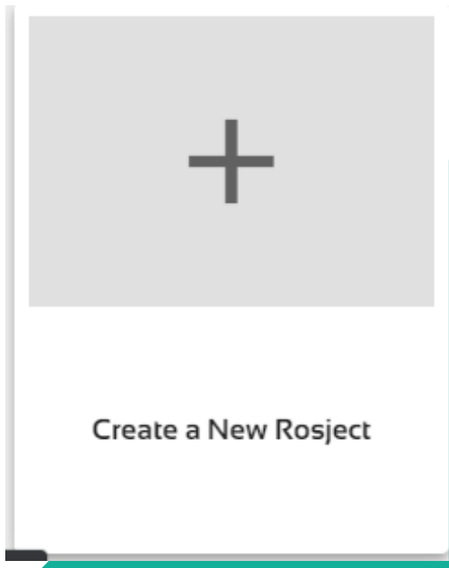
Robot-arm-project

In this project will create and simulate robot arm using robot operating system (ROS).

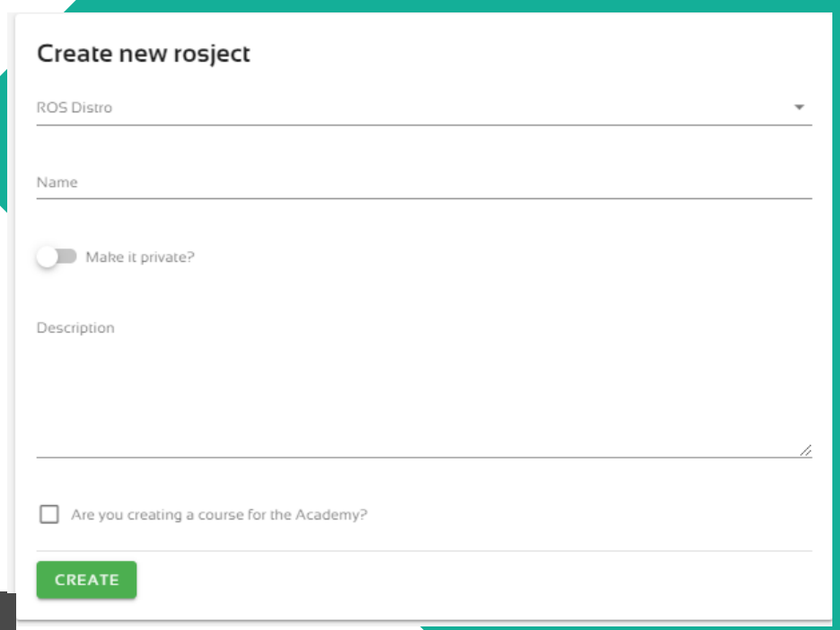
We used the online website https://www.theconstructsim.com/ to get the task done.

After signing up, from the 'Home' page; go to 'My Rosjects'

and click on 'Create a New Rosjects'



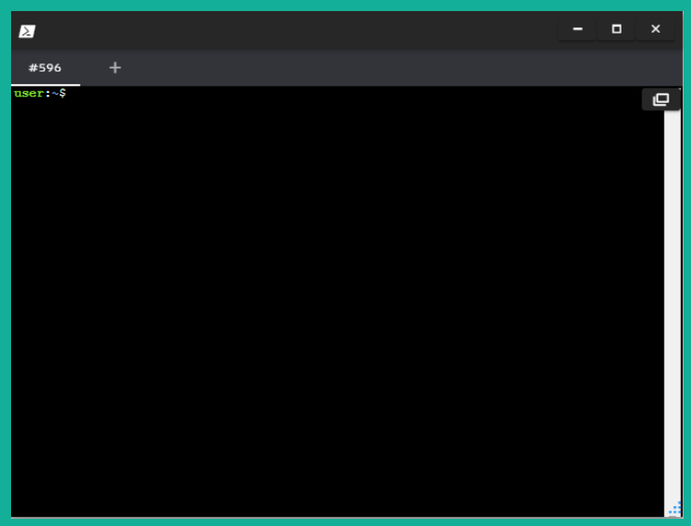
then we filled the information of the project.



