

## Chapter 8 :ESP32\_Foxy\_Sub\_Pub\_Topic\_by\_MicroROS\_WIFI

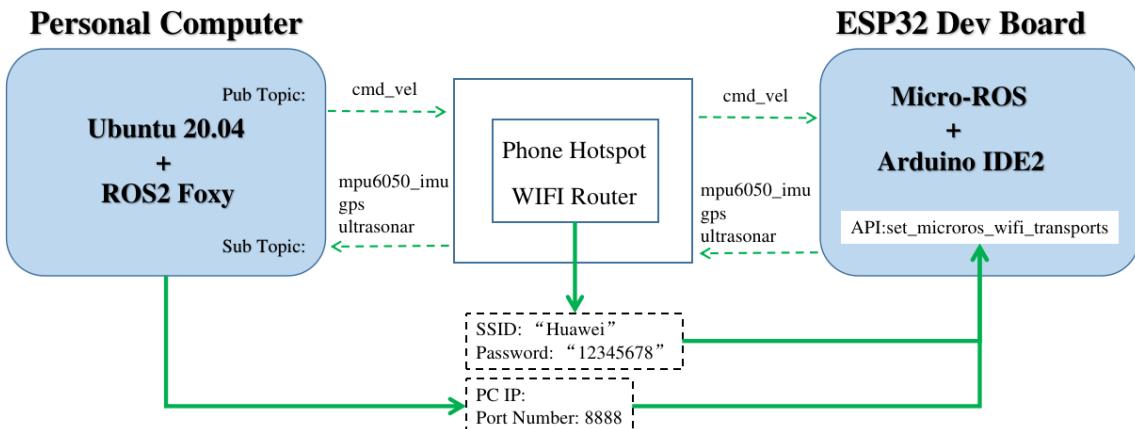


## 08-ESP32\_Foxy\_Sub\_Pub\_WIFI

URL: [https://github.com/ZhaoXiangBox/esp32\\_ros2\\_robot](https://github.com/ZhaoXiangBox/esp32_ros2_robot)

Videos from Bilibili 照祥同学: [第8节 ESP32通过WiFi和ROS2通信](#)

### ESP32 Communication with Foxy through Micro-ROS



#### First : Setup a WIFI Hotspot

·Such as my Xiaomi Phone's Hotspot:

```
// Huawei 是WIFI热点的名字  
// 12345678 是WIFI的密码
```

**Second : Let PC connect this hotspot and remember its IP number**

•open a terminal and input " ifconfig" command :

### Third : Check the WIFI information in ESP32 Code

```
*****  
**  
// set_microros_wifi_transports("Huawei", "12345678", "192.168.27.182", 8888)  
的意义  
// Huawei 是WIFI热点的名字  
// 12345678 是WIFI的密码  
// 192.168.27.182 是WIFI热点给笔记本电脑分配的IP  
// 8888 是局域网内ROS2消息传输的端口号, 后续在电脑端运行 micro_ros_agent 时候需要加载的  
参数  
*****  
*/  
set microros wifi transports("Huawei", "12345678", "192.168.27.182", 8888);
```

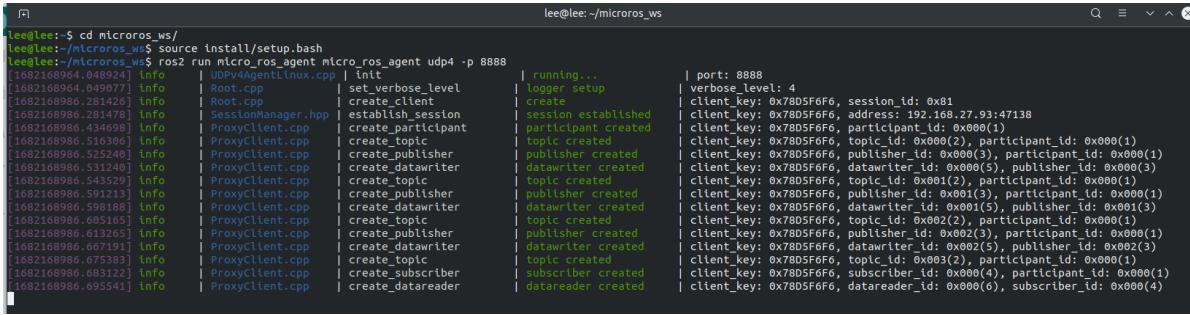
#### **Fourth : Run micro ros agent for wifi**

## •open a terminal

```
cd microros_ws      // cd in your micros workspace
source install/setup.bash // source
ros2 run micro_ros_agent micro_ros_agent udp4 -p 8888    // run micro_ros_agent
in ubuntu
```

