Moveit scenario design

1. Usage environment

Motherboard: Jetson Orin Nano/Nx

ROS2: Humble

2. Driving the real machine

Driving the real machine is to convert the joint state information of the robot arm into the control of the real robot arm by subscribing to the `/joint_states` topic of Moveit2.

Note: Since the real robot arm does not have an obstacle avoidance function, some positions may encounter obstacles; so the planned robot arm movements should be as reasonable as possible and avoid positions with obstacles

(It is recommended to use preset positions to demonstrate driving the real machine)

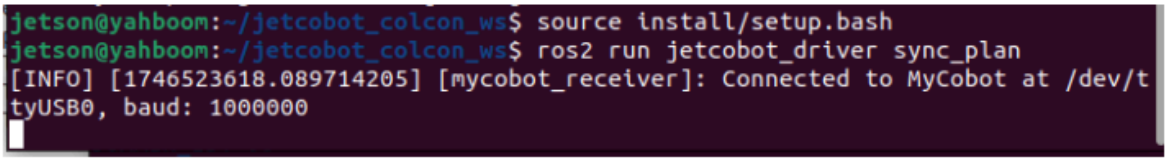
2.1. Start the real machine

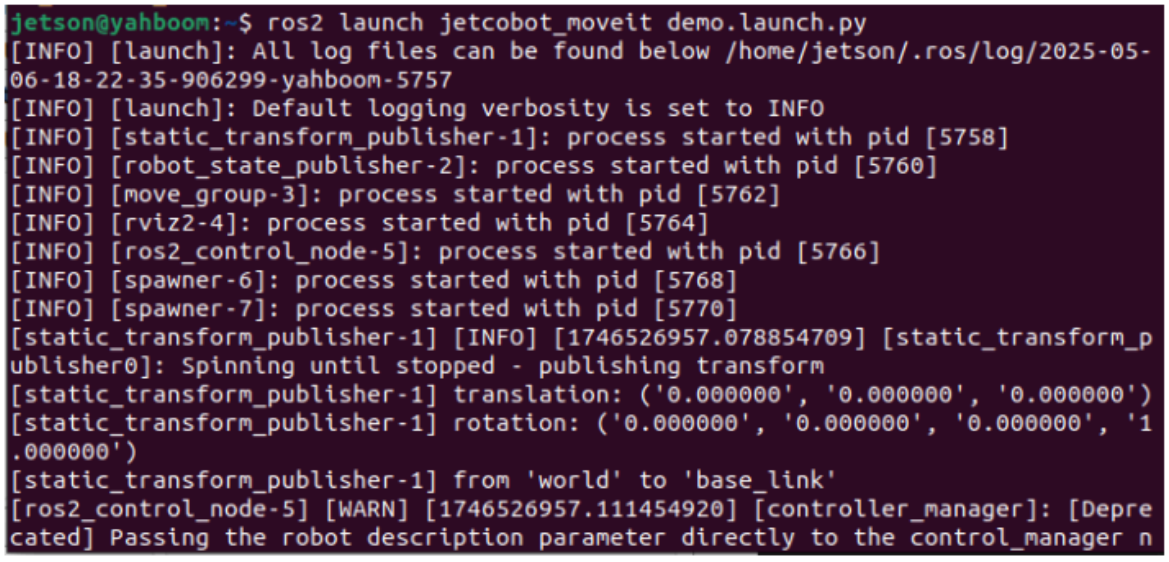
If you do not drive the real machine, simulate the robot arm movements in MoveIt:

```
ros2 run jetcobot_driver sync_plan
```

2.2. Start MoveIt2

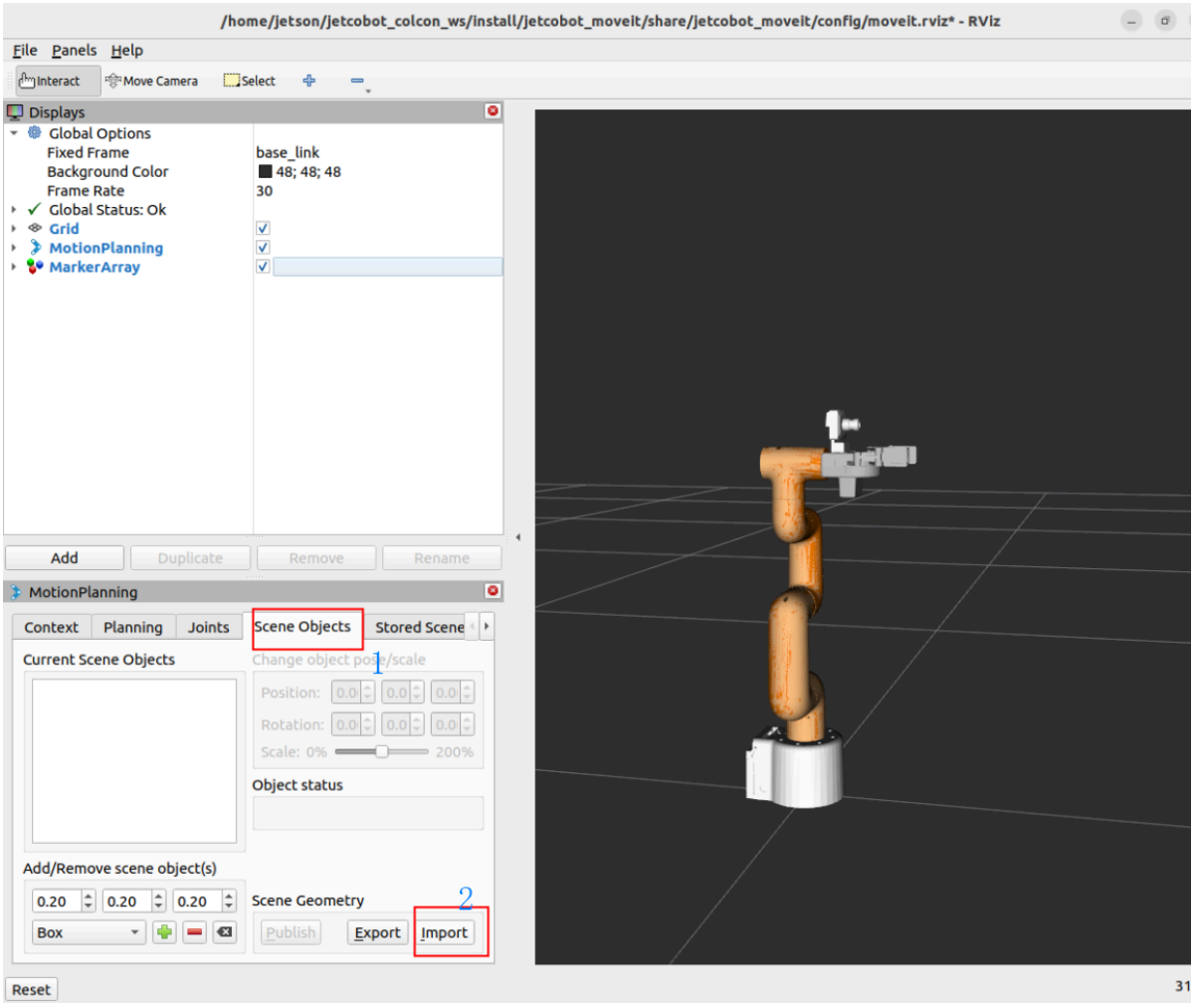
```
ros2 launch jetcobot_moveit demo.launch.py
```