We created our project, now ‘RUN’

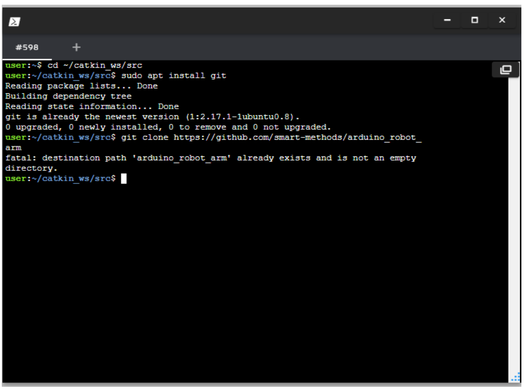
Click on ‘Web shell’

Let’s start coding



Add ‘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 dependencies

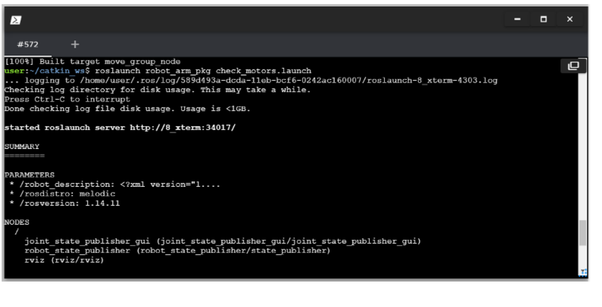
- cd ~/catkin_ws
- rosdep install --from-paths src --ignore-src -r -y
- sudo apt-get install ros-melodic-moveit
- sudo apt-get install ros-melodic-joint-state-publisher ros-melodic-joint-state-publisher-gui
- sudo apt-get install ros-melodic-gazebo-ros-control joint-state-publisher
- sudo apt-get install ros-melodic-ros-controllers ros-melodic-ros-control

