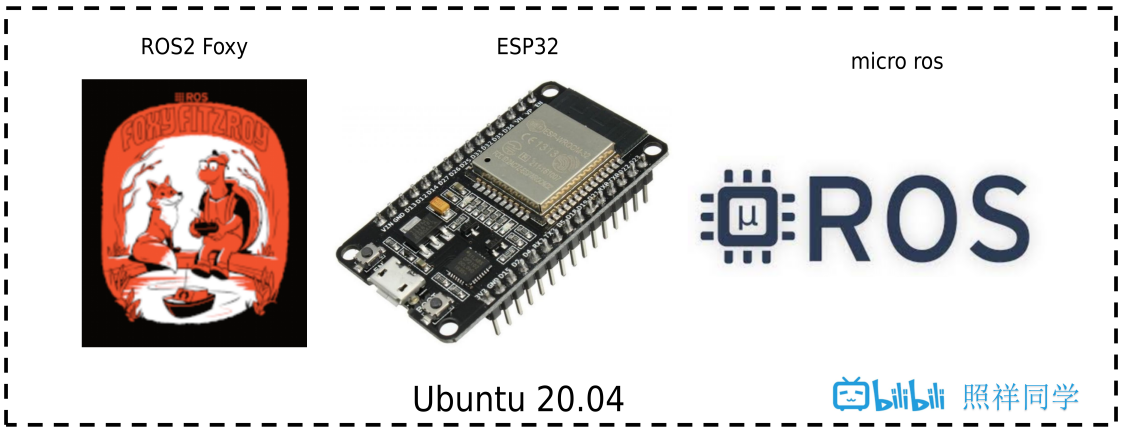
Chapter 2 install_micro_ros



02-install_micro_ros

URL: https://github.com/ZhaoXiangBox/esp32_ros2_robot

Videos from Bilibili 照祥同学: 第二节：安装micro_ros 的 Arduino 开发环境

First : Install micro-ROS Application On Ubuntu 20.04

Ref Url : **Teensy with Arduino**

```
# Source the ROS 2 installation
source /opt/ros/$ROS_DISTRO/setup.bash

# Create a workspace and download the micro-ROS tools
mkdir microros_ws
cd microros_ws
git clone -b $ROS_DISTRO https://github.com/micro-ROS/micro_ros_setup.git
src/micro_ros_setup

# Update dependencies using rosdep
sudo apt update && rosdep update
rosdep install --from-paths src --ignore-src -y

# Install pip
sudo apt-get install python3-pip

# Build micro-ROS tools and source them
colcon build
source install/local_setup.bash
```

Second : Creating a new firmware workspace

```
# Download micro-ROS agent packages
ros2 run micro_ros_setup create_agent_ws.sh
```

Tips: May need update your cmake version to 3.16.3

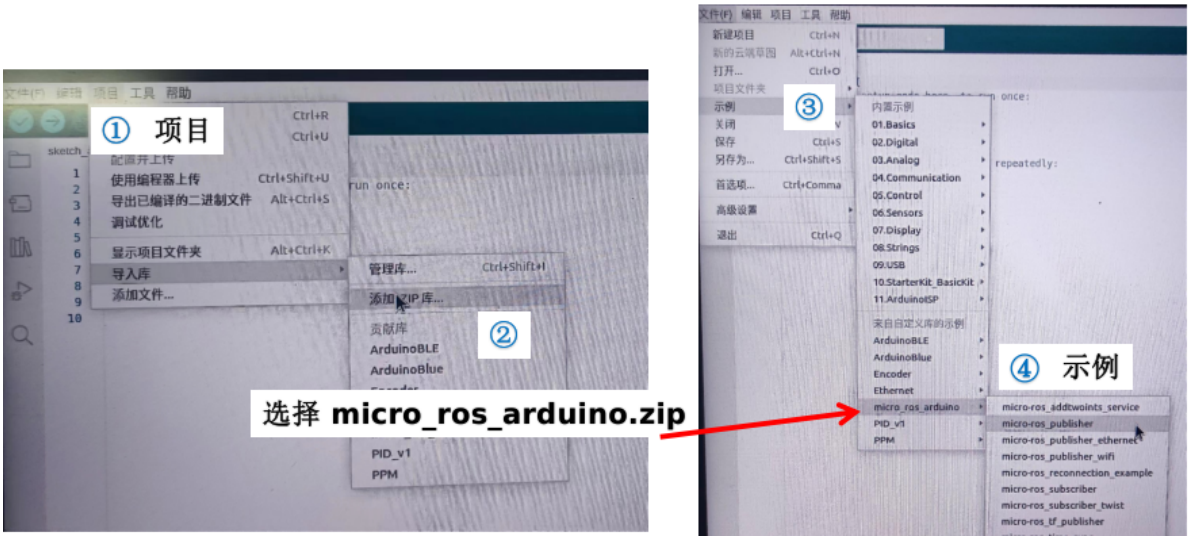
```
# Build step
ros2 run micro_ros_setup build_agent.sh
source install/local_setup.bash
```

```
lee@lee:~/microros_ws$ ros2 run micro_ros_setup build_agent.sh
Building micro-ROS Agent
Starting >>> micro_ros_msgs
Finished <<< micro_ros_msgs [1.76s]
Starting >>> micro_ros_agent
Finished <<< micro_ros_agent [1.09s]

Summary: 2 packages finished [3.07s]
lee@lee:~/microros_ws$ ls src/
micro_ros_setup  ros2.repos  uros
```

Third : Download micro_ros_arduino Library from github

Download URl : micro_ros_arduino (**Tips**: branch: foxy)



Fourth : communication with serial

example : **micro_ros_publisher**

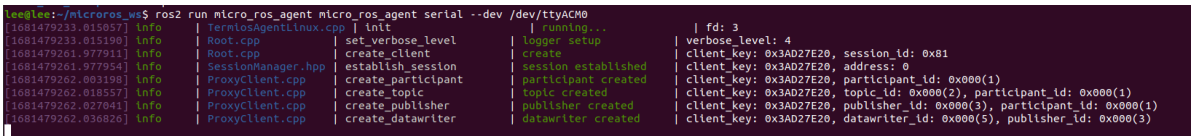
Tips: May be need Permission before upload code into esp32 board.

```
sudo chmod 0777 /dev/ttyACM0
```

·Run micro_ros_agent

```
cd microros_ws
source install/setup.bash
ros2 run micro_ros_agent micro_ros_agent serial --dev /dev/ttyACM0
```

Tips: Run the ros2 node ,and then press the boot button on the ESP32 Board, you will see.



·Open another Terminal and Subscribe the Topic by ESP32 pub

You can try other example !!!

update by zhaoxiangli 2023.04.14