

ROS INSTALLATION UBUNTU 18.04

Important Linux Packages

```
sudo apt-get install libavcodec-dev libsdl1.2-dev xsltproc libbullet-dev  
libsdl1.2-dev libgoogle-glog-dev protobuf-compiler python-wstool
```

Install Gazebo

```
sudo apt-get install gazebo9 libgazebo9-*
```

Install GIT

```
sudo apt-get install git
```

Setup sources.list

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

Adding Key

```
sudo apt-key adv --keyserver 'hkp://keyserver.ubuntu.com:80' --recv-key  
C1CF6E31E6BADE8868B172B4F42ED6FBAB17C654
```

Update package list

```
sudo apt-get update
```

Installing ROS Melodic Full Desktop Version

```
sudo apt-get install ros-melodic-desktop-full
```

Initialize Ros Dependencies

```
sudo rosdep init  
rosdep update
```

Setting up ROS Environment

```
printf "source /opt/ros/melodic/setup.bash" >> ~/.bashrc
```

```
source ~/.bashrc
```

Installing Python Packages for ROS

```
sudo apt-get install python-rosinstall
```

```
sudo apt install python-catkin-tools
```

Other Important ROS Packages

```
sudo apt-get install ros-melodic-tf-*
```

```
sudo apt-get install ros-melodic-pcl-msgs ros-melodic-mav-msgs  
ros-melodic-mavros ros-melodic-octomap-* ros-melodic-geographic-msgs  
libgeographic-dev
```

Creating Catkin Workspace

```
mkdir catkin_ws
```

```
cd catkin_ws
```

```
mkdir -p src
```

```
cd src
```

```
catkin_init_workspace
```

```
printf "source ~/catkin_ws/devel/setup.bash" >> ~/.bashrc
```

```
cd ~/catkin_ws
```

```
catkin_make
```

```
source ~/catkin_ws/devel/setup.bash
```

Checking ROS & Gazebo Versions

```
rosversion -d
```

```
gazebo -v
```