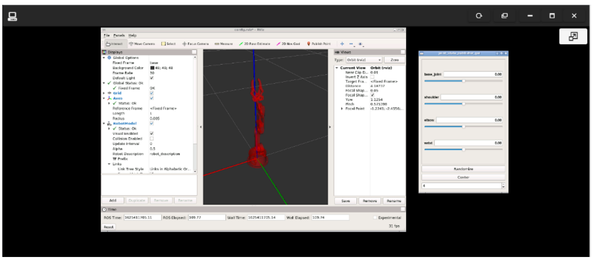
Compile the package

- catkin_make

Run the arm robot package with

- roslaunch robot_arm_pkg check_motors.launch

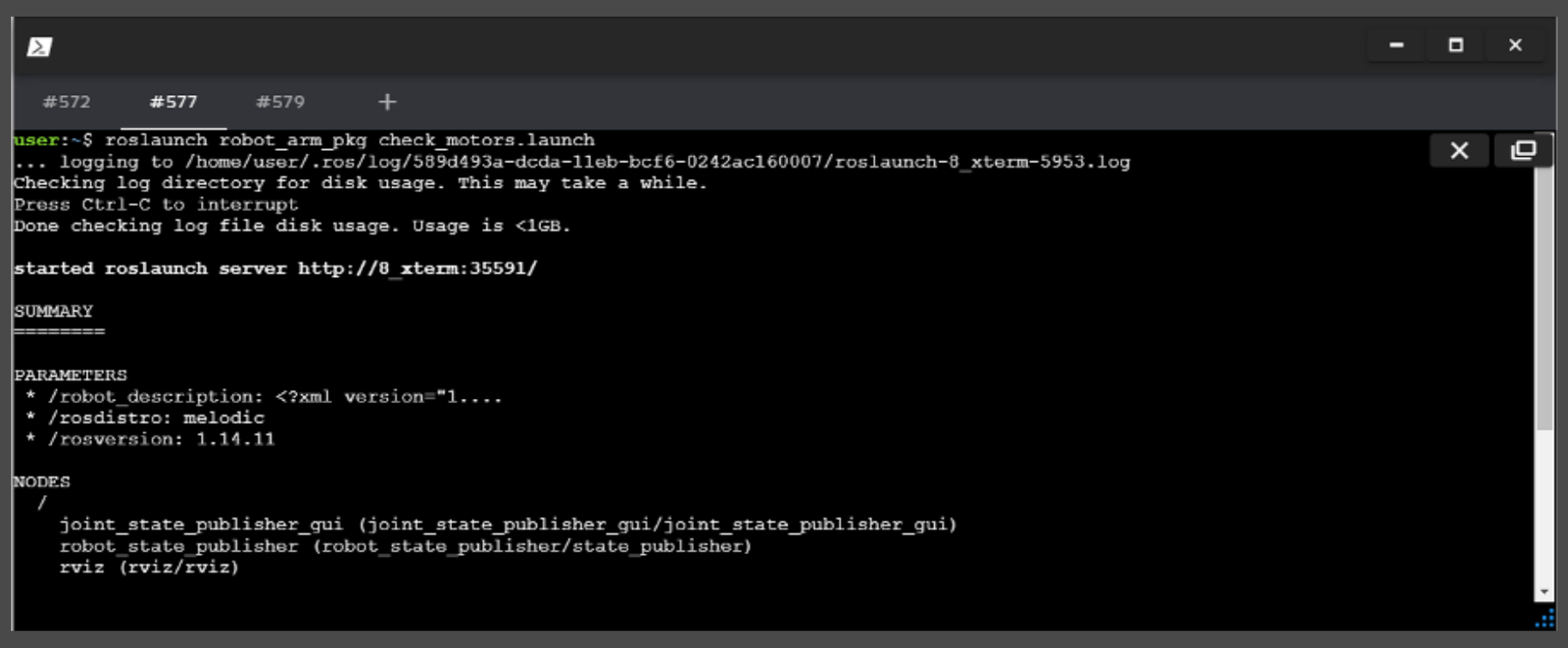


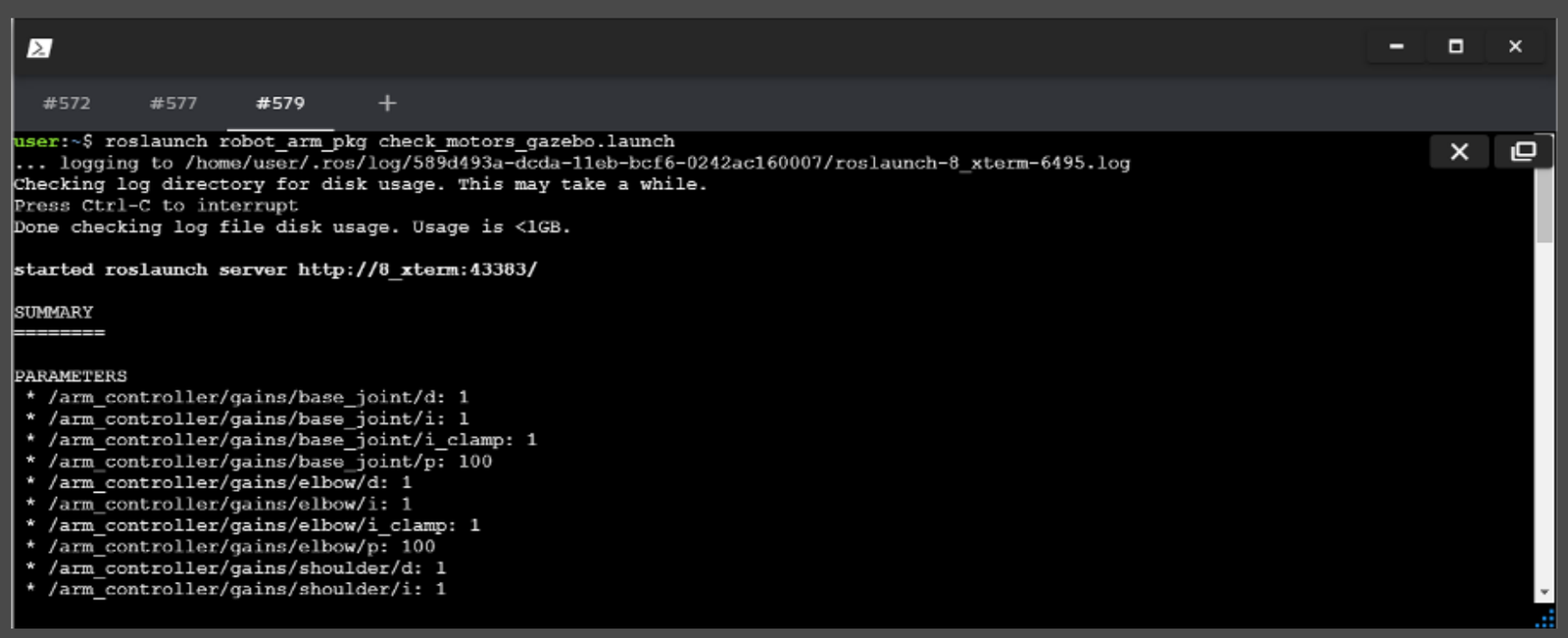


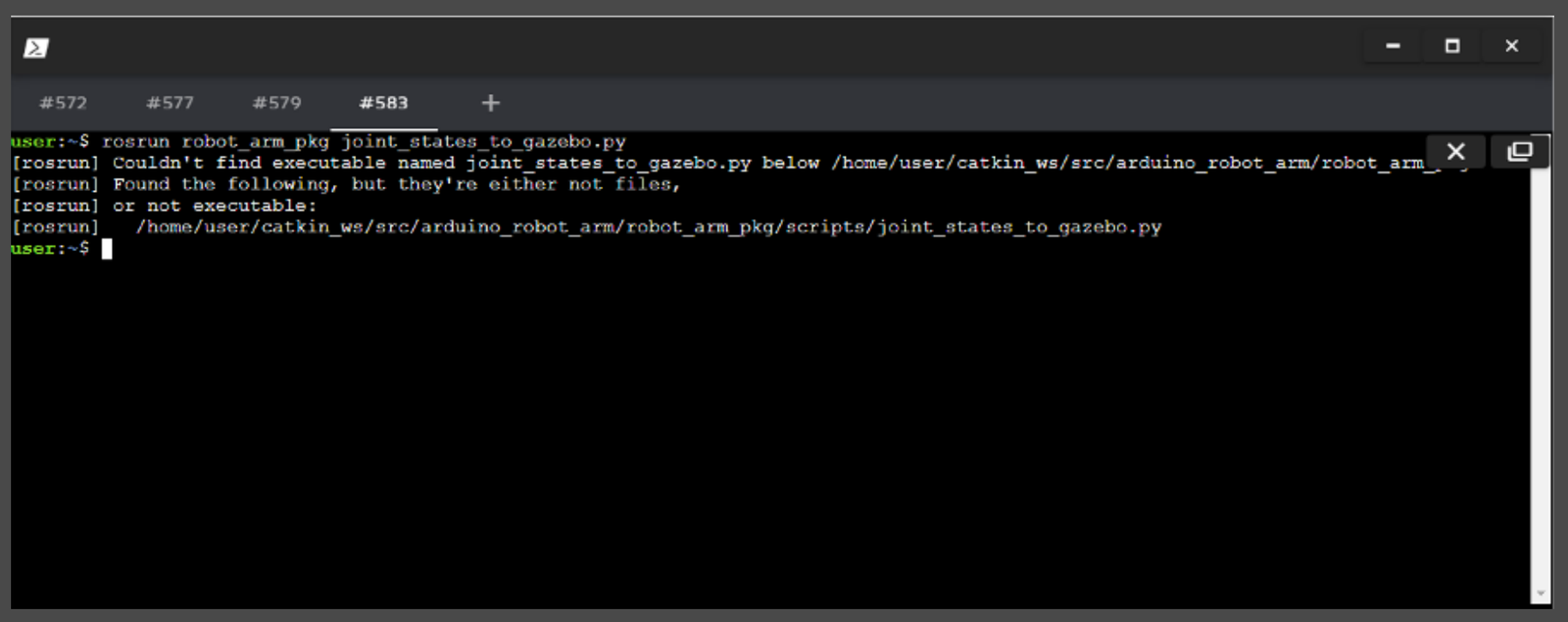
