URDF model of the robotic arm

1. Introduction

The full name of URDF model is Unified Robot Description Format, which is a file used to describe the appearance, performance and other attributes of the robot.

It can not only clearly describe the model of the robot itself, but also describe the external environment of the robot, such as a table, which can also be regarded as a model.

By default, the factory system has configured the URDF model of the jetcobot robot arm.

2. Start URDF model

2.1 Start roscore

- If you are using Jetson Orin NX/Jetson Orin Nano board. You need to enter the Docker environment using the following command.
- Then, run roscore

```
sh ~/start_docker.sh
roscore
```

- If you are using Jetson Nano board. You need to enter the following command directly.

```
roscore
```

2.2 Start simulation

Open a new terminal.

- If you are using Jetson Orin NX/Jetson Orin Nano board. You need to enter the Docker environment using the following command.

```
sh ~/start_docker.sh
```

- If you are using Jetson Nano board. You need to enter the following command directly.

```
roslaunch jetcobot_moveit jetcobot_moveit.launch
```

3. Experimental operation and results

You can see that the RVIZ software window pops up and the URDF model of the Jetcobot robotic arm is loaded.

At this time, you can see three arrows of [red, green, and blue] above the robot arm. Select one of the arrows with the left mouse button and then drag it to change the posture of the robotic arm.

