URDF model controls the real robotic arm

Note: This course is based on the 【Robotic Arm URDF Model】 course. You need to open the URDF model of the robotic arm, run the program to drive the real robotic arm, and then control the real robotic arm through the URDF model.

1. Control real robotic arm

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. 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. Drive real robotic arm

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.

```
rosrun jetcobot_moveit sync_plan.py
```

Note: After the program driving the real machine is running, the robotic arm will follow the movement of the simulated robot.

Please be careful not to place other objects around to avoid being hit by the robotic arm.

4. Experimental operation and results

At this point, in the robotic arm URDF model, use the left mouse button to select the arrows in the three colors [red, green, and blue], and then drag the robotic arm, and the robot will move with the model.