



RealMan Robot rm_bringup User Manual V1.0



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1. rm_bringup Package Description

rm_bringup is a function package for realizing the simultaneous running of multiple launch files. Using this package, a command can be used to launch complex functions combining multiple nodes. This package is introduced in detail in the following aspects.

1. Package use.
2. Package architecture description.
3. Package topic description.

Through the introduction of the three parts, it can help you:

1. Understand the package use.
2. Familiar with the file structure and function of the package.
3. Familiar with the topic related to the package for easy development and use.

Source code address: https://github.com/RealManRobot/ros2_rm_robot.git.

2 . rm_bringup Package Use

2.1 moveit2 Controlling Real Robotic Arm

First, after configuring the environment and completing the connection, we can directly launch the node and run the launch.py file in the rm_bringup package through the following command.

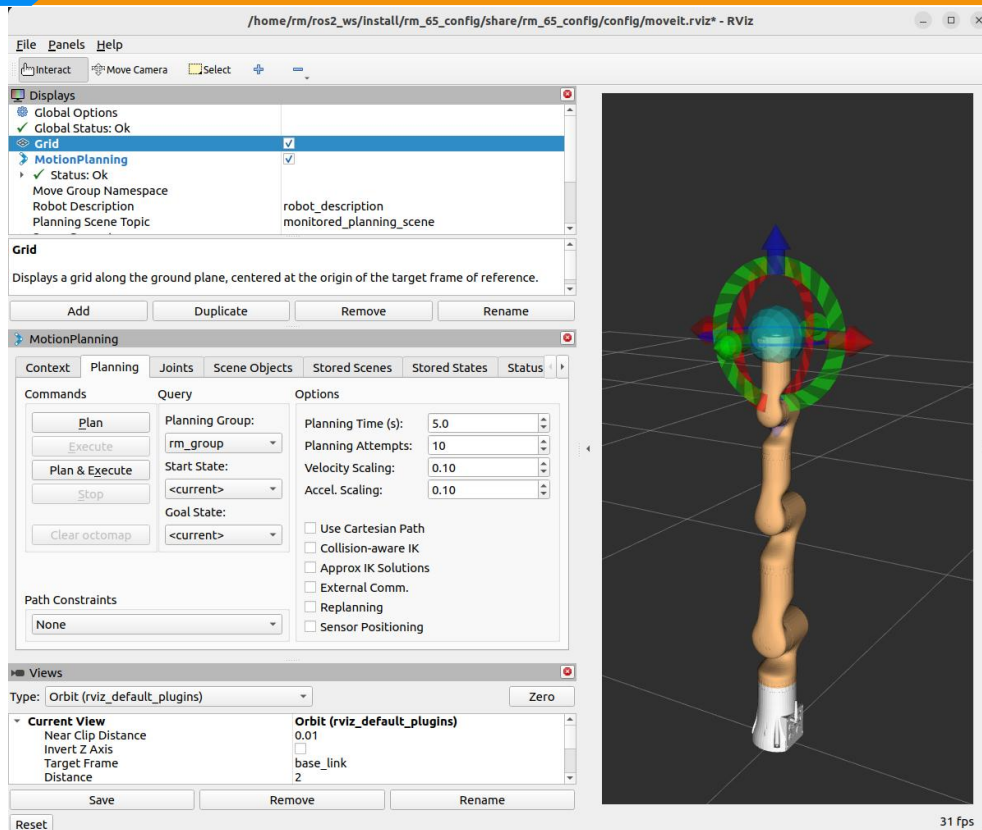
```
rm@rm-desktop:~$ ros2 launch rm_bringup rm_<arm_type>_bringup.launch.py
```

In practice, the above <arm_type> needs to be replaced by the actual model of the robotic arm. The available models of the robotic arm are 65, 63, eco65, and 75.

For example, the launch command of 65 robotic arm:

```
rm@rm-desktop:~$ ros2 launch rm_bringup rm_65_bringup.launch.py
```

The following screen appears in the interface after a successful node launch.



The launch file launches the function of moveit2 to control the real robotic arm. Then, you can control the robotic arm movement by dragging the control ball. For details, please refer to "rm_moveit2_config Detailed Description".

2.2 Gazebo control of robotic arm

We can run the launch.py file in the rm_bringup package through the following command, and directly launch the gazebo simulation node.

