1. Environment Setup

1. Installing the SDK Driver

Based on the specifications of the radar you purchased, locate the compressed file labeled "YDLidar-SDK" in the provided source code package. Extract the YDLidar-SDK folder; this folder contains the SDK files for this radar. Since using the ROS package for this radar requires the SDK to be installed beforehand, the YDLidar-SDK folder contains the radar's driver files. Open a terminal in this folder and type:

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

If no errors are reported during the process, it means that the driver has been successfully installed.

2. Creating a New Workspace and Compiling the Package

- (Recommended) The first method involves extracting ydlidar_ros2_ws.zip from the source code to your root directory, and then directly using colcon build to compile.

```
cd ydlidar_ros2_ws
colcon build
```

After successful compilation, add the workspace path to your .bashrc file.

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

Copy the following content to the end of the file:

```
source ~/ydlidar_ros2_ws/devel/setup.bash --extend
```

- The second method involves creating a self-named workspace. For example, let's say the name is ydlidar_ros2_ws. Enter the following in the terminal:

```
mkdir ydlidar_ros2_ws
cd ydlidar_ros2_ws
mkdir src
cd src
```

Then copy the package files from the unzipped source code directory ydlidar_ros2_ws/src to the ydlidar_ros2_ws/src directory. Then, in the ydlidar_ros2_ws directory, use colcon build to compile.

```
cd ydlidar_ros2_ws
colcon build
```

After successful compilation, add the workspace path to your .bashrc file.

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

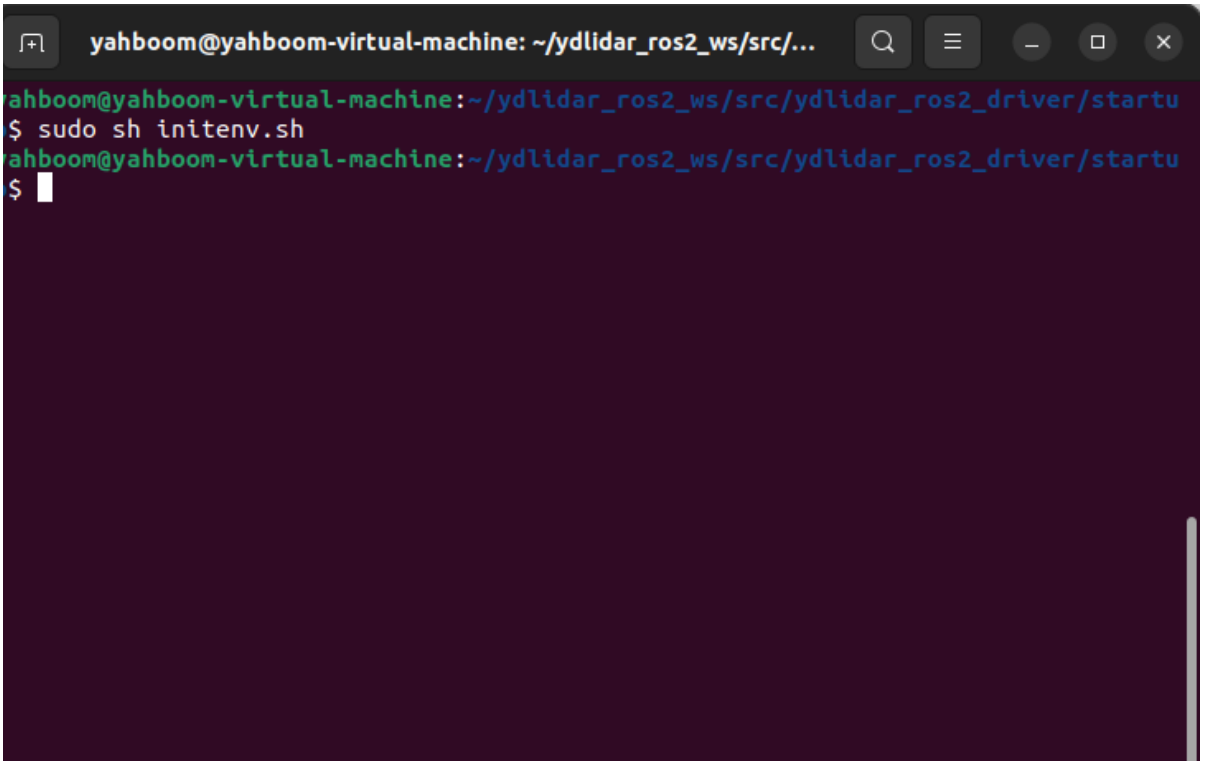
Copy the following content to the end of the file:

```
source ~/ydlidar_ros2_ws/devel/setup.bash --extend
```

