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

ourself 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: