

ROS “Noetic” Installation guide on Ubuntu OS “20.04”

In this installation guide , we will be discussing the needed steps to install **Robot Operating System (ROS)** on Ubuntu OS. But before that we will be mentioning some steps before that.

First, Download a Virtual Machine:

You can download it from

VMware or **VirtualBox**, but in this guide we will be using the **VirtualBox**, you can get it from here: <https://www.virtualbox.org/wiki/Downloads>

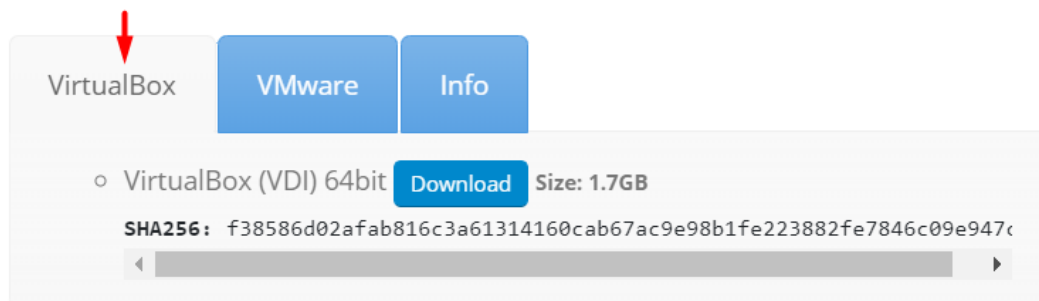


Second, download Ubuntu OS:

You can do so , by going to this site : <https://ubuntu.com/download/desktop> and it is about 30 GB which will take quite the time and Data to download

Or you can get a **lighter version** for your device by going to <https://www.osboxes.org/ubuntu/> and choose the **suitable version** of ubuntu to download your ROS later. Here we will be downloading the **20.04** version for **VirtualBox**.

Ubuntu 20.04 Focal Fossa



This is because as we said earlier, we will be working on **VirtualBox** and for our **ROS version** we will be downloading **Noetic** version which need an Ubuntu version of **20.04**. (<http://wiki.ros.org/ROS/Installation>)

ROS Kinetic Kame

Released May, 2016

LTS, supported until April, 2021

This version isn't recommended for new installs.



ROS Melodic Morenia

Released May, 2018

LTS, supported until May, 2023

Recommended for Ubuntu 18.04



ROS Noetic Ninjemys

Released May, 2020

Latest LTS, supported until May, 2025

Recommended for **Ubuntu 20.04**

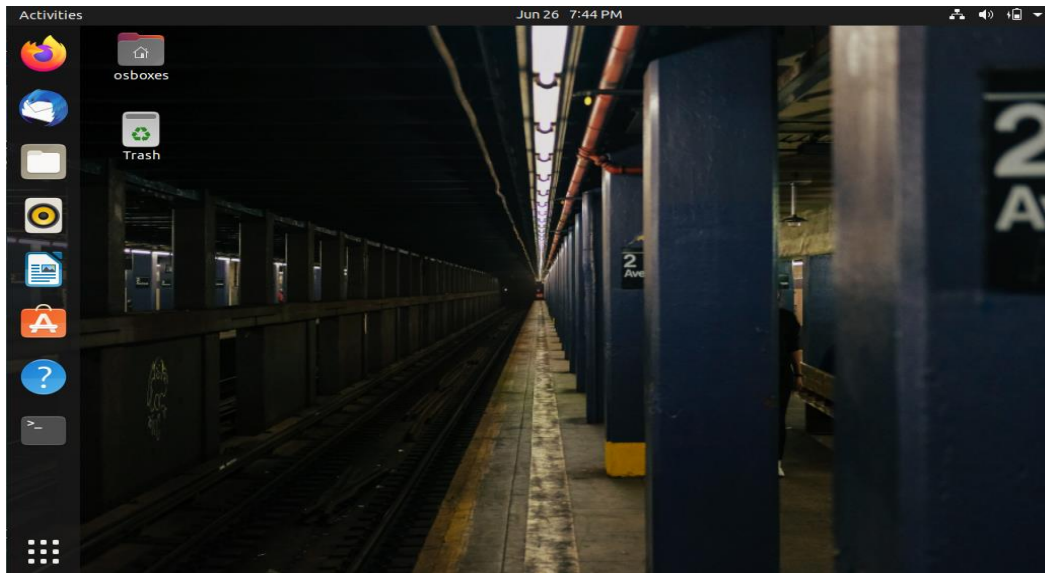


Note:

