5. MoveIt Cartesian path

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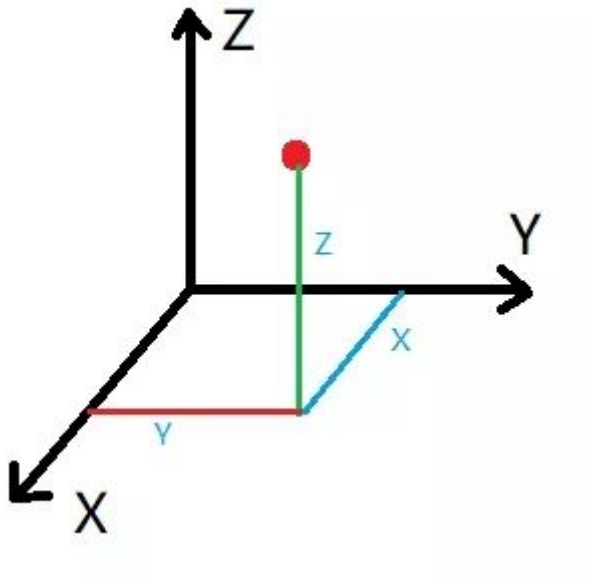
This lesson takes the MoveIT simulation as an example. If you need to set the synchronization between the real machine and the simulation, please refer to the lesson [02, MoveIt Precautions and Controlling the Real Machine]. ! ! ! be careful! ! !

The effect demonstration is a virtual machine, and other masters are running (related to the performance of the master, depending on the actual situation).

5.1. Introduction

The Cartesian coordinate system is the collective name for the Cartesian coordinate system and the oblique coordinate system. A Cartesian path is actually a line connecting any two points in space.



5.2. Start

Start the MoveIT

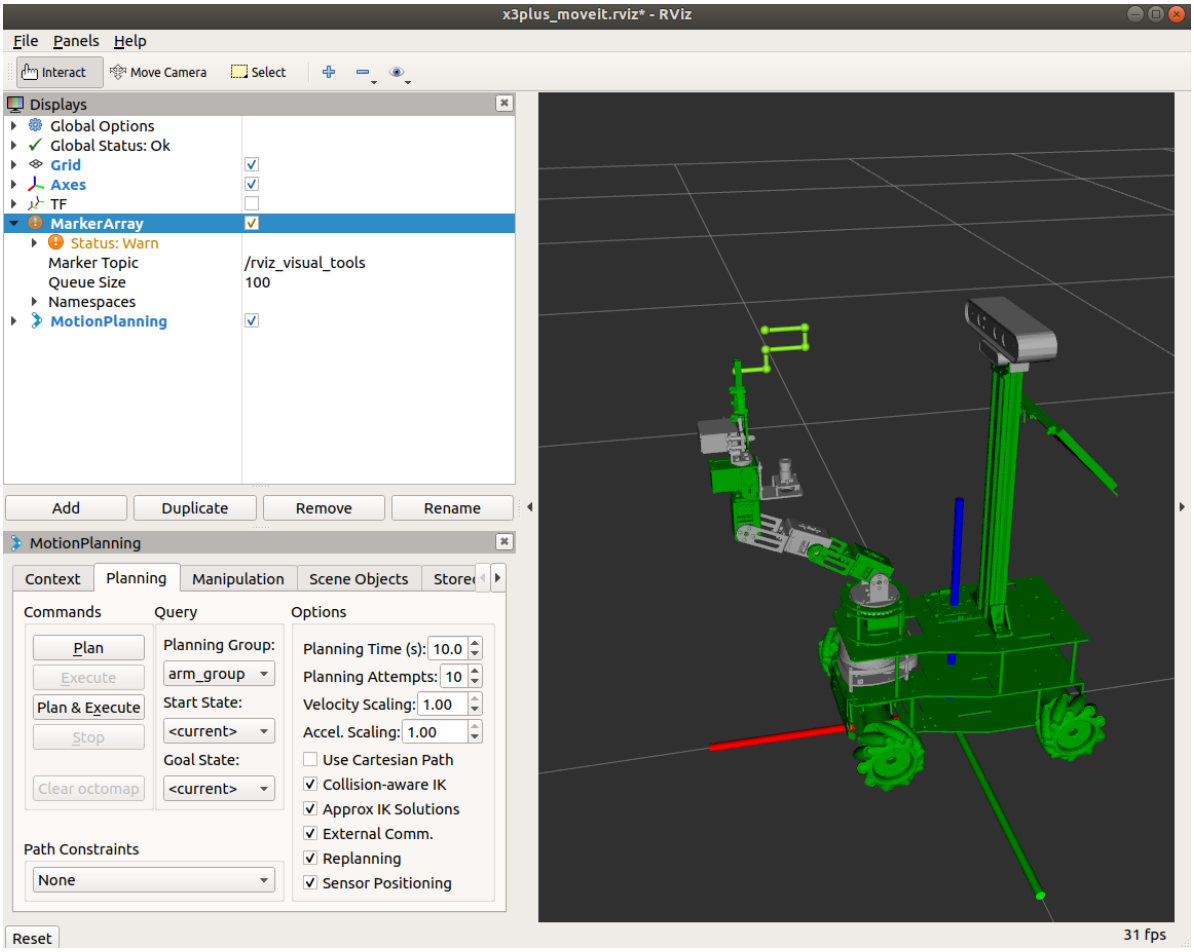
```
roslaunch arm_moveit_demo x3plus_moveit_demo.launch sim:=true
```

Start Cartesian Path Node

```
rosrun arm_moveit_demo 04_cartesian
```

- C++ code examples

To view the trajectory, you need to add the [MarkerArray] plug-in and select the [/rviz_visual_tools] topic.



5.3. Source code

5.3.2、C++ files

Set specific location

```
    ROS_INFO("Set Init Pose.");
    //Set specific location
    vector<double> pose{0, -0.69, -0.17, 0.86, 0};
    yahboomcar.setJointValueTarget(pose);
```

Add waypoint

```
    //Initialize path point vector
    std::vector<geometry_msgs::Pose> waypoints;
    //Add initial pose to waypoint list
    waypoints.push_back(start_pose);
    start_pose.position.x -= 0.04;
    waypoints.push_back(start_pose);
    start_pose.position.z -= 0.02;
    waypoints.push_back(start_pose);
    start_pose.position.x += 0.04;
```

```
    waypoints.push_back(start_pose);
    start_pose.position.z -= 0.02;
    waypoints.push_back(start_pose);
    start_pose.position.x += 0.03;
    waypoints.push_back(start_pose);
```

Waypoint planning

```
fraction = yahboomcar.computeCartesianPath(waypoints, eef_step, jump_threshold,
trajectory);
```