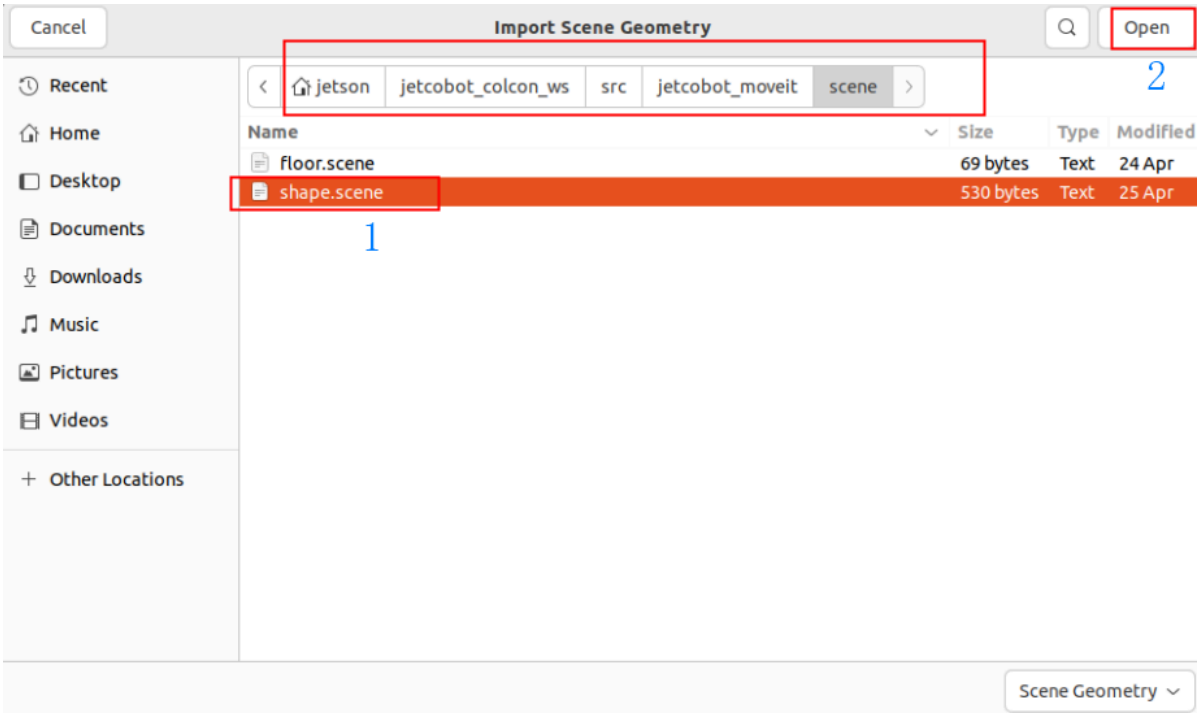


3. Scene design

