

Connect to microROS agent

1. Start the agent

If you are using the factory virtual machine system, you can enter in the terminal:

```
sh ~/start_agent_computer.sh
```

If you use a third-party virtual machine system, you need to install the docker development environment first, open a terminal and enter:

```
docker run -it --rm -v /dev:/dev -v /dev/shm:/dev/shm --privileged --net=host  
microros/micro-ros-agent:humble udp4 --port 8090 -v4
```

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.

```
[1702630014.015846] Info | ProxyClient.cpp | create_participant | participant created | client_key: 0x0B62A009, participant_id: 0x000(1)
[1702630014.135363] Info | ProxyClient.cpp | create_topic | topic created | client_key: 0x0B62A009, topic_id: 0x000(2), participant_id: 0x000(1)
[1702630014.223689] Info | ProxyClient.cpp | create_publisher | publisher created | client_key: 0x0B62A009, publisher_id: 0x000(3), participant_id: 0x000(1)
[1702630014.415510] Info | ProxyClient.cpp | create_datawriter | datawriter created | client_key: 0x0B62A009, datawriter_id: 0x000(5), publisher_id: 0x000(3)
[1702630014.428530] Info | ProxyClient.cpp | create_topic | topic created | client_key: 0x0B62A009, topic_id: 0x001(2), participant_id: 0x000(1)
[1702630014.527190] Info | ProxyClient.cpp | create_publisher | publisher created | client_key: 0x0B62A009, publisher_id: 0x001(3), participant_id: 0x000(1)
[1702630014.543889] Info | ProxyClient.cpp | create_datawriter | datawriter created | client_key: 0x0B62A009, datawriter_id: 0x001(5), publisher_id: 0x001(3)
[1702630014.554490] Info | ProxyClient.cpp | create_topic | topic created | client_key: 0x0B62A009, topic_id: 0x002(2), participant_id: 0x000(1)
[1702630014.737059] Info | ProxyClient.cpp | create_publisher | publisher created | client_key: 0x0B62A009, publisher_id: 0x002(3), participant_id: 0x000(1)
[1702630014.755072] Info | ProxyClient.cpp | create_datawriter | datawriter created | client_key: 0x0B62A009, datawriter_id: 0x002(5), publisher_id: 0x002(3)
[1702630014.818985] Info | ProxyClient.cpp | create_topic | topic created | client_key: 0x0B62A009, topic_id: 0x003(2), participant_id: 0x000(1)
[1702630014.840001] Info | ProxyClient.cpp | create_subscriber | subscriber created | client_key: 0x0B62A009, subscriber_id: 0x000(4), participant_id: 0x000(1)
[1702630014.864010] Info | ProxyClient.cpp | create_datareader | datareader created | client_key: 0x0B62A009, datareader_id: 0x000(6), subscriber_id: 0x000(4)
[1702630014.959908] Info | ProxyClient.cpp | create_topic | topic created | client_key: 0x0B62A009, topic_id: 0x004(2), participant_id: 0x000(1)
[1702630015.033537] Info | ProxyClient.cpp | create_subscriber | subscriber created | client_key: 0x0B62A009, subscriber_id: 0x001(4), participant_id: 0x000(1)
[1702630015.140350] Info | ProxyClient.cpp | create_datareader | datareader created | client_key: 0x0B62A009, datareader_id: 0x001(6), subscriber_id: 0x001(4)
[1702630015.158510] Info | ProxyClient.cpp | create_topic | topic created | client_key: 0x0B62A009, topic_id: 0x005(2), participant_id: 0x000(1)
[1702630015.241039] Info | ProxyClient.cpp | create_subscriber | subscriber created | client_key: 0x0B62A009, subscriber_id: 0x002(4), participant_id: 0x000(1)
[1702630015.347393] Info | ProxyClient.cpp | create_datareader | datareader created | client_key: 0x0B62A009, datareader_id: 0x002(6), subscriber_id: 0x002(4)
```

Note: If the connection is not successful, please check and confirm the configuration parameters of the robot, whether it can connect to the LAN normally, and whether the proxy IP address and port number correspond.

3. Test ROS nodes

Open the ROS2 terminal environment and enter the following command to view the /YB_Car_Node node name

```
ros2 node list
```

```
~/YB_Car_Node :~$ ros2 node list
```

If the /YB_Car_Node node cannot be searched, please check and confirm that the ROS DOMAIN ID of the .bashrc file on the virtual machine/computer is consistent with the one configured on the microROS control board before the node information can be searched.

```
export ROS_DOMAIN_ID=20
```

```
I (1190) READ_FLASH: agent: 0  
I (1194) READ_FLASH: ros namespace:  
I (1198) READ_FLASH: ros domain id: 20  
I (1203) READ_FLASH: ros serial baudrate: 921600
```