Connect to microROS agent

After configuring the parameters of the MicroROS control board, the following is the connection of the agent. The connection to the agent is for the microros extended version to communicate with other ros in the same LAN.

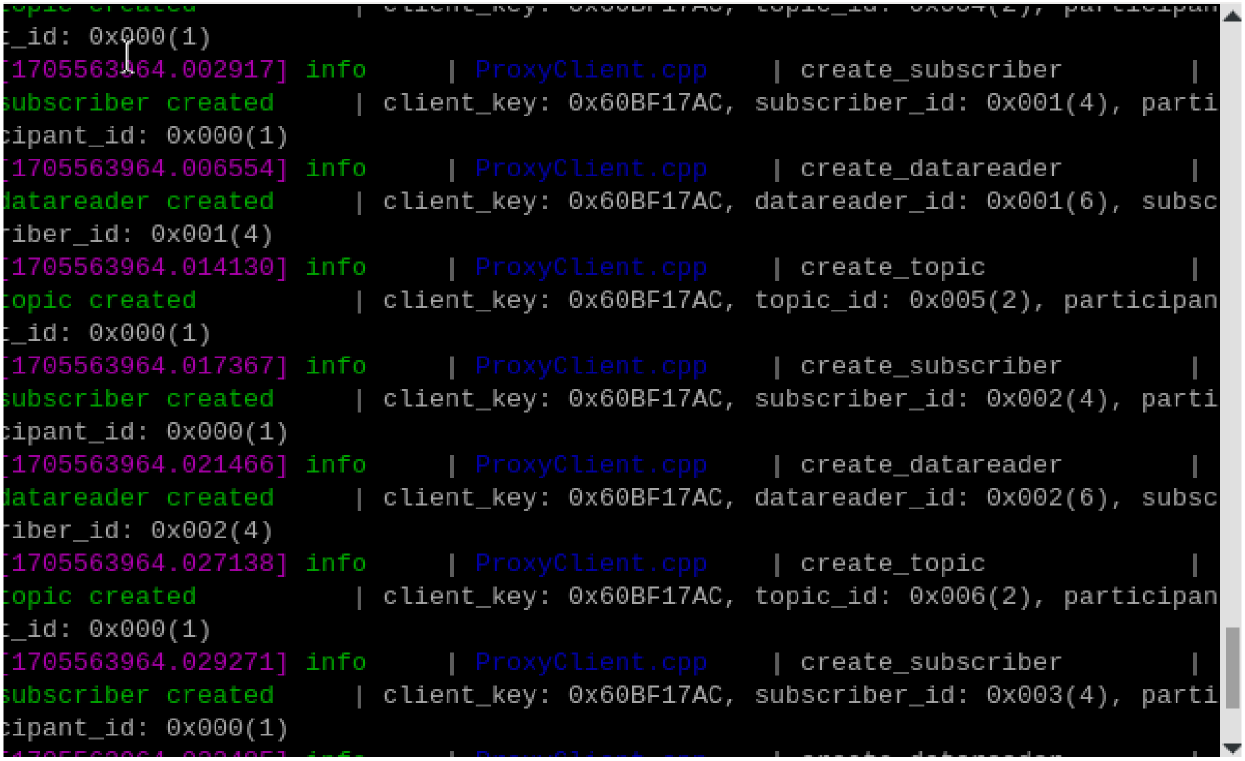
1. Start the agent

After successfully opening the Raspberry Pi 5, you can enter in the terminal:

```
sh ~/start_agent_rpi5.sh
```

2. Connection agent

Turn on the power switch of the car and automatically connect to the agent. The connection is successful as shown in the figure below.



```
_id: 0x000(1)
[1705563964.002917] info     | ProxyClient.cpp    | create_subscriber      |
subscriber created      | client_key: 0x60BF17AC, subscriber_id: 0x001(4), parti
cipant_id: 0x000(1)
[1705563964.006554] info     | ProxyClient.cpp    | create_datareader      |
datareader created      | client_key: 0x60BF17AC, datareader_id: 0x001(6), subsc
riber_id: 0x001(4)
[1705563964.014130] info     | ProxyClient.cpp    | create_topic           |
topic created           | client_key: 0x60BF17AC, topic_id: 0x005(2), participan
t_id: 0x000(1)
[1705563964.017367] info     | ProxyClient.cpp    | create_subscriber      |
subscriber created      | client_key: 0x60BF17AC, subscriber_id: 0x002(4), parti
cipant_id: 0x000(1)
[1705563964.021466] info     | ProxyClient.cpp    | create_datareader      |
datareader created      | client_key: 0x60BF17AC, datareader_id: 0x002(6), subsc
riber_id: 0x002(4)
[1705563964.027138] info     | ProxyClient.cpp    | create_topic           |
topic created           | client_key: 0x60BF17AC, topic_id: 0x006(2), participan
t_id: 0x000(1)
[1705563964.029271] info     | ProxyClient.cpp    | create_subscriber      |
subscriber created      | client_key: 0x60BF17AC, subscriber_id: 0x003(4), parti
cipant_id: 0x000(1)
```

