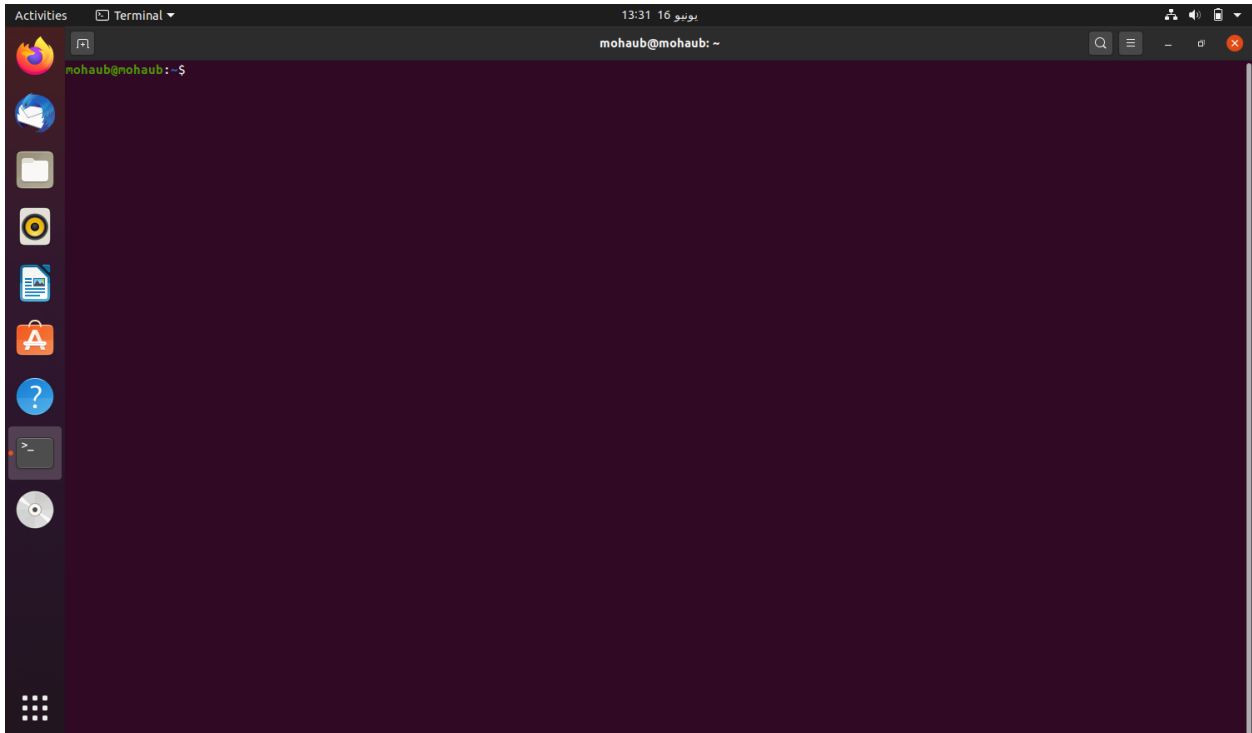
1. First of all, you will need Ubuntu operating system to install ROS. **Windows is not supported by ROS**, and to install Ubuntu operating system you will need a Virtual machine on which you can use Ubuntu OS.

- To download Virtual machine : <https://www.virtualbox.org/wiki/Downloads>
- To download Ubuntu 20.04 : <https://ubuntu.com/blog/ubuntu-20-04-its-arrives#download>
- Great video that will guide you to install Ubuntu 20.04 on your device: <https://www.youtube.com/watch?v=x5MhydijWmc>



Note: Please Make sure to choose bidirectional in advanced general settings to be able to copy and paste from your host OS to Ubuntu OS and vice versa.