Controlling the motors in simulation

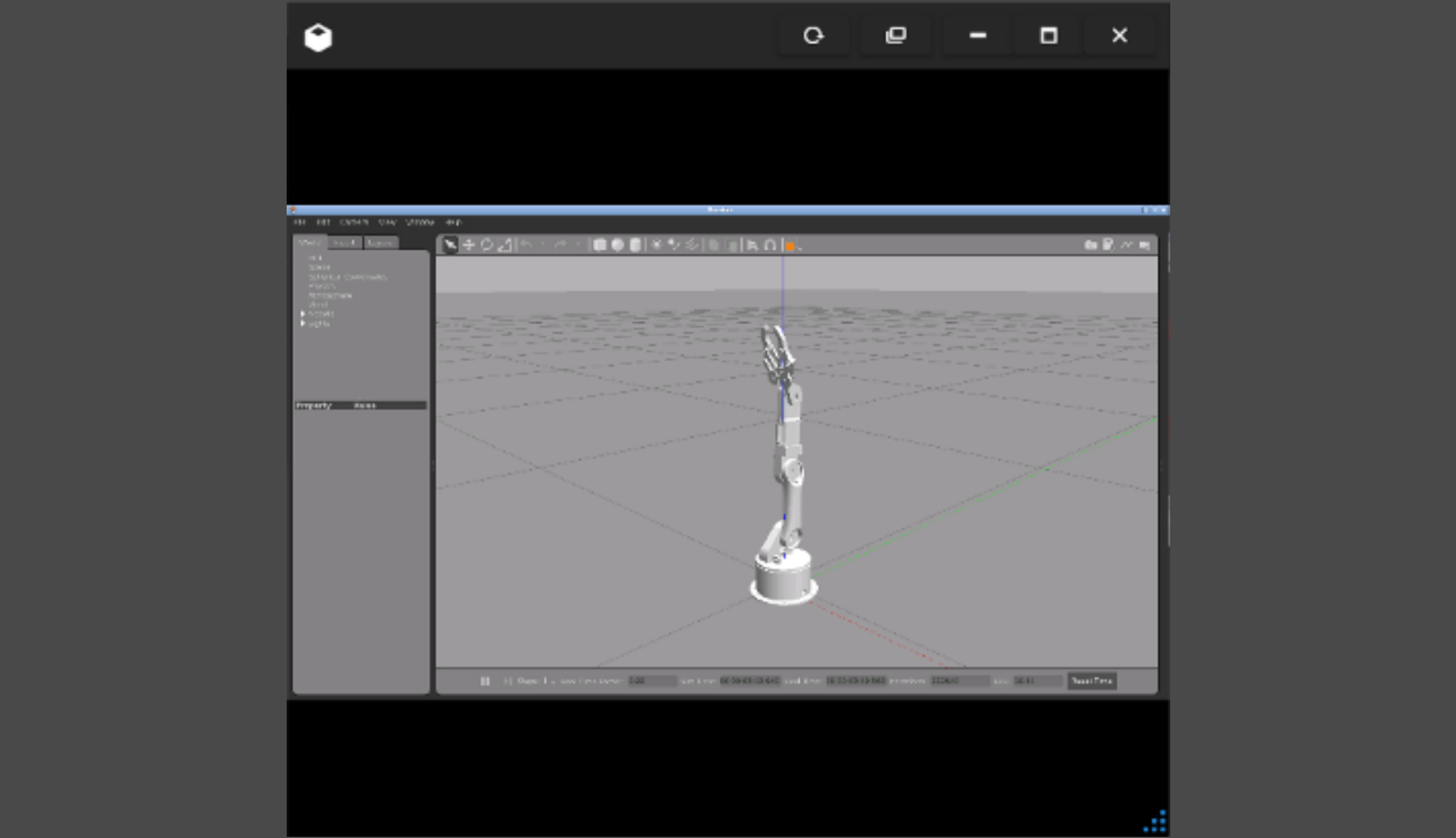
We will run the arm simulation on RVis and Gazebo

