# **Rviz Visualization**

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This tutorial uses Ubuntu 20.04 and ROS1 version Noetic as an example. Other ROS1 versions can use this as a reference.

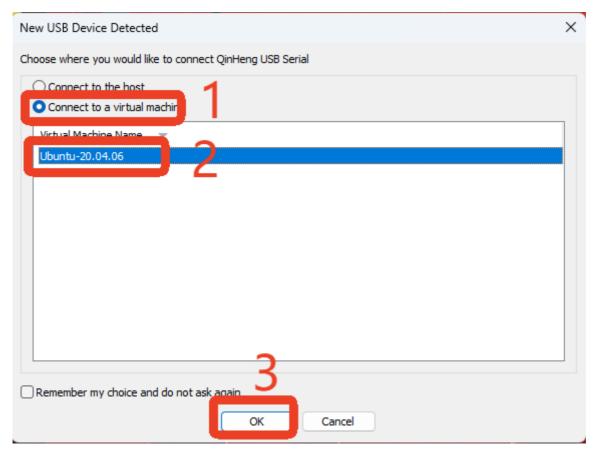
Note: Before running, please ensure that you have completed the "IMU Data Printing" section of the previous chapter and that it is running normally.

## 1. Connecting the Device

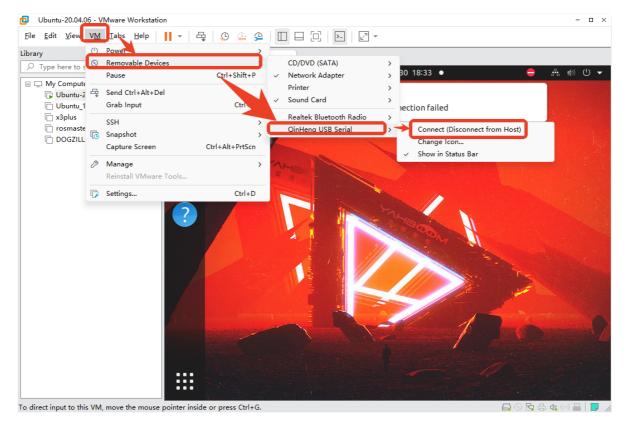
Connect the IMU attitude sensor to the host controller's USB port using a Type-C cable.

If using a virtual machine, refer to the following steps:

Virtual machine displays a pop-up window



Virtual machine does not display a pop-up window



### 2. Check device connection status

View device ID

yahboom@yahboom-virtual-machine:~ Q = - □ 

yahboom@yahboom-virtual-machine:~\$ Isusb

Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub

Bus 003 Device 007: ID 0e0f:0002 VMware, Inc. Virtual USB Hub

Bus 003 Device 003: ID 0e0f:0002 VMware, Inc. Virtual USB Hub

Bus 003 Device 008: ID 1886:7523 QinHeng Electronics HL-340 USB-Serial adapter

Bus 003 Device 004: ID 0e0f:0002 VMware, Inc. Virtual Mouse

Bus 003 Device 002: ID 0e0f:0002 VMware, Inc. Virtual USB Hub

Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub

Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub

Bus 002 Device 002: ID 0e0f:0002 VMware, Inc. Virtual USB Hub

Bus 003 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub

Bus 002 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub

yahboom@yahboom-virtual-machine:-\$

View device number

11 /dev/ttyU\*

```
yahboom@yahboom-virtual-machine:~$ ll /dev/ttyU*
crwxrwxrwx 1 root dialout 188, 0 10月 17 17:28 <mark>/dev/ttyUSB0</mark>
yahboom@yahboom-virtual-machine:~$
```

View IMU mapping

```
ll /dev/my*

yahboom@yahboom-virtual-machine:/etc/udev/rules.d$ ll /dev/my*
lrwxrwxrwx 1 root root 7 10月 17 17:28 /dev/myimu -> ttyUSB0
yahboom@yahboom-virtual-machine:/etc/udev/rules.d$
```