3. Bind the radar port name

Open a terminal in the ydlidar_ros2_ws workspace and enter the following command:

```
cd ~/ydlidar_ros2_ws/src/ydlidar_ros2_driver/startup/
sudo sh initenv.sh
```



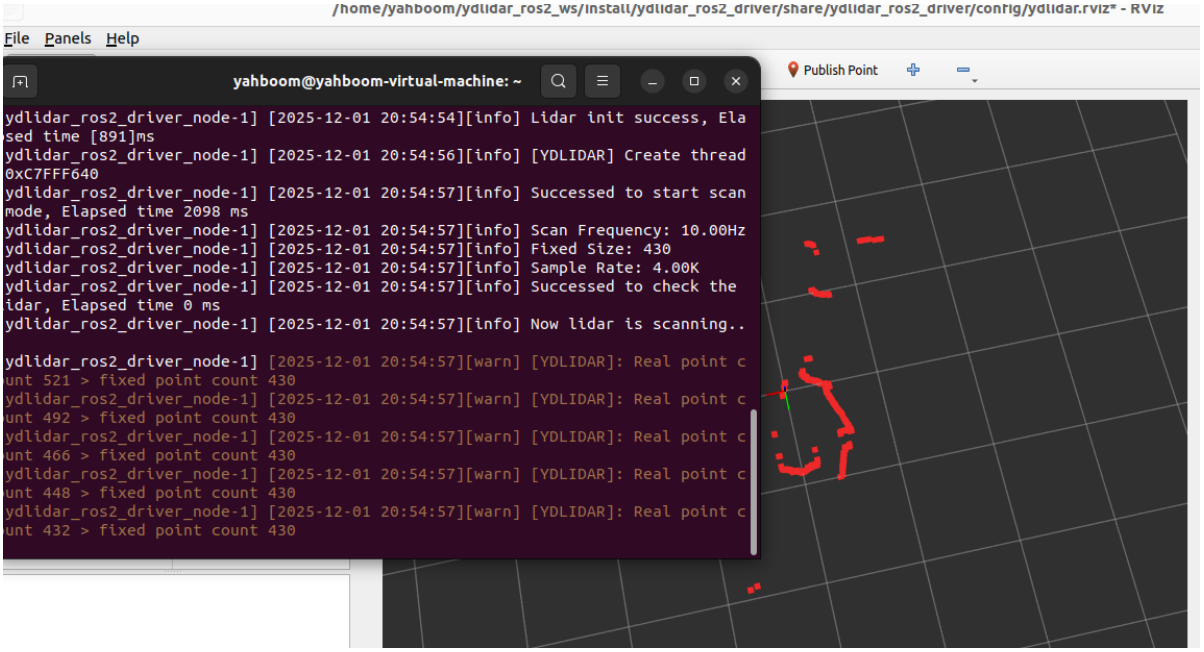
Then reconnect the radar serial port and enter `ll /dev/ydlidar` in the terminal.

```
 ll /dev/ydlidar
```

4. Driving the Radar

Save and exit, then open a new terminal. Enter the following command to activate the radar and display it in rviz. **Terminal warnings can be ignored.**

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



The radar node data can be viewed through the following command.

```
ros2 topic echo /scan
```