1. Environment setup

1. Install sdk driver

In the provided source code package, unzip YDLidar-SDK-master.zip and get the YDLidar-SDK folder. This folder is the SDK file of this radar, because using the ros function package of this radar requires installing the sdk in advance, YDLidar- The SDK folder stores the radar driver files. In this folder, we open the terminal and enter,

```
mkdirbulid
cd build
cmake..
make -j4
sudo make install
```

If no errors are reported during operation, the driver is successfully installed.

2. Create a new workspace and compile function packages

- The first method is to unzip yahboomcar_ws in the source code to your own root directory, and then compile it directly using catkin_make.

```
cd yahboomcar_ws
colcon build
```

After the compilation is passed, add the path of the workspace to .bashrc.

```
sudo gedit ~/.bashrc
```

Copy the following content to the end of the file,

```
source ~/yahboomcar_ws/devel/setup.bash --extend
```

- The second method is to create a self-named workspace. Take the name oradar_ws as an example and enter it in the terminal.

```
mkdir oradar_ws
cd oradar_ws
mkdir src
cd src
catkin_init_workspace
```

Then copy the decompressed source code yahboomcar_ws/src function package to the oradar_ws/src directory, and then use catkin_make to compile in the oradar_ws directory.

```
cd oradar_ws
colcon build
```

After the compilation is passed, add the path of the workspace to .bashrc.

```
sudo gedit ~/.bashrc
```

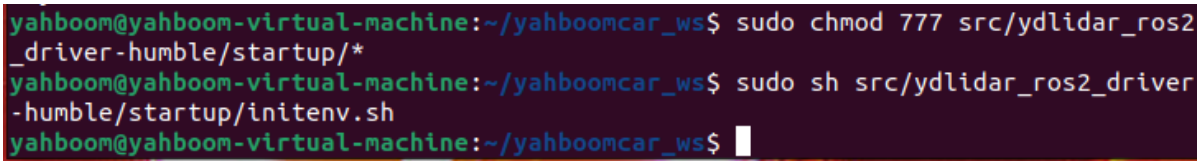
Copy the following content to the end of the file,

```
source ~/oradar_ws/devel/setup.bash --extend
```

3. Bind radar port name

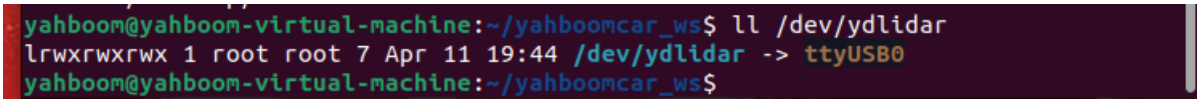
Open the terminal in the yahboomcar_ws workspace and enter the following command,

```
sudo chmod 777 src/ydlidar_ros2_driver-humble/startup/*
sudo sh src/ydlidar_ros2_driver/startup/initenv.sh
```



Then re-plug the radar serial port and enter ll /dev/oradar in the terminal.

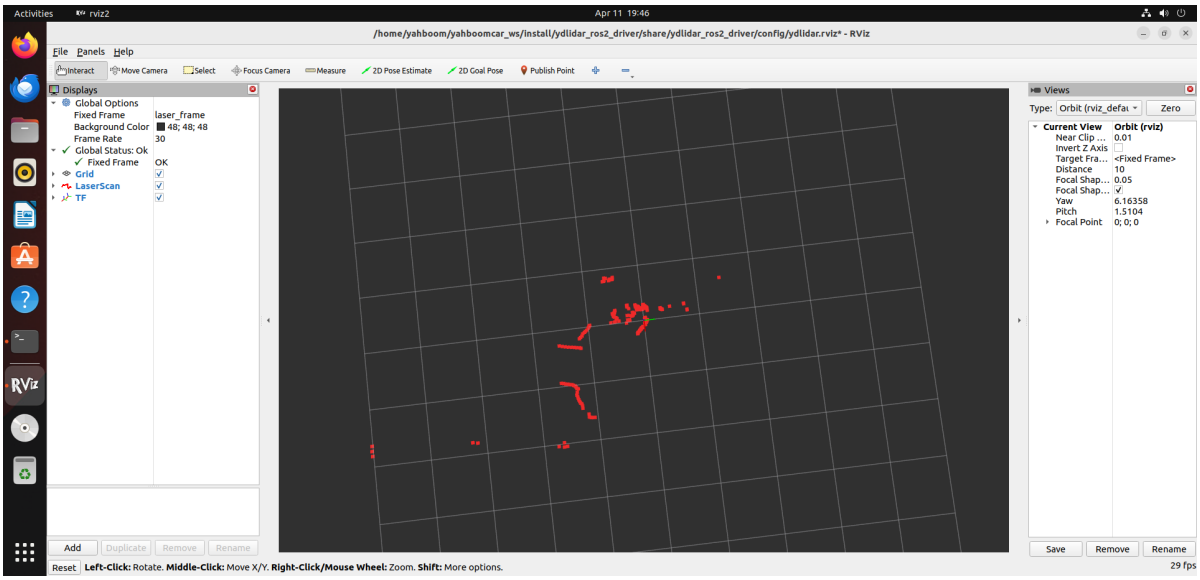
```
  ll /dev/oradar
```



4. Drive radar

Exit after saving, reopen a terminal, enter the following statement, open the radar and display it in rviz,

```
ros2 launch ydlidar_ros2_driver ydlidar_launch_view.py
```



Radar node data can be viewed through the following command,

```
ros2 topic echo /scan![image-20231109110313751](image-20231109110313751.png)
```

```
yahboom@yahboom-virtual-machine:~/yahboomcar_ws$ ros2 topic echo /scan
header:
  stamp:
    sec: 1712836021
    nanosec: 44564000
  frame_id: laser_frame
angle_min: -3.1415927410125732
angle_max: 3.1415927410125732
angle_increment: 0.015591030940413475
time_increment: 0.0002511637285351753
scan_time: 0.09971199929714203
range_min: 0.029999999329447746
range_max: 12.0
ranges:
- 0.0
- 0.210999995470047
- 0.2029999941587448
- 0.20200000703334808
- 0.1979999989271164
- 0.19599999487400055
- 0.19499999284744263
- 0.0
- 0.1979999989271164
- 0.19499999284744263
```