

Download ROS1 on ubuntu 20.04

1- In ubuntu open the terminal

2- Setup sources.list(to find ROS after installing it) by typing the following command in terminal

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

note: after typing the command, you're required to type your ubuntu password

3- Set up your keys by typing the following commands in terminal

```
sudo apt install curl
```

```
curl -s https://raw.githubusercontent.com/ros/rosdistro/master/ros.asc |  
sudo apt-key add -
```

4- Type the following command in the terminal to make sure your Debian packages index is up to date

```
sudo apt update
```

5- Type the following command to install the desktop full package of ROS

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

note: this may take a while(1 to 2 hours depending on your internet connection)

6- Type the following commandset up the environment

```
source /opt/ros/noetic/setup.bash
```

7- Type the following command to echo bashrc

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

8- Type the following command to make sure that ROS has been installed

```
roscore
```

Note: you should have information about ROS like the version of ROS

```
faiza@faiza: ~  
faiza@faiza:~$ sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'  
[sudo] password for faiza:  
faiza@faiza:~$ sudo apt install curl # if you haven't already installed curl  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi  
  libgstreamer-plugins-bad1.0-0 libva-wayland2  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  libcurl4  
The following NEW packages will be installed:  
  curl  
The following packages will be upgraded:  
  libcurl4  
1 upgraded, 1 newly installed, 0 to remove and 223 not upgraded.  
Need to get 396 kB of archives.  
After this operation, 416 kB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Abort.  
faiza@faiza:~$ sudo apt install curl # if you haven't already installed curl  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi  
  libgstreamer-plugins-bad1.0-0 libva-wayland2  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  libcurl4  
The following NEW packages will be installed:  
  curl  
The following packages will be upgraded:  
  libcurl4  
Abort.  
faiza@faiza:~$ sudo apt install curl  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi  
  libgstreamer-plugins-bad1.0-0 libva-wayland2  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  libcurl4  
The following NEW packages will be installed:  
  curl  
The following packages will be upgraded:  
  libcurl4  
1 upgraded, 1 newly installed, 0 to remove and 223 not upgraded.  
Need to get 396 kB of archives.  
After this operation, 416 kB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libcurl4 amd64 7.68.0-1ubuntu2.12 [235 kB]  
Get:2 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 curl amd64 7.68.0-1ubuntu2.12 [161 kB]  
Fetched 396 kB in 1s (307 kB/s)  
(Reading database ... 183914 files and directories currently installed.)  
Preparing to unpack .../libcurl4_7.68.0-1ubuntu2.12_amd64.deb ...  
Unpacking libcurl4:amd64 (7.68.0-1ubuntu2.12) over (7.68.0-1ubuntu2.7) ...  
Selecting previously unselected package curl.  
Preparing to unpack .../curl_7.68.0-1ubuntu2.12_amd64.deb ...  
Unpacking curl (7.68.0-1ubuntu2.12) ...  
Setting up libcurl4:amd64 (7.68.0-1ubuntu2.12) ...  
Setting up curl (7.68.0-1ubuntu2.12) ...  
Processing triggers for man-db (2.9.1-1) ...  
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...  
faiza@faiza:~$ curl -s https://raw.githubusercontent.com/ros/rosdistro/master/ros.asc | sudo apt-key add -  
OK  
faiza@faiza:~$ sudo apt update  
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
```

```
faiza@faiza:~$ curl -s https://raw.githubusercontent.com/ros/rosdistro/master/ros.asc | sudo apt-key add -
OK
faiza@faiza:~$ sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://archive.canonical.com/ubuntu focal InRelease
Get:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:6 http://packages.ros.org/ros/ubuntu focal InRelease [4676 B]
Get:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1947 kB]
Get:8 http://packages.ros.org/ros/ubuntu focal/main i386 Packages [21.5 kB]
Get:9 http://packages.ros.org/ros/ubuntu focal/main amd64 Packages [681 kB]
Get:10 http://archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [688 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [923 kB]
Get:12 http://archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages [677 kB]
Fetched 5278 kB in 25s (210 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
223 packages can be upgraded. Run 'apt list --upgradable' to see them.
faiza@faiza:~$ sudo apt install ros-noetic-desktop-full
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi
  libgstreamer-plugins-bad1.0-0 libva-wayland2
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  autoconf automake autopoint autotools-dev binfmt-support blt bzip2-doc cmake
  cmake-data comerr-dev cpp-8 cython3 debhelper default-libmysqlclient-dev
  dh-autoreconf dh-strip-nondeterminism docutils-common dwz fltk1.3-doc fluid
  fonts-lato fonts-lyx freeglut3 freeglut3-dev gazebo11 gazebo11-common
  gazebo11-plugin-base gcc-8 gcc-8-base gdal-data gettext gfortran gfortran-8
  gfortran-9 gir1.2-gtk-2.0 gir1.2-harfbuzz-0.0 google-mock googletest
  graphviz hddtemp hdf5-helpers ibverbs-providers icu-devtools ignition-tools
```

```
faiza@faiza:~$ rosecore
Command 'rosecore' not found, did you mean:
  command 'roscore' from deb python3-roslaunch (1.14.3+ds1-11ubuntu5)
Try: sudo apt install <deb name>
faiza@faiza:~$ source /opt/ros/noetic/setup.bash
faiza@faiza:~$ roscore
... logging to /home/faiza/.ros/log/1d31aa34-fe36-11ec-8743-71cc6aa92cf4/roslaunch-faiza-26220.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://faiza:35361/
ros_comm version 1.15.14

SUMMARY
=====

PARAMETERS
 * /rostdistro: noetic
 * /rosversion: 1.15.14

NODES

auto-starting new master
process[master]: started with pid [26230]
ROS_MASTER_URI=http://faiza:11311/

setting /run_id to 1d31aa34-fe36-11ec-8743-71cc6aa92cf4
process[roscout-1]: started with pid [26240]
started core service [/roscout]
```

```
faiza@faiza: ~  
faiza@faiza:~$ roscore  
Command 'roscore' not found, but can be installed with:  
sudo apt install python3-roslaunch  
faiza@faiza:~$ source /opt/ros/noetic/setup.bash  
faiza@faiza:~$ echo "source /opt/ros/noetic/setup.bash" >> ~/.bashrc
```