2. After installing Ubuntu OS launch the terminal by pressing **Ctrl+Alt+T** or by going to “show application” in bottom left of the desktop and then search for terminal. After launching the terminal it should look like this:-



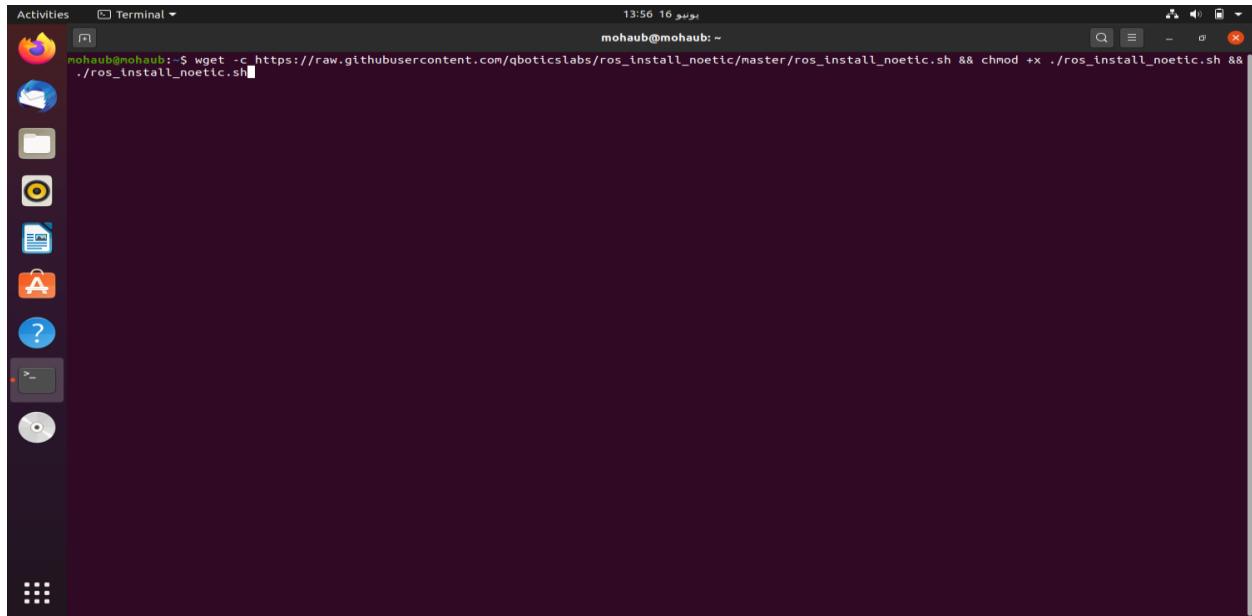
3. There are two methods to install ROS: -

- Official method.
- Unofficial method.

The second method is far easier and the installation can be done by a single line.

4. For installing ROS noetic Copy this line of code and paste it in your terminal.

```
wget -c https://raw.githubusercontent.com/qboticslabs/ros_install_noetic/master/ros_install_noetic.sh && chmod +x ./ros_install_noetic.sh && ./ros_install_noetic.sh
```



5-Press Enter then the console will ask for the user password then wait for it to add some keys and set up the source list.