The User password for the **lighter** version of Ubuntu is: **osboxes.org**

All in lower case

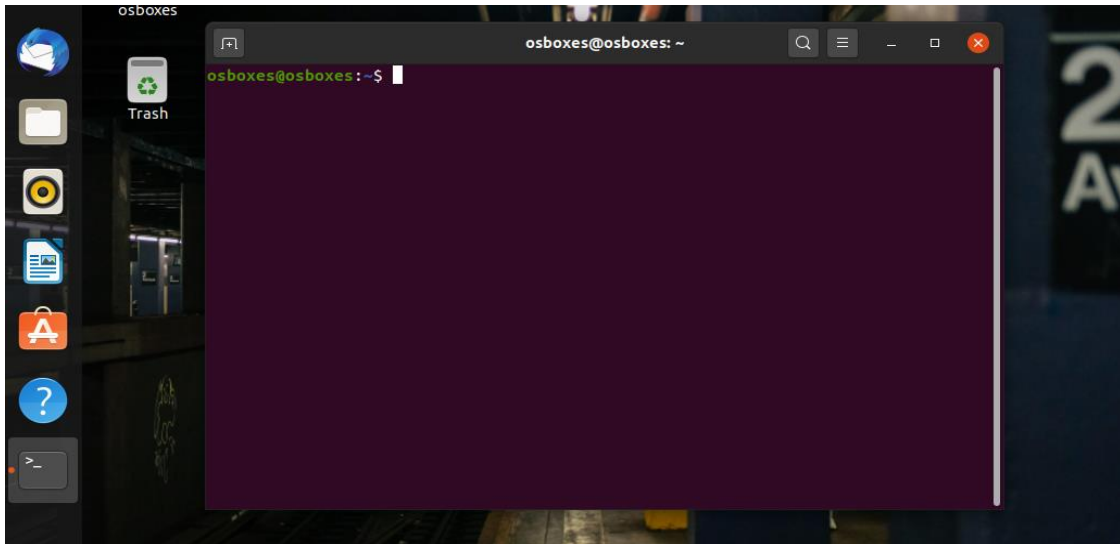
The following picture shows the Ubuntu desktop



Third, Start downloading the ROS using the Terminal (command line):

The following site shows the needed steps to download noetic version <http://wiki.ros.org/noetic/Installation/Ubuntu>

We start by opening the **terminal**, it can be found in the applications or the taskbar. A shortcut to go to it is **Ctrl+Alt+T**



Now that we are in the terminal we will be inserting the following commands :

To Setup the computer to accept software from **packages.ros.org**.

```
sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main" >
/etc/apt/sources.list.d/ros-latest.list'
```

Then we will setup the keys

```
sudo apt-key adv --keyserver 'hkp://keyserver.ubuntu.com:80' --recv-key
C1CF6E31E6BADE8868B172B4F42ED6FBAB17C654
```

Now we are in the **Installation** phase, First, we will **make sure** the Debian package index is **up-to-date**

```
sudo apt update
```

now we should pick **how much** of **ROS** we would like to install.

It is recommended to install the **full package**.

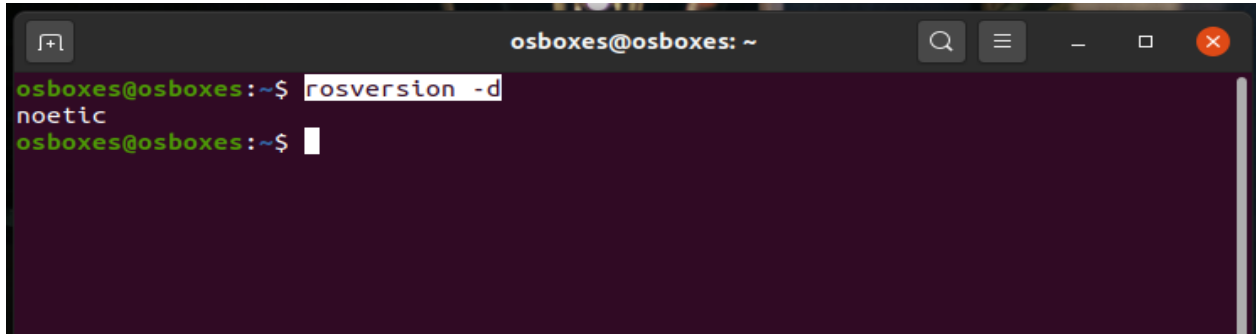
Note: This step would take a time around **10-20** mins

```
sudo apt install ros-noetic-desktop-full
```

and finally, for the environment setup, You must source this script in every **bash** terminal you use ROS in. Here we will be choosing the bash.

