Setting up boot-up

I. Learning Objectives

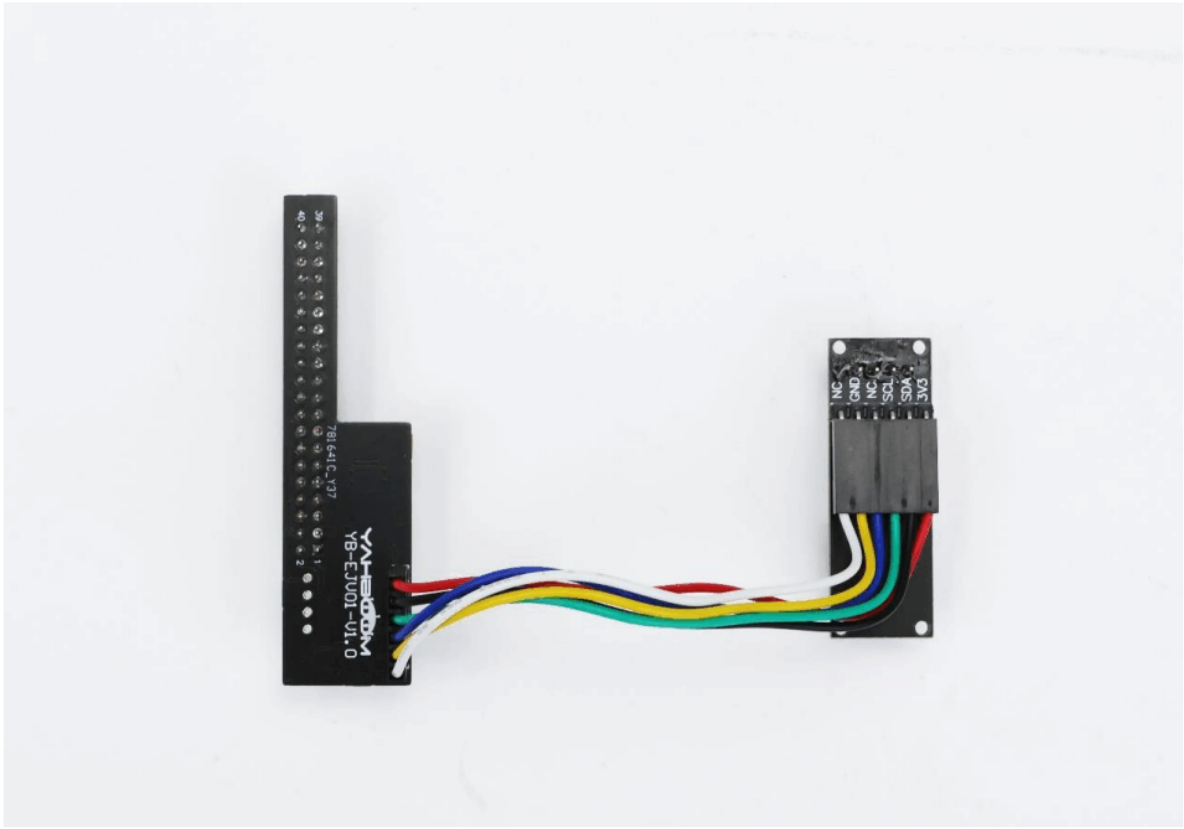
- Understand the basic use of service
- Setting up a custom bootloader
- To understand how to add and remove file execution permissions.

To set the status of the OLED display, fan and RGB light bar on the Jetson series motherboards after powering on the system using the relevant files already written, the specific principles are not explained here, read the relevant code by yourself to understand.