6-After sometime the program will ask you how much of ROS you would like to install it is **recommended to enter 1** which is the default version.

```
Hit:1 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:5 http://packages.ros.org/ros/ubuntu focal InRelease
Hit:6 http://packages.ros.org/ros-testing/ubuntu focal InRelease
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.

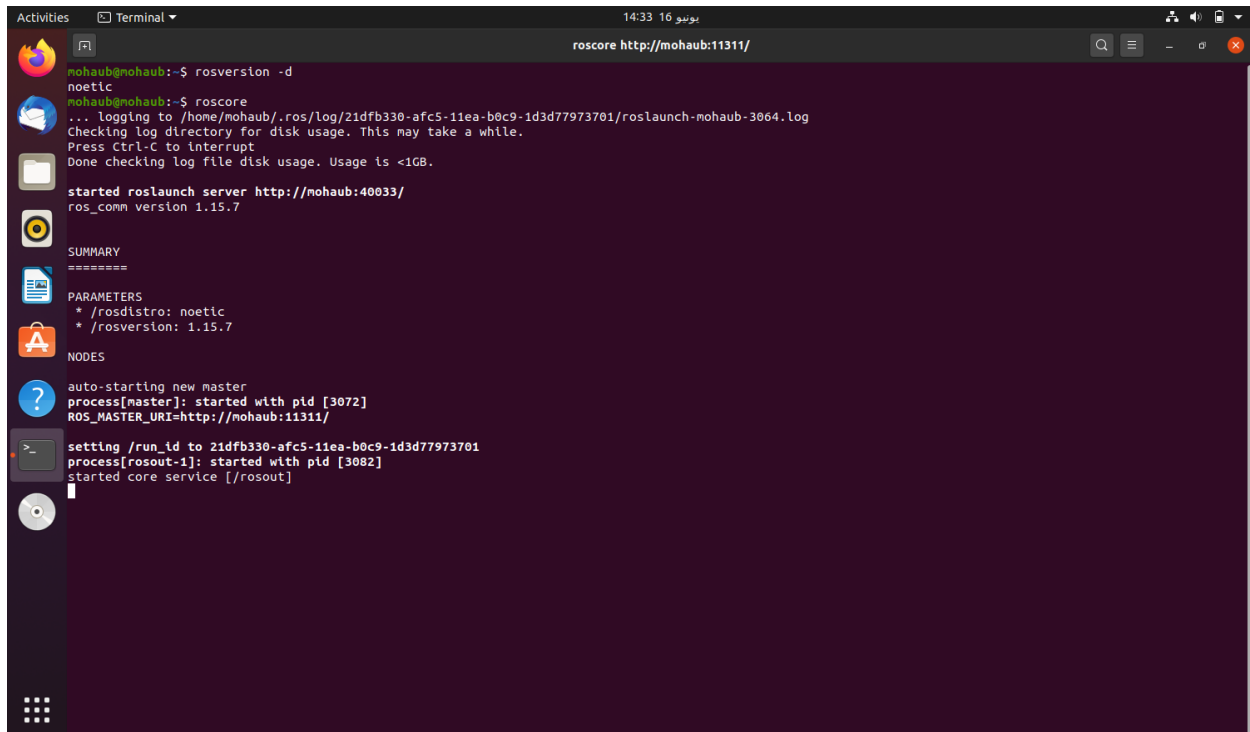
#####
#####
>>> {Step 5: Install ROS, you pick how much of ROS you would like to install.}
    [1. Desktop-Full Install: (Recommended) : Everything in Desktop plus 2D/3D
simulators and 2D/3D perception packages ]

    [2. Desktop Install: Everything in ROS-Base plus tools like rqt and rviz]

    [3. ROS-Base: (Bare Bones) ROS packaging, build, and communication libraries. No GUI tools.]
Enter your install (Default is 1):
```

7. After choosing the installation will begin it will take about 20-30 minutes depending in your network connection.

8. When the installation finishes close the terminal than open it again and type: `rosversion -d` then type `roscore`, you should see the following outputs.

A terminal window with a dark purple background and light green text. The window title is "Terminal" and the address bar shows "roscore http://mohaub:11311/". The terminal shows the following commands and outputs:

```
mohaub@mohaub:~$ rosversion -d
noetic
mohaub@mohaub:~$ roscore
... logging to /home/mohaub/.ros/log/21dfb330-afc5-11ea-b0c9-1d3d77973701/roslaunch-mohaub-3064.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://mohaub:40033/
ros_comm version 1.15.7

SUMMARY
=====
PARAMETERS
* /rostdistro: noetic
* /rosversion: 1.15.7

NODES
auto-starting new master
process[master]: started with pid [3072]
ROS_MASTER_URI=http://mohaub:11311/

setting /run_id to 21dfb330-afc5-11ea-b0c9-1d3d77973701
process[rosout-1]: started with pid [3082]
started core service [/rosout]
```

9. congratulations! You have successfully installed ROS in your computer.

References: -

- 1-<https://robacademy.com/2020/05/23/getting-started-with-new-ros-noetic-ninjemys/>
- 2-<https://www.youtube.com/user/ProgrammingKnowledge>
- 3-<https://www.ros.org/>
- 4-<https://www.virtualbox.org/>