



ROS2

Install ROS2 Foxy Fitzroy By TESR

Install ROS 2 on Ubuntu

- **Step 1: Set locale**

```
locale #check for UTF-8
```

```
sudo apt update && sudo apt install locales
```

```
sudo locale-gen en_US en_US.UTF-8
```

```
sudo update-locale LC_ALL=en_US.UTF-8 LANG=en_US.UTF-8
```

```
export LANG=en_US.UTF-8
```

```
locale #verify settings
```

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- **Step 2: Setup Sources**

Check if Ubuntu Universe repository is enabled.

```
apt-cache policy | grep universe
```

Output should be like this below:

```
500 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 Packages  
release v=20.04,o=Ubuntu,a=focal,n=focal,l=Ubuntu,c=universe,b=amd64
```

1

If you don't see an output line like the one above, then enable the Universe repository with these instructions.

```
sudo apt install software-properties-common
```

```
sudo add-apt-repository universe
```

2

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• Step 2: Setup Sources

Now, add the ROS 2 apt repository to your system.

```
sudo apt update && sudo apt install curl gnupg2 lsb-release
```

```
sudo curl -sSL https://raw.githubusercontent.com/ros/rosdistro/master/ros.key -o /usr/share/keyrings/ros-archive-keyring.gpg
```

3

Then, add the repository to your source list.

```
echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/ros-archive-keyring.gpg] http://packages.ros.org/ros2/ubuntu $(source /etc/os-release && echo $UBUNTU_CODENAME) main" | sudo tee /etc/apt/sources.list.d/ros2.list > /dev/null
```

4

Install ROS 2 on Ubuntu

- **Step 3:** Install ROS 2 packages and dependencies packages

Update your apt repository cache after setting up the repositories. And, It is always recommended that you ensure your system is up to date before installing new packages.

```
sudo apt update; sudo apt upgrade
```

1

And then, Install ROS 2 Foxy Fitzroy's Desktop

```
sudo apt install ros-foxy-desktop
```

2

[Recommended] Install the dependency tools for ROS2

```
sudo apt install python3-colcon-common-extensions python3-pip unzip python3-rosdep2  
sudo apt install net-tools openssh-server openssh-client
```

3

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- **Step 4: Environment setup**

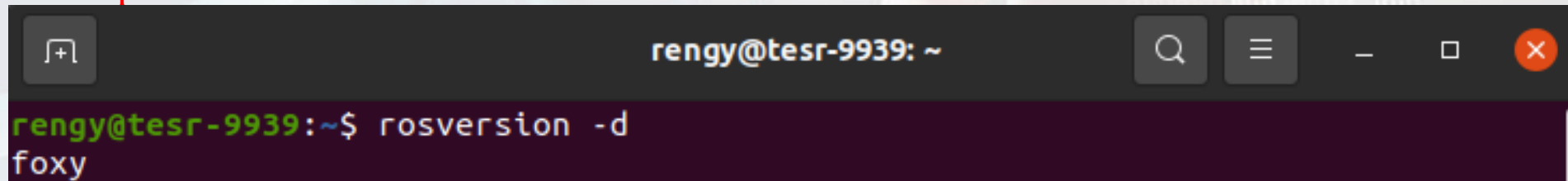
Sourcing the setup script

```
# Replace ".bash" with your shell if you're not using bash  
# Possible values are: setup.bash, setup.sh, setup.zsh  
source /opt/ros/foxy/setup.bash
```

You can check if ROS 2 Foxy is installed by type;

```
rosversion -d
```

#Output on terminal

A terminal window with a dark background. The title bar shows 'rengy@tesr-9939: ~'. The prompt is 'rengy@tesr-9939:~\$'. The command 'rosversion -d' has been entered, and the output 'foxy' is displayed on the next line.

```
rengy@tesr-9939: ~  
rengy@tesr-9939:~$ rosversion -d  
foxy
```


Install ROS 2 on Ubuntu

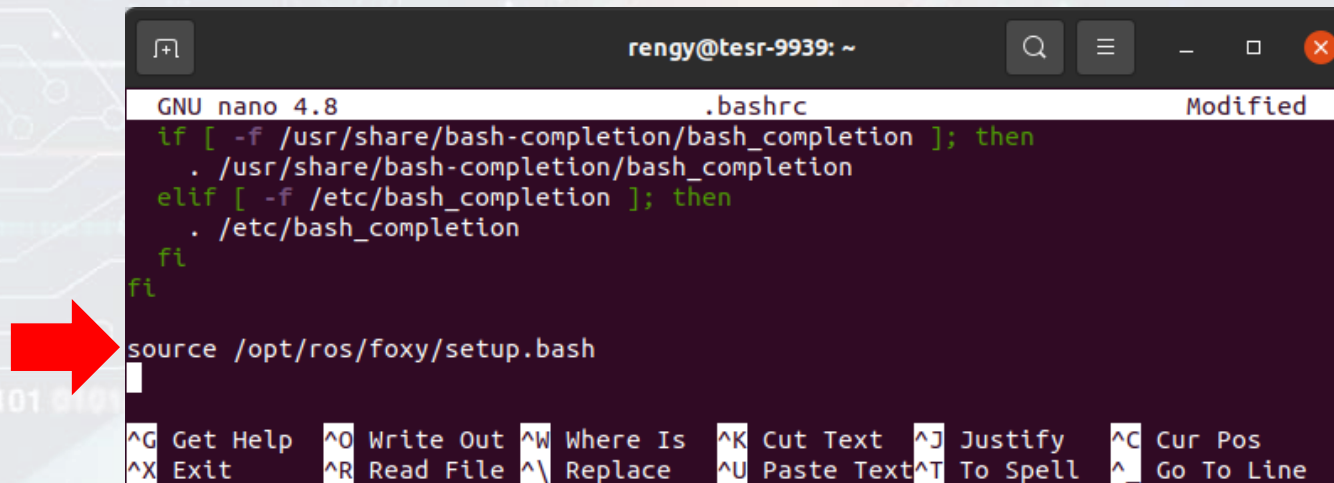
- **Add source command to .bashrc**

Open the .bashrc file using nano

```
sudo nano .bashrc
```

Scroll down to the last line of .bashrc file and add command following as below:

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



```
rengy@tesr-9939: ~
GNU nano 4.8 .bashrc Modified
if [ -f /usr/share/bash-completion/bash_completion ]; then
. /usr/share/bash-completion/bash_completion
elif [ -f /etc/bash_completion ]; then
. /etc/bash_completion
fi
fi
source /opt/ros/foxy/setup.bash
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line
```

And then, press "Ctrl+O" to save and "Ctrl+X" to exit from nano and source .bashrc using:

```
source .bashrc
```

Contact Us

Email: tesrshop@gmail.com

Line official Account: @ion1900z

Facebook fanpage: TESR

Tel. 082-983-7768

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TESR Co., LTD

112/296 หมู่บ้าน เพอร์เฟค มาสเตอร์พีช
หมู่ที่ 2 ตำบลไทรมา อำเภอมะนังนบุรี
จังหวัดนบุรี 11000