

ROS Installation

This is a helper file for install ROS Kinetic on Ubuntu 16.04 LTS.

- ROS Installation instructions:

1- Open a new terminal (ctrl+alt+T).

2- Execute the following commands:

- `sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'`
- `sudo apt-key adv --keyserver 'hkp://keyserver.ubuntu.com:80' --recv-key C1CF6E31E6BADE8868B172B4F42ED6FBAB17C654`
- `sudo apt-get update`
- `sudo apt-get install ros-kinetic-desktop-full`
- `sudo rosdep init`
- `rosdep update`
- `echo "source /opt/ros/kinetic/setup.bash" >> ~/.bashrc`
- `source ~/.bashrc`
- `sudo apt install python-rosinstall python-rosinstall-generator python-wstool build-essential`

Congrats!!, ROS is installed successfully on your machine now.

NOTE -1-: The installation process may take a while (depending on your speed internet connection).

NOTE -2-: “Could not get lock /var/lib/dpkg/lock-frontent - open (11: Resource temporarily unavailable)...”, If this error appear when try to install a package especially in VMWare restart the machine may solve the problem, if the error still appearing look [here](#).

- Test your installed ROS:

1- Create a workspace:

a- Create new directory:

```
mkdir -p ~/test_ws/src
```

b- change to the new directory:

```
cd ~/test_ws/src
```

c- workspace initialization:

```
catkin_init_workspace
```

d- create a package with name "test_pkg":

```
catkin_create_pkg test_pkg
```

e- change directory to workspace:

```
cd ..
```

f- Build and Compile:

```
catkin_make
```

if all of the above done successfully without any error, your installation is correct if no you should restart from the beginning.

2- Try run gazebo by typing "gazebo" in the terminal (if you face errors when running gazebo in vmware try run this command before gazebo "export SVGA_VGPU10=0").

3- Try run rviz by "rviz" command (you must run "roscore" command first).

- Useful shortcuts:

Result	Shortcut
1- Open a new Terminal	Ctrl+alt+T
2- Open a new tab in the same terminal	Ctrl+shift+T
3- Move to the next tab	Ctrl+pg up or Ctrl+pg dn
4- Open a new tab in ubuntu window	Ctrl+T

- Useful Commands:

Result	Shortcut
1- Install a Package in ubuntu	sudo apt-get install PACKAGE_NAME
2- Install ROS Package	sudo apt-get install ros-kinetic-PACKAGE_NAME

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