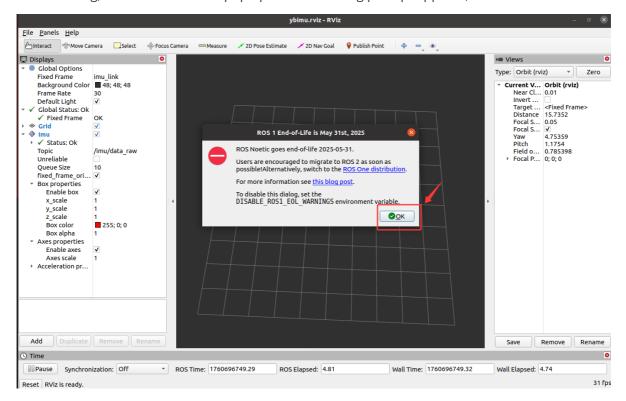
### 3. Rviz Visualization

Run the command to view

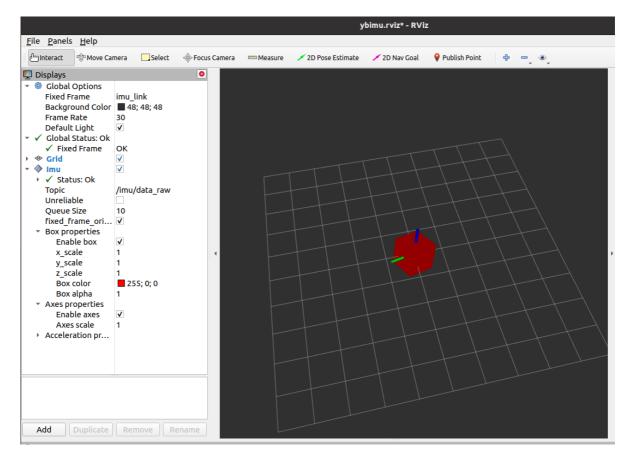
```
roslaunch imu_ros1_device ybimu_display.launch
```

```
yahboom@yahboom-virtual-machine: ~ Q ≡ _ □ ⊗
yahboom@yahboom-virtual-machine: ~$ roslaunch imu_ros1_device ybimu_display.launc
```

After running, an Rviz window will pop up. If the following prompt appears, click OK. That's it.

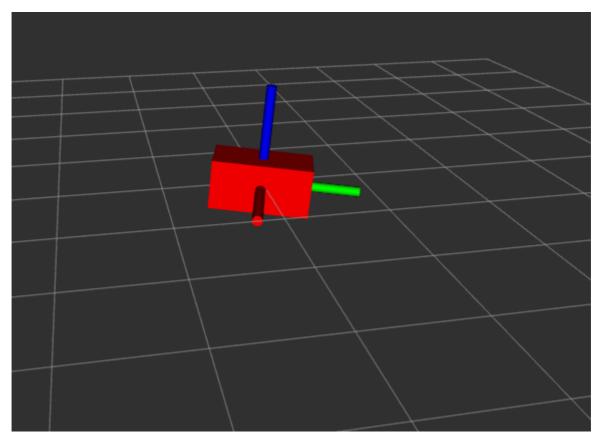


After entering, you can rotate the IMU module, and you'll see the IMU on the screen rotate accordingly.



#### Note:

If, after starting the command, you find that the blocks displayed by rviz are tilted horizontally, as shown in the image, you need to calibrate them.



Refer to the calibration tutorial in the attached folder for details.

# 4. Raspberry Pi 5, RDK X5 series, Jetson series

Note: Before running, please ensure that you have completed the "IMU data printing" section of the previous chapter and that it is running normally.

## 4.1 Starting the Docker image

sh ros1\_noetic.sh

#### 4.2 Rviz visualization

roslaunch imu\_ros1\_device ybimu\_display.launch