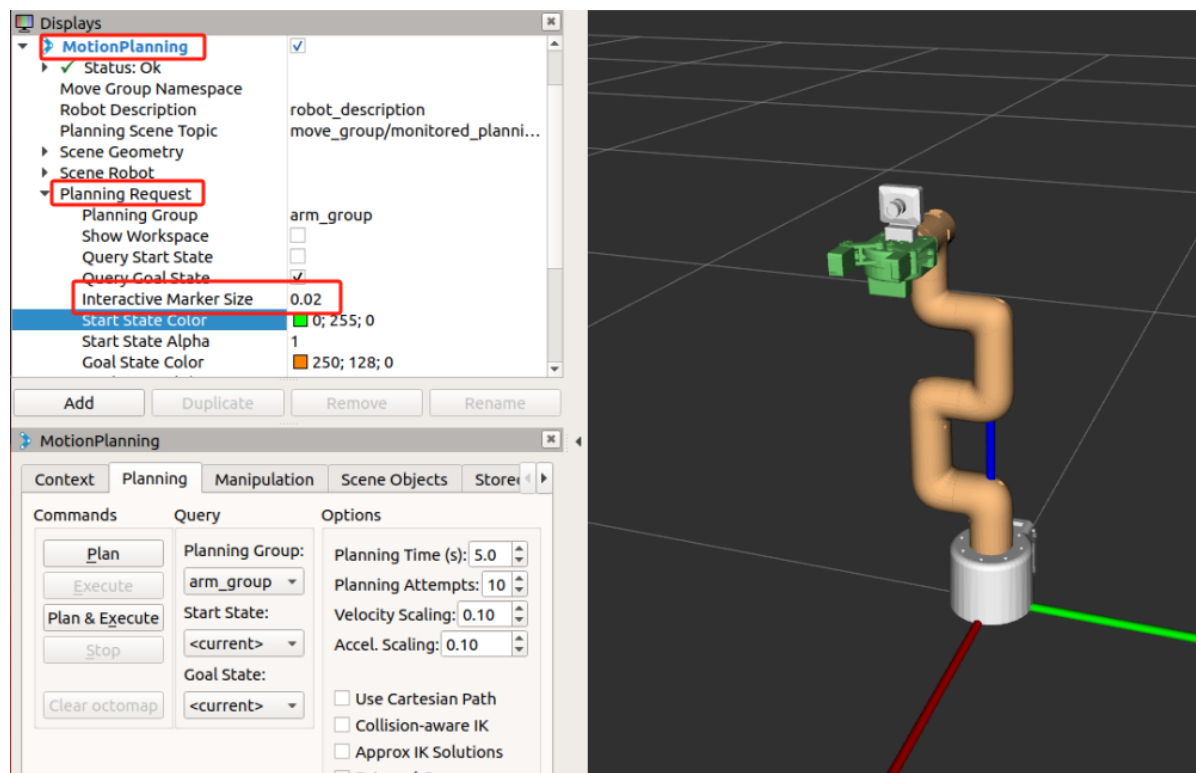Note: The commands in this course only control the robotic arm in the URDF model, not the real robotic arm.
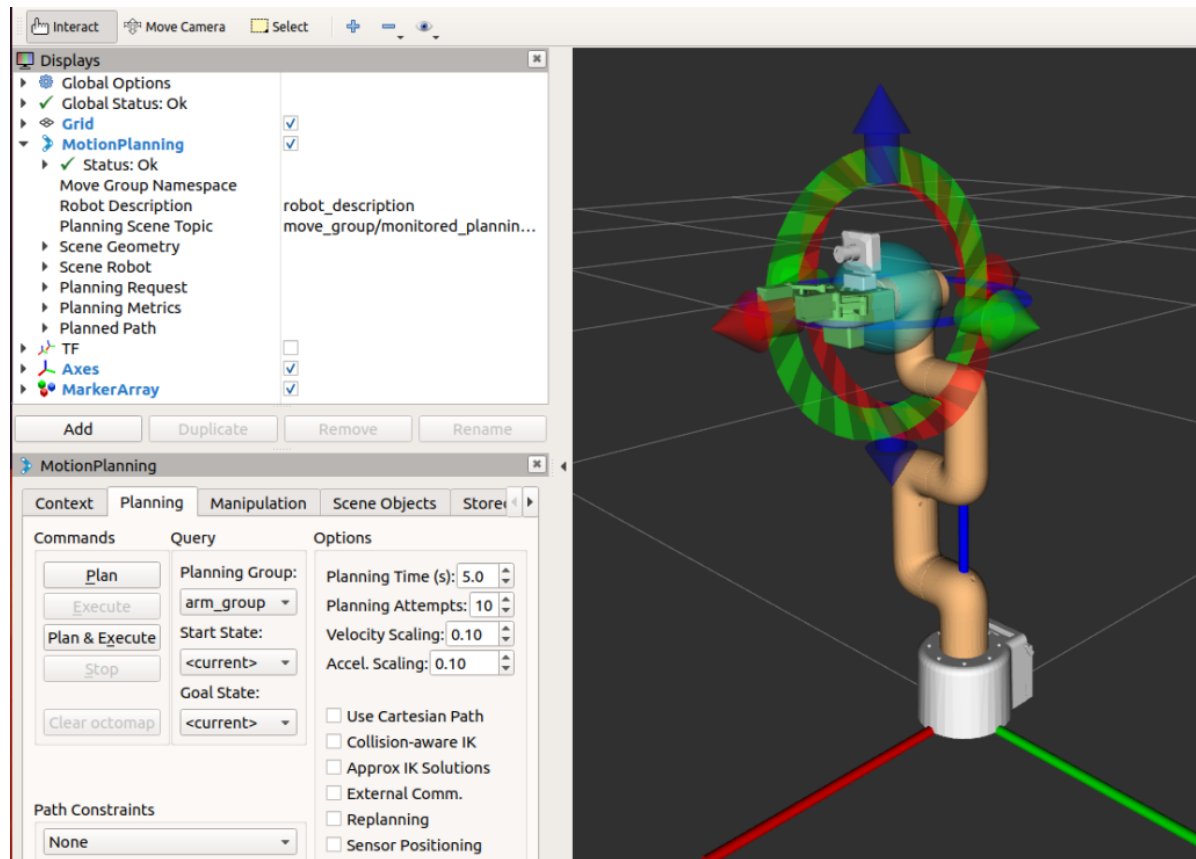
Close case: Press [ctrl+c] to close. If it fails to close, press [ctrl+z].

4. Other configuration parameters

1.Hide the 【Red, Green, Blue】controllers.

In RVIZ, find 【MotionPlanning】-> 【Planning Request】-> 【Interactive Marker Size】 and change the parameter from 0.2 to 0.02.

2.Change the color of the robotic arm

In RVIZ, find 【MotionPlanning】-> 【Planning Request】-> 【Goal State Color】and select the color you want to change.