- roslaunch robot_arm_pkg check_motors.launch
- roslaunch robot_arm_pkg check_motors_gazebo.launch
- rosrun robot_arm_pkg joint_states_to_gazebo.py



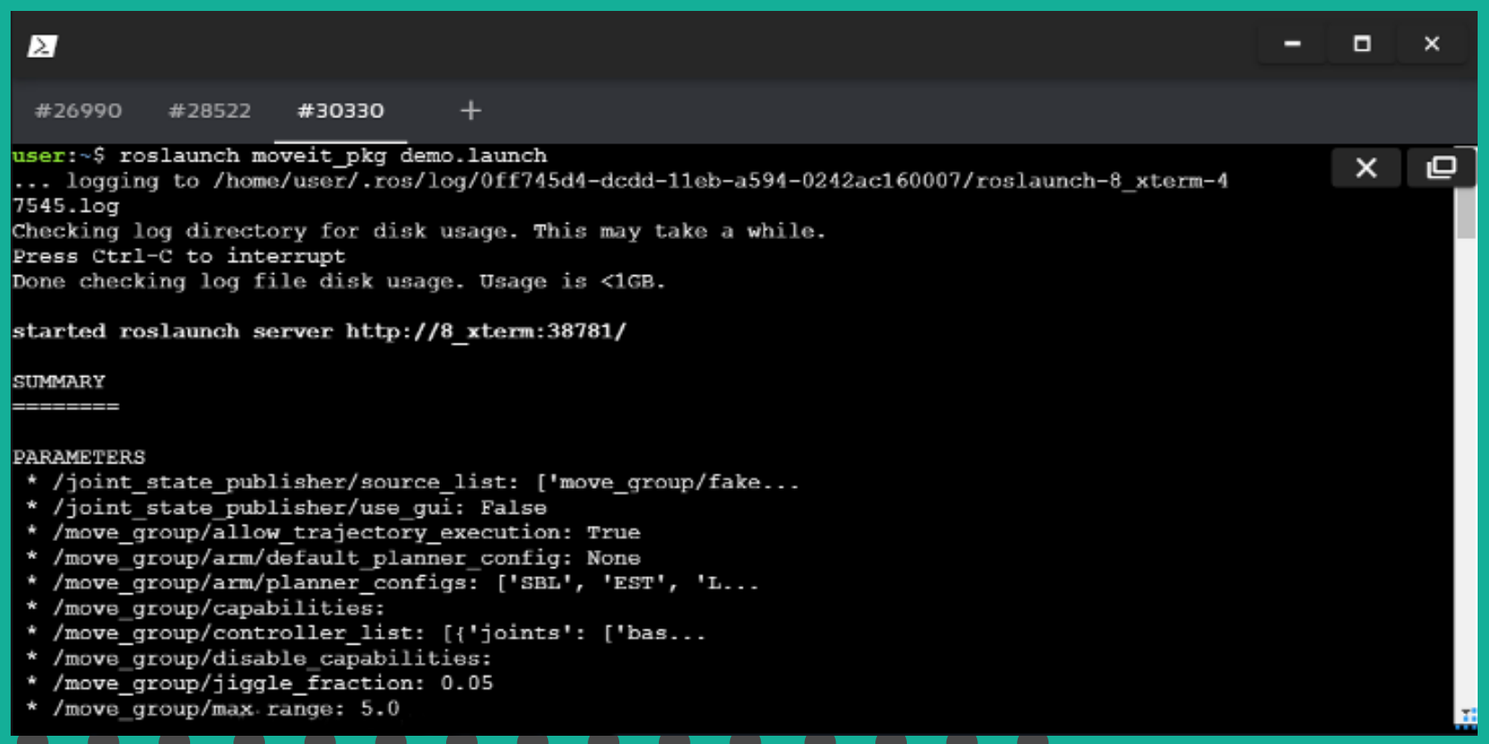


