

## Robot arm on ROS

### To install ROS melodic:

```
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 update

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

sudo rosdep init

rosdep update
```

### Creating a workspace for catkin:

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

mkdir -p ~/catkin_ws/src

/cd ~/catkin_ws

catkin_make

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

### Installing the package arduino\_robot\_arm:

*Add the “arduino\_robot\_arm” package to “src” folder:*

```
cd ~/catkin_ws/src

sudo apt install git

git clone https://github.com/smart-methods/arduino_robot_arm
```

*Install all the dependencies:*

```
cd ~/catkin_ws

rosdep install --from-paths src --ignore-src -r -y

sudo apt-get install ros-melodic-moveit

sudo apt-get install ros-melodic-joint-state-publisher ros-melodic-joint-state-publisher-gui

sudo apt-get install ros-melodic-gazebo-ros-control joint-state-publisher
```

```
sudo apt-get install ros-melodic-ros-controllers ros-melodic-ros-control
```

*Compile the package:*

```
catkin_make
```

To run programs:

```
sudo nano ~/.bashrc
```

```
source /home/razan/catkin_ws/devel/setup.bash
```

Then ctrl+O

ctrl+X to out

```
source ~/.bashrc
```

```
roslaunch robot_arm_pkg check_motors.launch
```