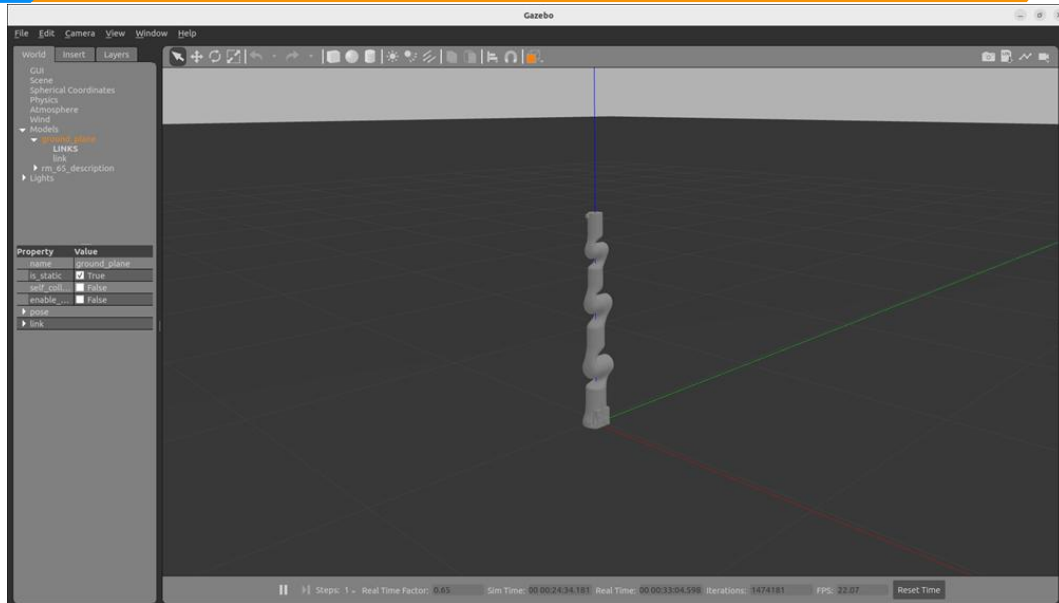
```
rm@rm-desktop:~$ ros2 launch rm_bringup rm_<arm_type>_gazebo.launch.py
```

In practice, the above <arm_type> needs to be replaced by the actual model of the robotic arm. The available models of the robotic arm are 65, 63, eco65, and 75.

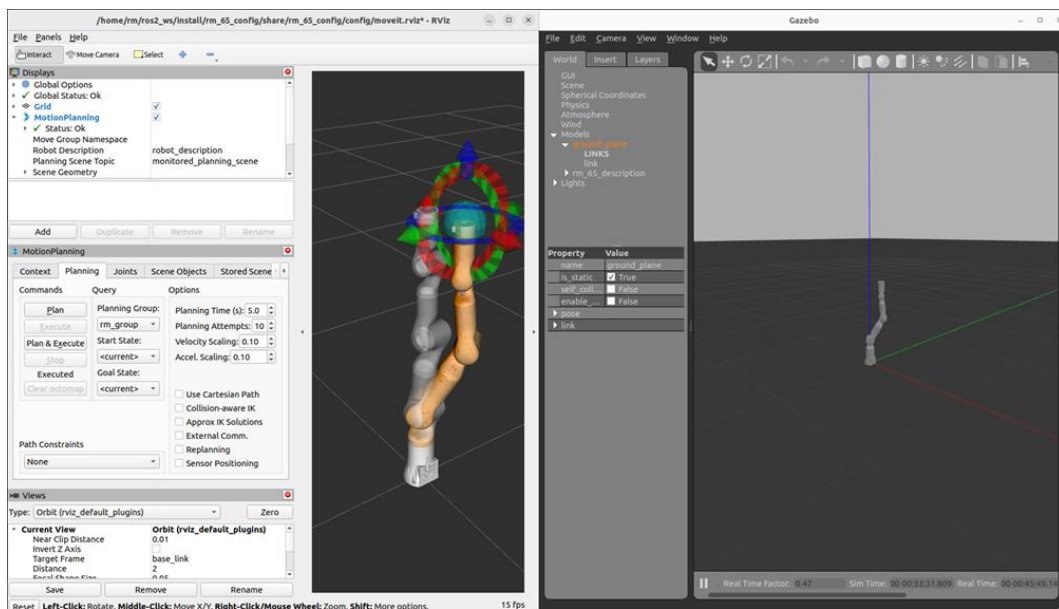
For example, the launch command of 65 robotic arm:

```
rm@rm-desktop:~$ ros2 launch rm_bringup rm_65_gazebo.launch.py
```

The following screen appears in the interface after a successful node launch.



Then, we use the following command to launch moveit2 to control the simulation robot arm in Gazebo.



3. rm_bringup Package Architecture Description

3.1 Overview of package files

The current rm_driver package is composed of the following files.

— CMakeLists.txt	# compilation rule file
— include	
— rm_bringup	
— launch	
— rm_63_bringup.launch.py	# 63 arm moveit2 launch file
— rm_63_gazebo.launch.py	# 63 arm gazebo launch file
— rm_65_bringup.launch.py	# 65 arm moveit2 launch file
— rm_65_gazebo.launch.py	# 65 arm gazebo launch file



```
| |— rm_75_bringup.launch.py      # 75 arm moveit2 launch file
| |— rm_75_gazebo.launch.py      # 75 arm gazebo launch file
| |— rm_eco65_bringup.launch.py  #eco65 arm moveit2 launch file
| |— rm_eco65_gazebo.launch.py  #eco65 arm gazebo launch file
| — package.xml
| — src
```

4. rm_bringup Topic Description

This package currently does not have its topic. It is mainly to call other packages. For the topics related to moveit2, please refer to "rm_moveit2_config Detailed Description".