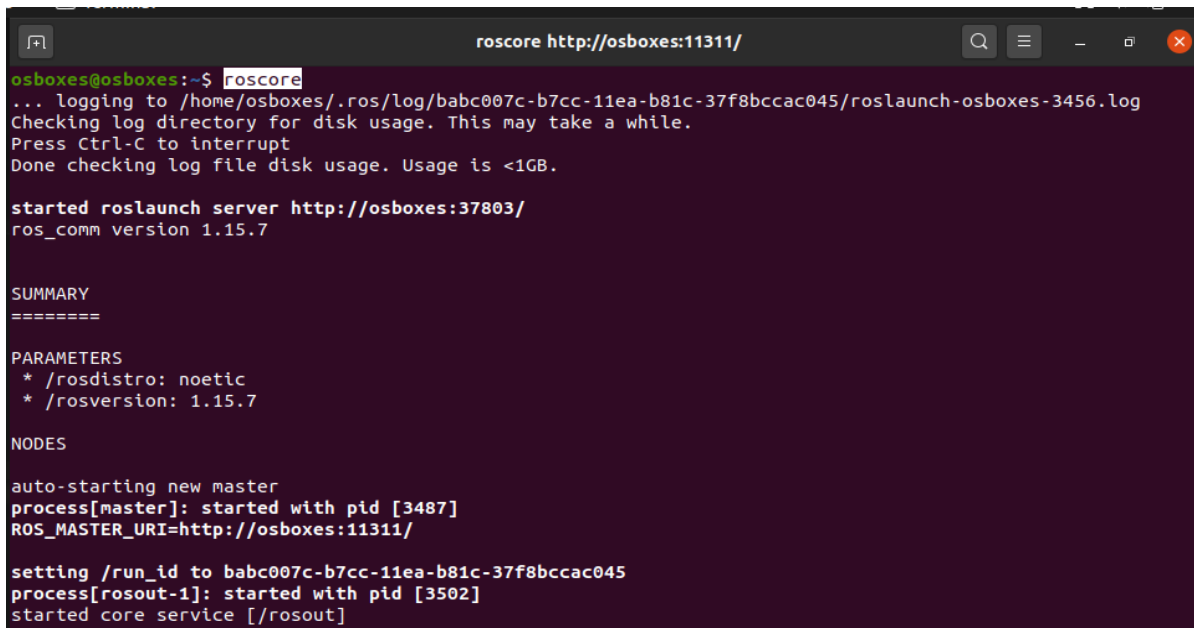
```
echo "source /opt/ros/noetic/setup.bash" >> ~/.bashrc
```

Now that we finished the installation and the terminal is ready to receive the next command, we enter the code: **rosversion -d** to check the installed version of ROS:



```
osboxes@osboxes: ~  
osboxes@osboxes:~$ rosversion -d  
noetic  
osboxes@osboxes:~$
```

And the command **roscore** which will give us a summary about the system.



```
roscore http://osboxes:11311/  
osboxes@osboxes:~$ roscore  
... logging to /home/osboxes/.ros/log/babc007c-b7cc-11ea-b81c-37f8bccac045/roslaunch-osboxes-3456.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://osboxes:37803/  
ros_comm version 1.15.7  
  
SUMMARY  
=====  
  
PARAMETERS  
* /rostdistro: noetic  
* /rosversion: 1.15.7  
  
NODES  
  
auto-starting new master  
process[master]: started with pid [3487]  
ROS_MASTER_URI=http://osboxes:11311/  
  
setting /run_id to babc007c-b7cc-11ea-b81c-37f8bccac045  
process[rosout-1]: started with pid [3502]  
started core service [/rosout]
```

By now, you should have successfully installed ROS Noetic on your Ubuntu OS.