Environment Construction

1. Install the SDK driver

In the provided source code package, unzip YDLidar-SDK-master.zip to get the YDLidar-SDK folder, which is the SDK file of this lidar.
Because the ros function package of this lidar needs to install the SDK in advance, the YDLidar-SDK folder contains the driver file of the lidar.
We need to open the terminal in this folder and enter the following command.

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

If there is no error during the operation, it means that the driver is installed successfully.

2. Create a new workspace and compile the function package

- Extract yahboomcar_ws source code to your root directory, and then compile it directly using colcon build.

```
cd yahboomcar_ws
colcon build
```

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

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

Copy the following content to the end of the file.

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

- Create a self-named workspace, taking the name oradar_ws as an example. Enter following command in the terminal.

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

Copy the extracted source code function package in yahboomcar_ws/src directory to oradar_ws/src directory.

Then, compile using colcon build in the oradar_ws directory.

```
cd oradar_ws
colcon build
```

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

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

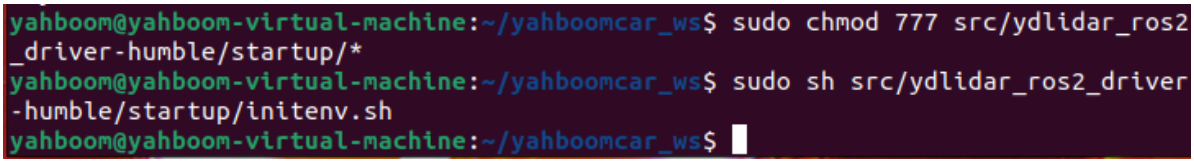
Copy the following content to the end of the file.

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

3. Bind radar port name

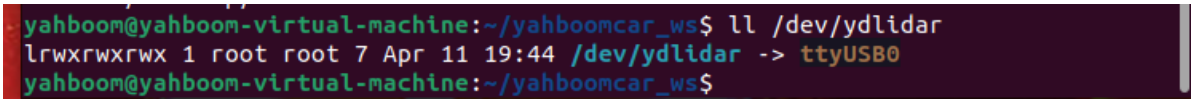
Open the terminal in the yahboomcar_ws workspace, and enter the following command.

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



Then unplug and plug the radar serial port again, and input ll /dev/ydlidar in the terminal.

```
 ll /dev/ydlidar
```

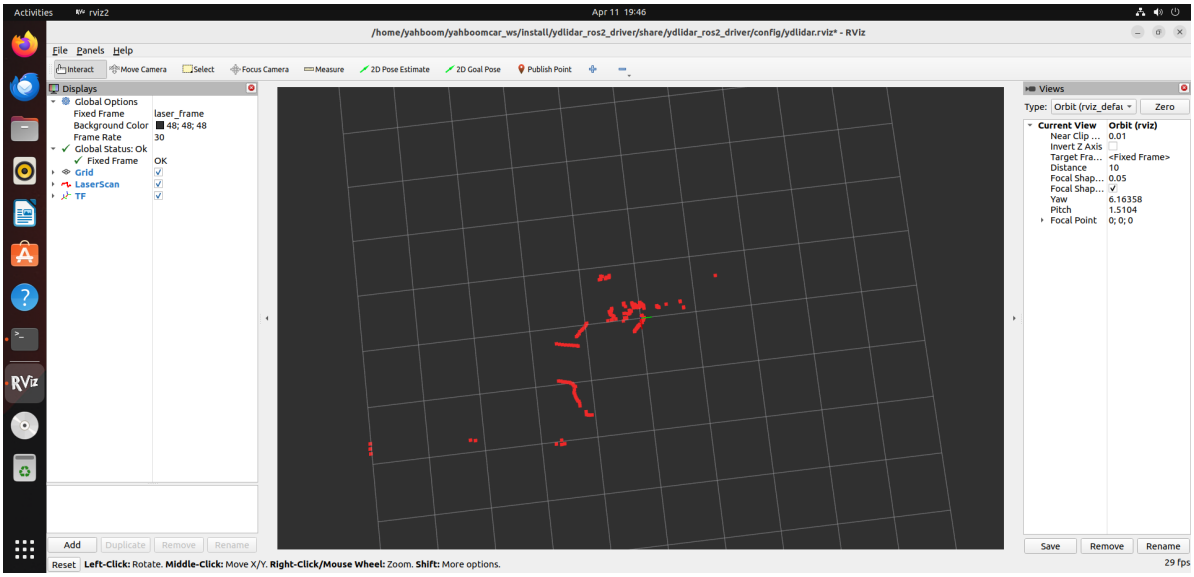


4. Drive lidar

Save and exit.

Reopen a terminal, enter the following statement, open the lidar and display it in rviz.

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



The lidar node data can be viewed by the following command.

```
ros2 topic echo /scan
```

```
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
```