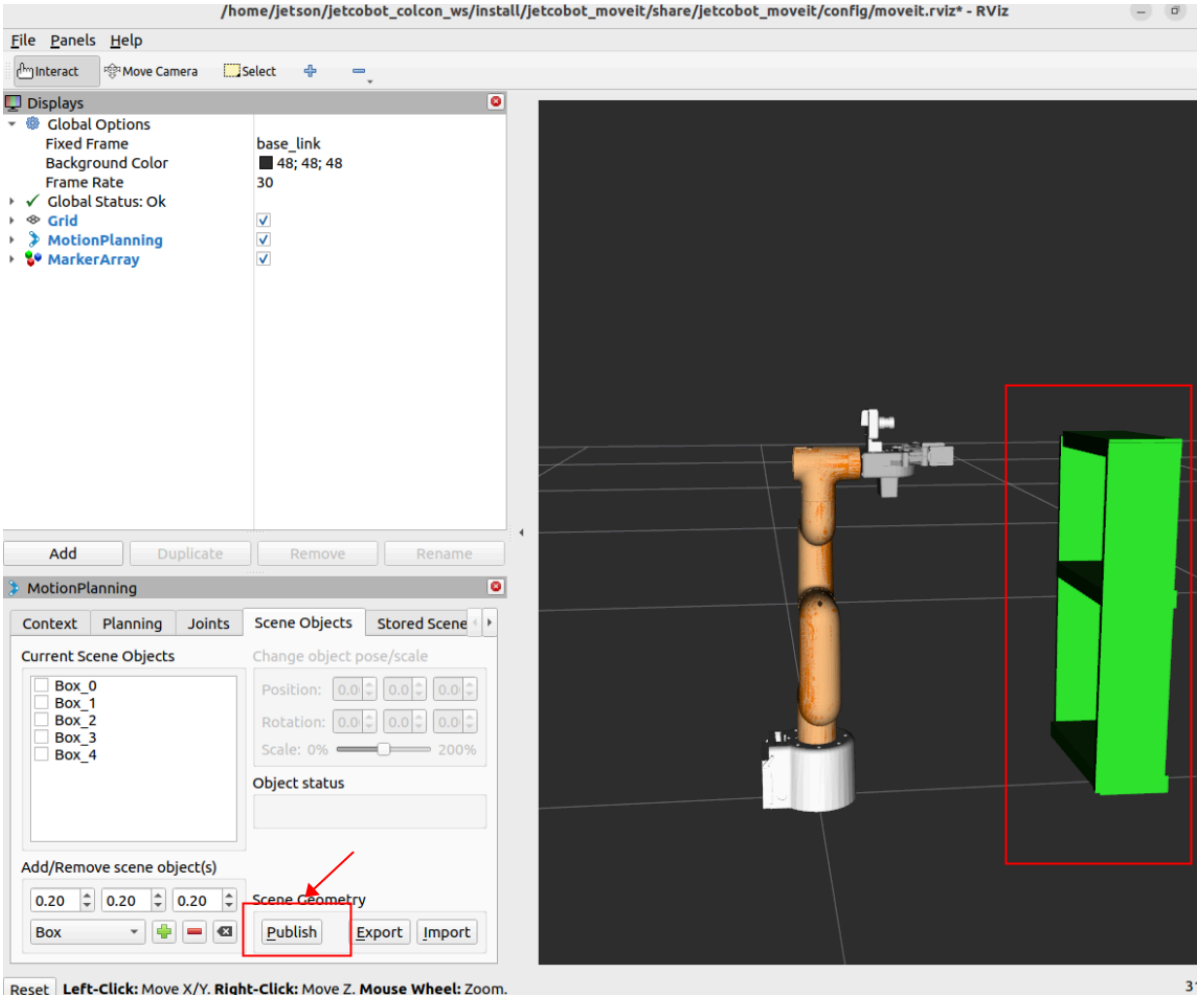
Import scene:



