

ROS2环境搭建及第三方库

ROS2安装（Ros2 fox须在Ubuntu20.04下安装）

0. 更换国内源(中科大)

```
1 sudo sed -i 's/cn.archive.ubuntu.com/mirrors.ustc.edu.cn/g' \  
2 /etc/apt/sources.list
```

1. 设置key

```
1 sudo wget https://gcore.jsdelivr.net/gh/ros/rosdistro@master/ros.key \  
2 -O /usr/share/keyrings/ros-archive-keyring.gpg
```

2. 配置源

```
1 echo "deb [arch=$(dpkg --print-architecture) \  
2 signed-by=/usr/share/keyrings/ros-archive-keyring.gpg] \  
3 http://mirrors.ustc.edu.cn/ros2/ubuntu \  
4 $(source /etc/os-release && echo $UBUNTU_CODENAME) main" | \  
5 sudo tee /etc/apt/sources.list.d/ros2.list >/dev/null
```

3. 安装

```
1 apt update  
2 apt install -y python3-colcon-common-extensions \  
3 python3-colcon-argcomplete python3-rosdep2 \  
4 python3-pip build-essential  
5 apt install -y ros-foxy-ros-base ros-foxy-rmw-cyclonedds-cpp  
6 apt install -y ros-foxy-gps-msgs ros-foxy-can-msgs \  
7 ros-foxy-geographic-msgs ros-foxy-visualization-msgs  
8 apt install -y ros-foxy-pcl-ros ros-foxy-geometry2 \  
9 ros-foxy-rosbridge-library ros-foxy-geodesy \  
10 ros-foxy-ament-index-cpp ros-foxy-pcl-ros \  
11 ros-foxy-pcl-conversions ros-foxy-rosbridge-library  
12 apt install -y libgoogle-glog-dev libopencv-dev \  
13 libusb-1.0-0-dev libgeographic-dev libyaml-cpp-dev \  
14 libtinyxml2-dev libtins-dev  
15 apt install -y mosquito mosquito-clients
```

```
16 apt install -y sshpass
```

4. 环境变量

```
1 echo "source /opt/ros/foxy/setup.bash" >> ~/.bashrc  
2 echo "source /usr/local/auto_truck/setup.bash" >> ~/.bashrc  
3 echo "export RMW_IMPLEMENTATION=rmw_cyclonedds_cpp" >> ~/.bashrc
```