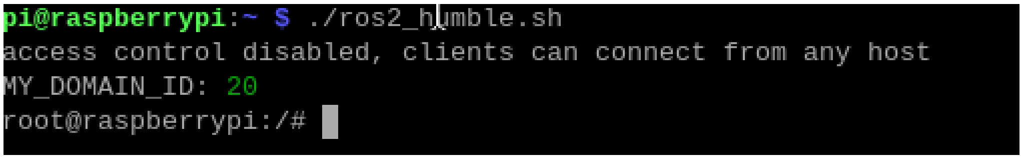
Note: If the connection is not successful, please check the configuration parameters of the robot to see if the device /dev/ttyUSB0 can be recognized normally.

3. Enter the car docker

Open another terminal and enter the following command to enter docker:

```
./ros2_humble.sh
```

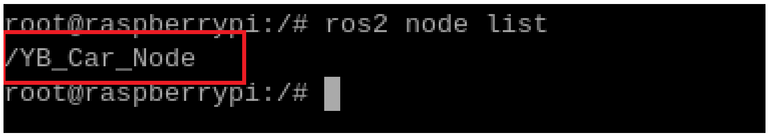
When the following interface appears, you have successfully entered docker. You can now control the car through commands.



```
pi@raspberrypi:~ $ ./ros2_humble.sh
access control disabled, clients can connect from any host
MY_DOMAIN_ID: 20
root@raspberrypi:/#
```

It should be noted that this ID needs to be consistent with the ID configured in the MicroROS control board parameters in the previous section, so that synchronous communication can be performed to control the car. Enter the following command to test whether communication is successful.

```
ros2 node list
```



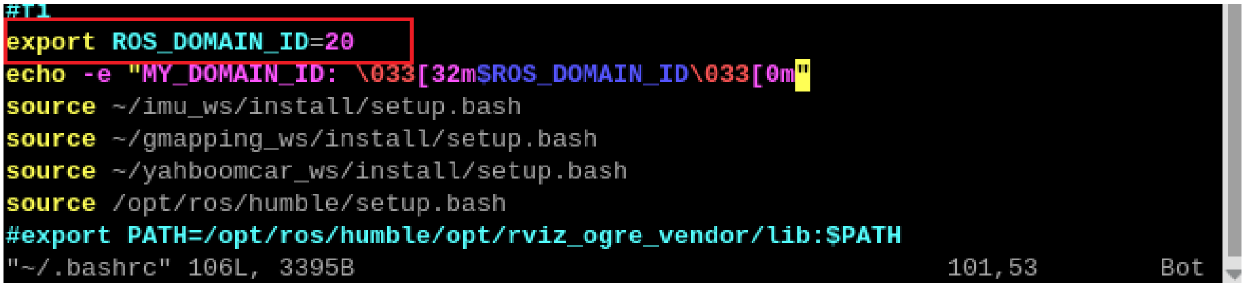
```
root@raspberrypi:/# ros2 node list
/YB_Car_Node
root@raspberrypi:/#
```

If the question change/YB_Car_Node does not appear, you need to check whether the IDs are the same.

If they are inconsistent, you can enter the command in the docker terminal.

```
vi  ~/.bashrc
```

Change it to the corresponding ID.



```
#fi
export ROS_DOMAIN_ID=20
echo -e "MY_DOMAIN_ID: \033[32m$ROS_DOMAIN_ID\033[0m"
source ~/imu_ws/install/setup.bash
source ~/gmapping_ws/install/setup.bash
source ~/yahboomcar_ws/install/setup.bash
source /opt/ros/humble/setup.bash
#export PATH=/opt/ros/humble/opt/rviz_ogre_vendor/lib:$PATH
"~/.bashrc" 106L, 3395B                                       101,53         Bot
```