10.Bind device ID

When the robot uses two or more USB serial devices, the corresponding relationship between the device name and the device is not fixed, but is assigned in sequence according to the order in which the devices are connected to the system.

Inserting one device first and then another device can determine the relationship between the device and the device name, but it is very troublesome to plug and unplug the device every time the system starts. The serial port can be mapped to a fixed device name. Regardless of the insertion order, the device will be mapped to a new device name. We only need to use the new device name to read and write the device.

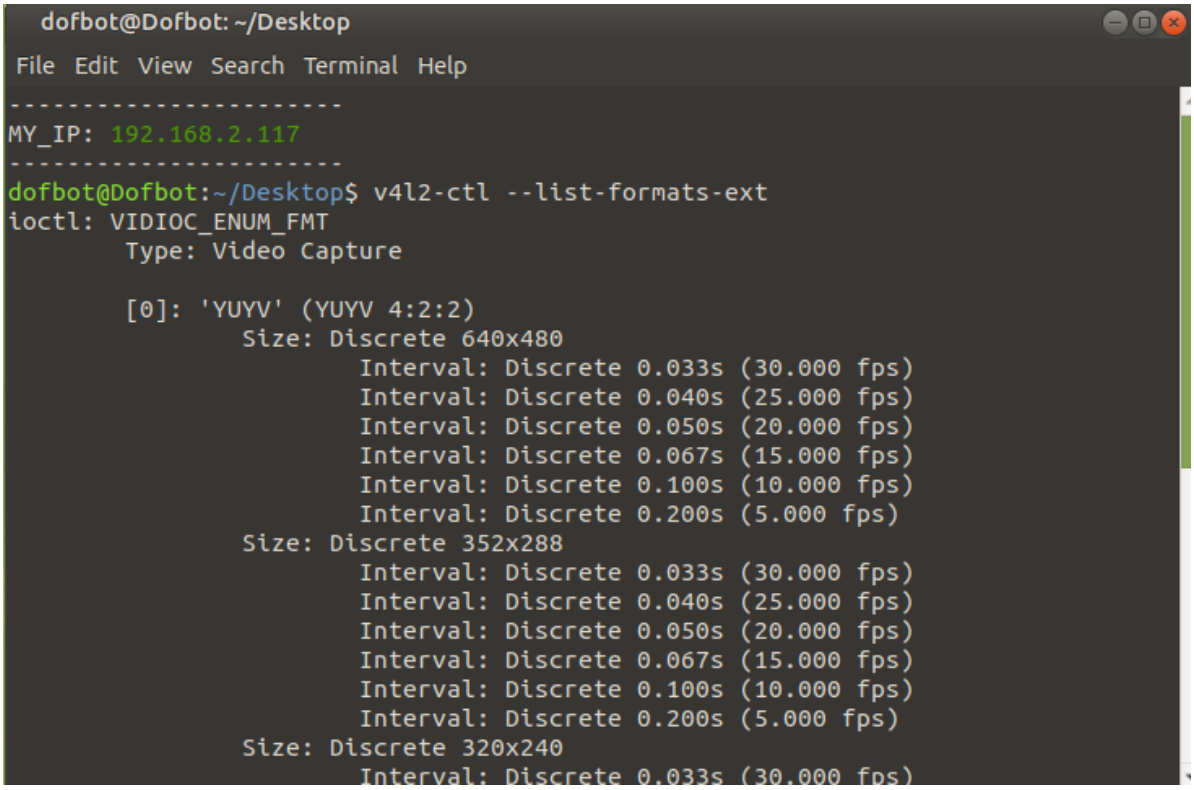
Note: If you use the virtual machine provided by Yahboom, the following steps can be omitted

10.1 Device view command

View camera device parameters

Input the following command in the terminal to view the corresponding relationship between the camera's pixel size and frame rate.