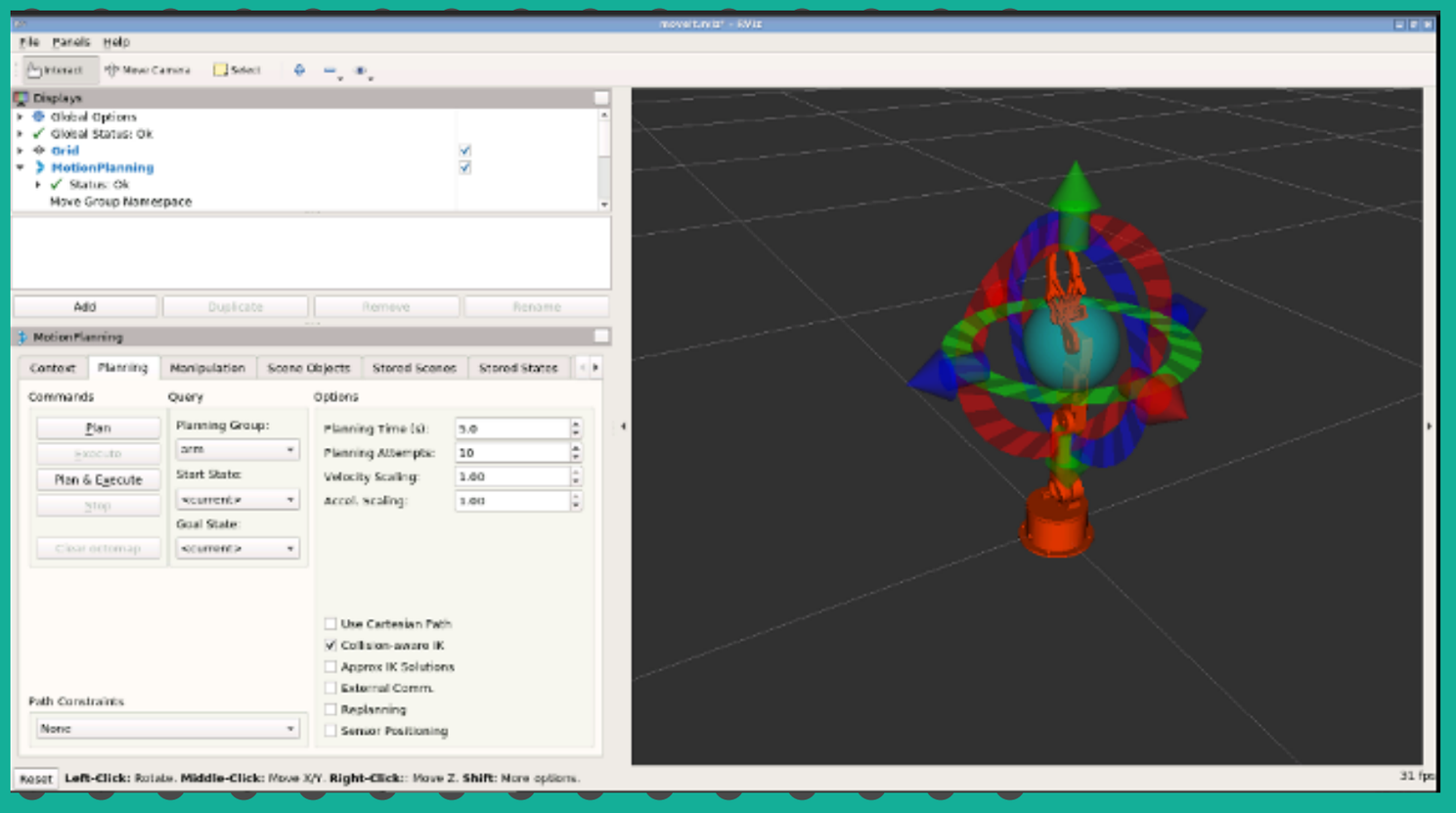




Finally, we are going to use moveIt which is simulate the arm movement in different directions, by command

- roslaunch moveit_pkg demo.launch





THANK YOU