Select the scene corresponding to the path



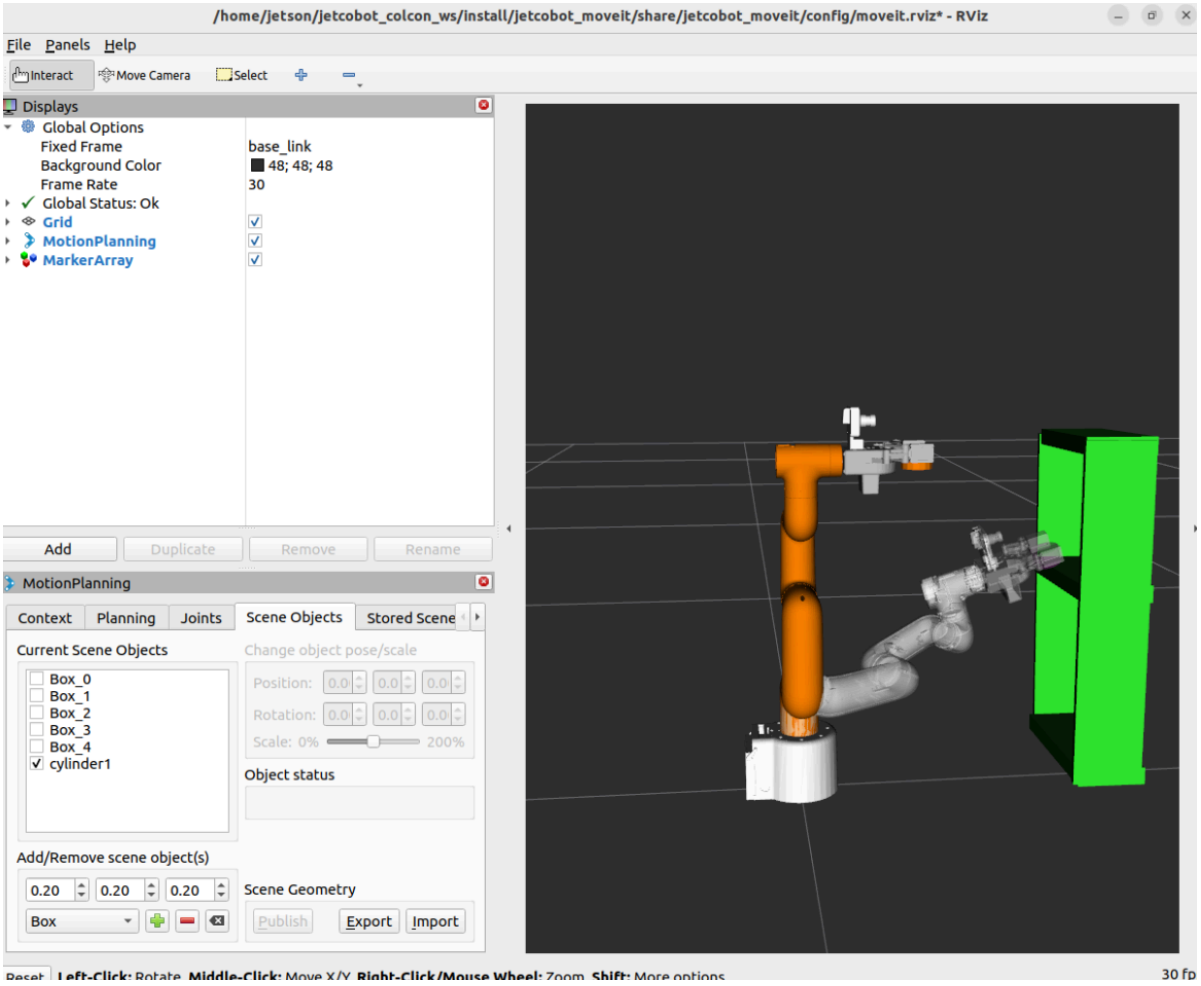
After the scene appears, click publish



Start command

The robot needs to be successfully loaded in MoveIt and `You can start planning now!` appears. Run the following command: The robot will plan the Cartesian path by itself

```
ros2 run jetcbot_moveit set_scene
```


/home/jetson/jetcobot_colcon_ws/install/jetcobot_moveit/share/jetcobot_moveit/config/moveit.rviz* - RViz
File Panels Help
Interact
Move Camera
Select
Displays
Global Options
Fixed Frame
base_link
Background Color
48; 48; 48
Frame Rate
30
Global Status: Ok
Grid
MotionPlanning
MarkerArray
Add
Duplicate
Remove
Rename
MotionPlanning
Context
Planning
Joints
Scene Objects
Stored Scene
Current Scene Objects
Box_0
Box_1
Box_2
Box_3
Box_4
cylinder1
Change object pose/scale
Position:
Rotation:
Scale: 0%
200%
Object status
Add/Remove scene object(s)
0.20
0.20
0.20
Box
Scene Geometry
Publish
Export
Import
Reset
Left-Click: Rotate. Middle-Click: Move X/Y. Right-Click/Mouse Wheel: Zoom. Shift: More options.
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