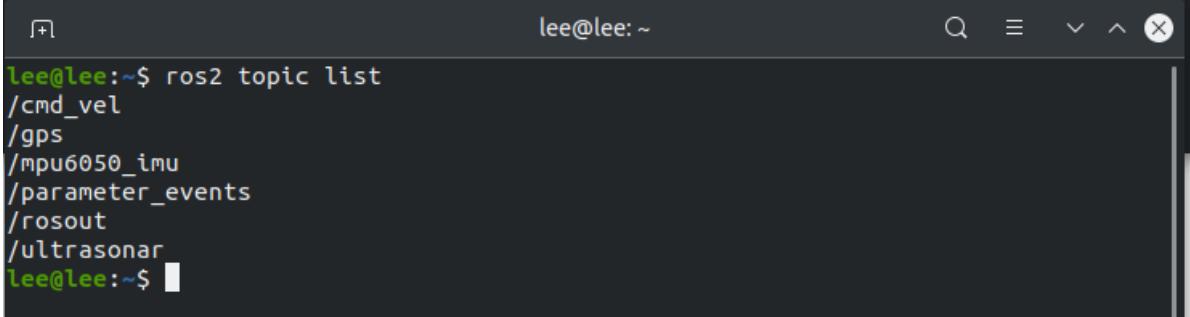
```
[+]
                                         lee@lee: ~/microros_ws
lee@lee:~$ cd microros_ws/
lee@lee:~/microros_ws$ source install/setup.bash
lee@lee:~/microros_ws$ ros2 run micro_ros_agent micro_ros_agent udp4 -p 8888
[1682168964.048924] info    | UDPV4AgentLinux.cpp | init           | running...          | port: 8888
[1682168964.049077] info    | Root.cpp        | set_verbose_level | logger setup       | verbose_level: 4
```

·then press the ESP32 Reset Button.



```
lee@lee:~$ cd microros_ws/
lee@lee:~/microros_ws$ source install/setup.bash
lee@lee:~/microros_ws$ ros2 run micro_ros_agent micro_ros_agent udp4 -p 8888
[1682168986.048924] [INFO] | UDPv4AgentLinux.cpp | init           | running...          | port: 8888
[1682168986.049077] [INFO] | Root.cpp        | set_verbose_level | logger setup       | verbose_level: 4
[1682168986.281426] [INFO] | Root.cpp        | create_client     | create             | client_key: 0x7B0SF0F0, session_id: 0x81
[1682168986.281478] [INFO] | SessionManager.hpp| establish_session | session established | client_key: 0x7B0SF0F0, address: 192.168.27.93:47138
[1682168986.434698] [INFO] | ProxyClient.cpp | create_participant | participant created | client_key: 0x7B0SF0F0, participant_id: 0x000(1)
[1682168986.516300] [INFO] | ProxyClient.cpp | create_topic      | topic created       | client_key: 0x7B0SF0F0, topic_id: 0x000(2), participant_id: 0x000(1)
[1682168986.525240] [INFO] | ProxyClient.cpp | create_publisher   | publisher created   | client_key: 0x7B0SF0F0, publisher_id: 0x000(3), participant_id: 0x000(1)
[1682168986.531240] [INFO] | ProxyClient.cpp | create_datawriter  | datawriter created  | client_key: 0x7B0SF0F0, datawriter_id: 0x000(5), publisher_id: 0x000(3)
[1682168986.543529] [INFO] | ProxyClient.cpp | create_topic      | topic created       | client_key: 0x7B0SF0F0, topic_id: 0x001(2), participant_id: 0x000(1)
[1682168986.591219] [INFO] | ProxyClient.cpp | create_publisher   | publisher created   | client_key: 0x7B0SF0F0, publisher_id: 0x001(3), participant_id: 0x000(1)
[1682168986.598180] [INFO] | ProxyClient.cpp | create_datawriter  | datawriter created  | client_key: 0x7B0SF0F0, datawriter_id: 0x001(5), publisher_id: 0x001(3)
[1682168986.605165] [INFO] | ProxyClient.cpp | create_topic      | topic created       | client_key: 0x7B0SF0F0, topic_id: 0x002(2), participant_id: 0x000(1)
[1682168986.613263] [INFO] | ProxyClient.cpp | create_publisher   | publisher created   | client_key: 0x7B0SF0F0, publisher_id: 0x002(3), participant_id: 0x000(1)
[1682168986.667191] [INFO] | ProxyClient.cpp | create_datawriter  | datawriter created  | client_key: 0x7B0SF0F0, datawriter_id: 0x0002(5), publisher_id: 0x002(3)
[1682168986.675383] [INFO] | ProxyClient.cpp | create_topic      | topic created       | client_key: 0x7B0SF0F0, topic_id: 0x003(2), participant_id: 0x000(1)
[1682168986.683122] [INFO] | ProxyClient.cpp | create_subscriber  | subscriber created  | client_key: 0x7B0SF0F0, subscriber_id: 0x0000(4), participant_id: 0x000(1)
[1682168986.695541] [INFO] | ProxyClient.cpp | create_datareader  | datareader created  | client_key: 0x7B0SF0F0, datareader_id: 0x000(6), subscriber_id: 0x000(4)
```

· ros2 topic list



```
lee@lee:~$ ros2 topic list
/cmd_vel
/gps
/mpu6050_imu
/parameter_events
/rosout
/ultrasonar
lee@lee:~$
```

update by zhaoxiangli 2023.04.23