

ROS Noetic Installation Guide

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ROS Version for Ubuntu

There are different ROS versions for different Ubuntu versions. Careful with your version while installing ROS on your main operating system.

Recommended Setting

Ubuntu Version	ROS Version
Ubuntu Focal Fossa 20.04.3 - LATEST	ROS Noetic
Ubuntu Bionic 18.04.6	ROS Melodic
Ubuntu Wily 15.10, Ubuntu Xenial 16.04	ROS kinetic

Installation Guide for ROS Noetic

[Instruction Source](#)

Step 1.1 - Source List

Setup your computer to accept software from [package.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'
```

Step 1.2 - Setting Keys

```
sudo apt install curl # if you haven't already installed curl
curl -s https://raw.githubusercontent.com/ros/rosdistro/master/ros.asc | sudo apt-key add -
```

Step 1.3 - Installation

```
sudo apt-get update
sudo apt-get upgrade
```

Full Desktop Installation

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

Step 1.4 - Environment Setup

[Other_Location](#) → [Computer](#) → [opt](#) → [ros](#) → [noetic](#) → [.setup.bash](#)

If you go to [Other Locations](#) on **Ubuntu 20.04**, You will see a folder name [Computer](#) . Click on [Computer](#) you will see a folder name [opt](#) . Click on it a new folder name [ros](#) appears click on it, and next click on [noetic](#) . You will see a [setup.bash](#) for Linux Terminal. There are different setup files for different terminal configuration. In order to work with **ROS**, we need to run [setup.bash](#) file every time while working with **ROS**. For preventing

ourselves from manually running this file again and again. We will make it automatic by adding the following lines in `.bashrc` file.

Open Linux terminal using `ctrl+shift+t`, and run below command on `Linux Terminal`.

```
gedit .bashrc
```

Above command will open a text editor file of `.bashrc`. Then save the following line at the end of file.

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

After saving run the below command once and you are ready to work with **ROS**.

```
source ~/.bashrc
```

Step 1.5 - Dependencies for Building Packages

```
sudo apt install python3-rosdep python3-rosinstall python3-rosinstall-generator python3-wstool build-essential
```

Step 1.5.1 - Initialize rosdep

The rosdep is a feature that enhances user convenience by easily installing dependent packages when using or compiling core components of ROS.

```
sudo apt install python3-rosdep
```

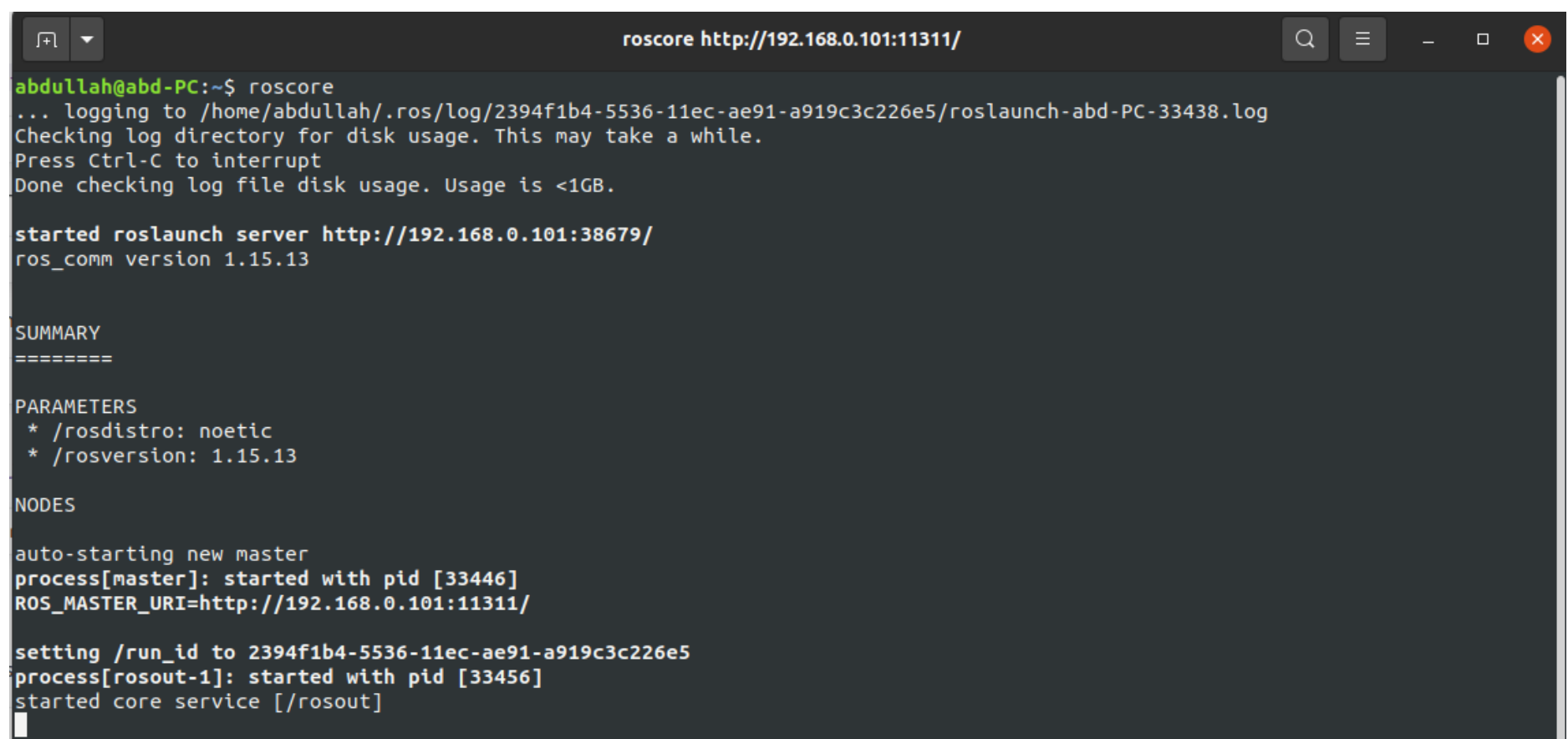
```
sudo rosdep init
rosdep update
```

Step 1.6 - Run roscore

Run `roscore` command on Linux terminal to see the successful installation of ROS.

```
roscore
```

Output:



```
roscore http://192.168.0.101:11311/
abdullah@abd-PC:~$ roscore
... logging to /home/abdullah/.ros/log/2394f1b4-5536-11ec-ae91-a919c3c226e5/roslaunch-abd-PC-33438.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://192.168.0.101:38679/
ros_comm version 1.15.13

SUMMARY
=====

PARAMETERS
* /rostdistro: noetic
* /rosversion: 1.15.13

NODES

auto-starting new master
process[master]: started with pid [33446]
ROS_MASTER_URI=http://192.168.0.101:11311/

setting /run_id to 2394f1b4-5536-11ec-ae91-a919c3c226e5
process[rosout-1]: started with pid [33456]
started core service [/rosout]
█
```