

# Movelt control the real machine

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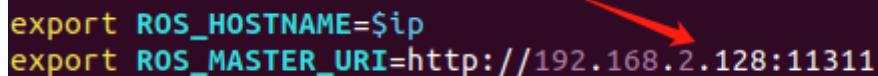
## 1. Precautions

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1. Since the Jetson Nano development environment will report an error when running the moveit routine, the Jetson Nano version needs to run the moveit routine on the host computer. However, the program that drives the real machine runs on the Jetson Nano local system.
2. The Jetson Nano supporting system needs to be in the same LAN as the Jetson Nano, and the .bahsrc file of the virtual machine needs to be modified, and the ROS\_MASTER\_URI in it needs to be set to the IP number of the Jetson Nano.

In the virtual machine system, run the following command to edit the .bashrc file.

```
vim .bashrc
```

A terminal window with a dark purple background. It shows two lines of text: 'export ROS\_HOSTNAME=\$ip' and 'export ROS\_MASTER\_URI=http://192.168.2.128:11311'. A red arrow points from the right side of the first line to the IP address in the second line.

```
export ROS_HOSTNAME=$ip
export ROS_MASTER_URI=http://192.168.2.128:11311
```

## 2. Control real robotic arm

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### 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.

```
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
```

## 2.3 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.

```
roslaunch 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.**

## 2.4 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.