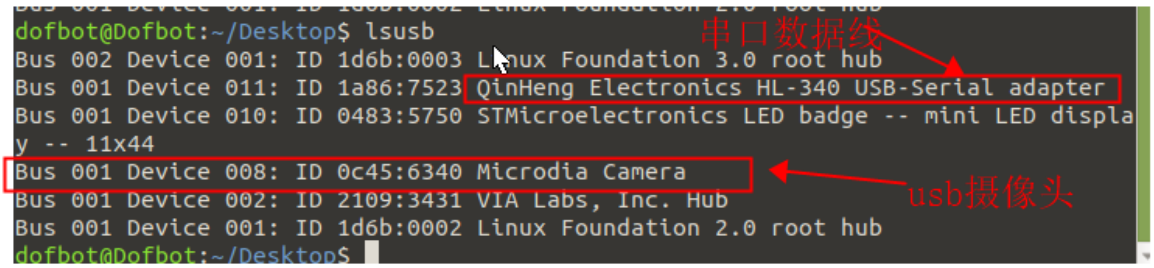
```
v4l2-ctl --list-formats-ext
```



Input the following command to view the device ID

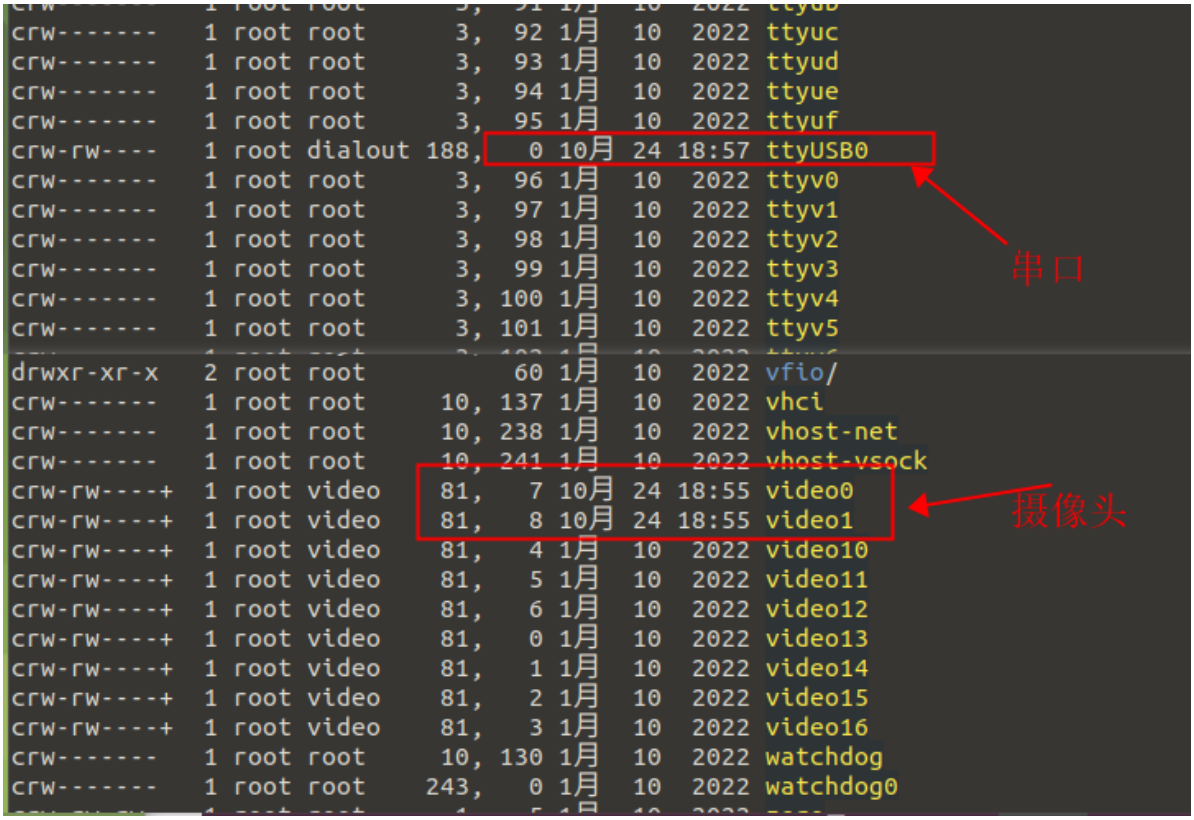
```
lsusb
```

As can be seen from the figure below, each device has a corresponding ID number.



Input the following command to view the device number.

```
ll /dev/
```



10.2、Establish port mapping relationship

10.2.1 Bind serial device

You can see the USB device information corresponding to the dofbot control board through lsusb (the device ID information we are mainly concerned about is 1a86:7523)

```
Bus 003 Device 007: ID 1a86:7523 QinHeng Electronics HL-340 USB-Serial adapter
```

