First
download <u>virtual box</u>
and then install <u>ubuntu</u>

Getting Started with ROS

The 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 update

$ sudo apt install ros-melodic-desktop

$ 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 rosdep init
$ rosdep update

$ sudo apt-get install cmake python-catkin-pkg python-empy python-nose python-setuptools
libgtest-dev python-rosinstall python-rosinstall-generator python-wstool build-essential git

```
$ mkdir -p ~/catkin_ws/src
$ cd ~/catkin_ws/

$ catkin_make

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

$ cd ~/catkin_ws/src

$ git clone https://github.com/stereolabs/zed-ros-wrapper.git

$ cd ~/catkin_ws
$ rosdep install --from-paths src --ignore-src -r –y


$sudo apt-get install ros-kinetic-moveit

$sudo apt-get install ros-kinetic-joint-state-publisher ros-kinetic-joint-state-publisher-gui

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

```
$sudo apt-get install ros-kinetic-ros-controllers ros-kinetic-ros-control

$sudo nano ~/.bashrc

$at the end of the (bashrc) file add the following line (source /home/wesam/catkin_ws/devel/setup.bash)
then
ctrl+o

$source ~/.bashrc

$roslaunch robot_arm_pkg check_motors.launch
```