sudo apt-get update

sudo apt-get upgrade

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 upgrade

sudo apt install ros-melodic-desktop-full

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

source ~/.bashrc

sudo apt install python-rosdep python-rosinstall python-rosinstall-generator python-wstool build-essential

sudo apt install python-rosdep

roscore

sudo apt install build-essential

sudo apt install clang-format-5.0

$ cd ~

$ mkdir catkin\_ws

$ cd catkin\_ws

$ mkdir src

$ cd src

$ catkin\_init\_workspace

$ cd ..

$ catkin\_make

$ nano ~/.bashrc

$ source ~/catkin\_ws/devel/setup.bash

sudo apt-get install -y leafpad

sudo apt-get install pylint

sudo ./install.sh

$ sudo apt-get update

$ sudo apt-get upgrade

$ sudo apt install build-essential

$ sudo apt install clang-format-5.0

$ cd ~

$ mkdir catkin\_ws

$ cd catkin\_ws

$ mkdir src

$ cd src

$ catkin\_init\_workspace

$ cd ..

$ catkin\_make

$ nano ~/.bashrc

$ source ~/catkin\_ws/devel/setup.bash

$ sudo apt-get install -y leafpad

$ sudo apt-get install pylint

$ sudo ./install.sh

Installation

Update & Upgrade

$sudo apt-get update && sudo apt-get upgrade -y

Fart Update

cat /etc/apt/sources.list

sudo gedit /etc/apt/sources.list

sudo add-apt-repository ppa:apt-fast/stable

sudo apt-get update

sudo apt-get -y install apt-fast

Romove

$sudo apt-get remove package-name

หรือ

$sudo apt-get purge package-name

Install Arduino IDE

Leafpad sudo apt-get install -y leafpad

<https://code.visualstudio.com/>

roboware

sudo apt-get install pylint

Install Arduino IDE

<https://www.arduino.cc/download_handler.php?f=/arduino-1.8.9-linux64.tar.xz>

sudo ./install.sh

sudo apt install arduino

Open Terminal and type:

ls -l /dev/ttyACM\*

ls -l /dev/ttyUSB\*

you will get something like:

crw-rw---- 1 root dialout 188, 0 5 apr 23.01 ttyACM0

The "0" at the end of ACM might be a different number, or multiple entries might be returned. The data we need is "dialout" (is the group owner of the file).

Now we just need to add our user to the group:

sudo usermod -a -G dialout <username>

sudo chmod a+rw /dev/ttyACM0

Install ROV Kinetic

<http://wiki.ros.org/kinetic/Installation/Ubuntu>

SUBSYSTEMS=="usb", ATTRS{manufacturer}==" manufacturer ", ATTRS{product}==" product ", SYMLINK+="SYMLINK ", ENV{ID\_MM\_DEVICE\_IGNORE}="1", MODE="0666"