**To connect lidar with ubuntu in your laptop:-**

- First download the Oracle Virtual Machine in laptop

  https://www.virtualbox.org/wiki/Downloads

- You must download the Ubuntu 18 version to communicate because we are using the melodic version of the ROS and melodic version is only working with the Ubuntu 18 version and follow

  https://releases.ubuntu.com/18.04/

  https://www.youtube.com/watch?v=v1JVqd8M3Yc&t=889s

- After installing the ROS successfully, we create the catkin workspace

  https://www.hackster.io/shahizat005/getting-started-with-the-low-cost-rplidar-using-jetson-nano-93521d#:~:text=Plug%20in%20the%20RPlidar%20to,and%20run%20the%20following%20command.&text=Now%20you%20are%20able%20to,%2Fdev%20%7C%20grep%20ttyUSB%20command.

  Follow the steps shown in this link to create the catkin workspace

It will install the driver for the Rplidar A1 and launch the lidar. The result we will see in the Rviz platform.

**Commands to start the Lidar**

After successfully installing the lidar in ROS when we start the ubuntu to use lidar again we have to give permission again the create a bootable files again from the terminal.

- For this write down as below:

```
ls -l /dev | grep ttyUSB
```

  To see which USB devices are connected with the ubuntu and in which port.

- After knowing the port number write down:

```
sudo chmod 666 /dev/ttyUSB0
```

  in our case generally it is USB0 but better to conform with the above case.

- Go to the catkin_ws folder. Open it in the terminal and write down:

```
catkin_make
```

  to compile the files in the catkin workspace folder

```
source devel/setup.bash
```

  to create a bash file

- Then open the new terminal. (Do not close the previous terminal). In that write down

```
roscore
```

  it starts the roscore

- Go to the previous terminal and wtire down:

```
roslaunch rplidar_ros view_rplidar.launch
```

it will open the rviz in which you will see the lidar scanning data live.