Edit myserial.rules file

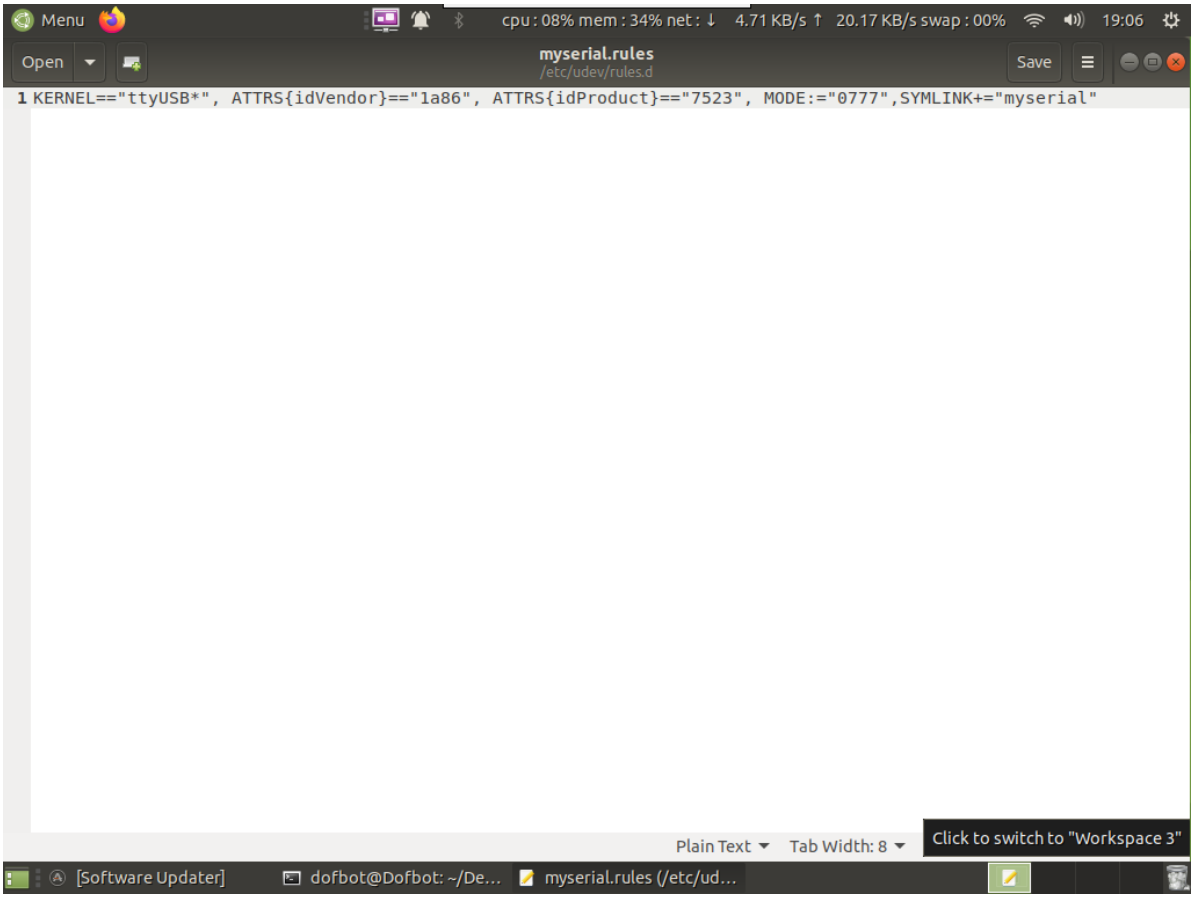
```
sudo gedit /etc/udev/rules.d/myserial.rules
```

The dofbot control board serial device ID information 1a86:7523 is required here. The following is the content of the myserial.rules file.

```
KERNEL=="ttyUSB*", ATTRS{idVendor}=="1a86", ATTRS{idProduct}=="7523",
MODE:="0777",SYMLINK+="myserial"
```

Note: Some people often fail to bind in this step.

It is recommended to directly open the .md file we provide and copy it. Do not directly copy the content of the pdf file, otherwise the binding may not be successful.



Save the file and exit, then enter the following command to give myserial.rules execution permissions.

```
sudo chmod a+x /etc/udev/rules.d/myserial.rules
```

Enter the following three commands to replug the micro usb device.

```
sudo udevadm trigger
sudo service udev reload
sudo service udev restart
```

Enter the following command to check whether the device number is successfully bound.

```
ll /dev/myserial
```

When the picture shown below appears, it is considered to be successfully bound.

```
dofbot@Dofbot:~/Desktop$ sudo chmod a+x /etc/udev/rules.d/myserial.rules
dofbot@Dofbot:~/Desktop$ sudo udevadm trigger
dofbot@Dofbot:~/Desktop$ sudo service udev reload
dofbot@Dofbot:~/Desktop$ sudo service udev restart
dofbot@Dofbot:~/Desktop$ ll /dev/myserial
lrwxrwxrwx 1 root root 7 10月 24 19:07 /dev/myserial -> ttyUSB0
dofbot@Dofbot:~/Desktop$
```