II. Preparing for the experiment

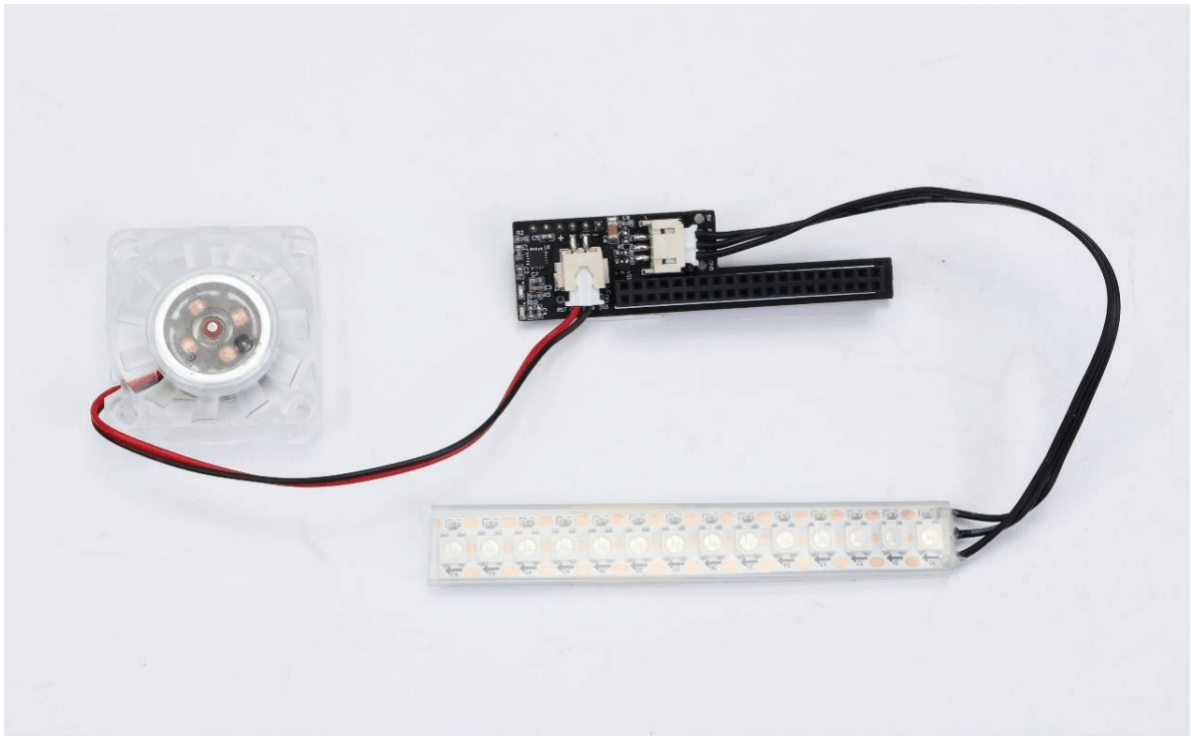
Follow the assembly video tutorial to install the Jetson CUBE Nano chassis, or refer to the "Jetson CUBE Nano chassis_hardware wiring" tutorial document for installation, here to show the chassis expansion board and related hardware connections.

OLED 接线示意图



Chassis Expansion Board	3.3V	SDA	SCL	NC	GND	NC
OLED screen	3.3V	SDA	SCL	NC	GND	NC

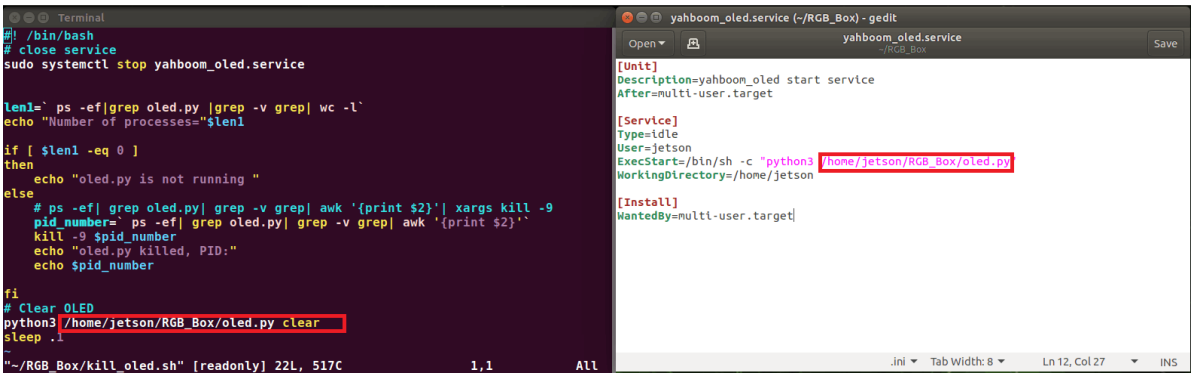
灯条/风扇接线图



Chassis expansion board	3 Pin connector	2 Pin connector
	RGB light bar	Fan

III. Setting up the boot self-start service

Copy the RGB_Box.zip file in the information to the Home directory in the Jetson motherboard system, after decompressing the file, you need to change the path name within the kill_oled.sh and yahboom_oled.service files according to your own directory; if the paths are different, modify the location of the following figure.



1. Copy the file

Copy yahboom_oled.service to the /etc/systemd/system path.

```
sudo cp yahboom_oled.service /etc/systemd/system
```

2. Managing Configurations

Use the systemctl tool to load and manage configurations.

```
systemctl daemon-reload
```

3. Managing services

Manage the yahboom_oled service.

- Starting the yahboom_oled service

```
systemctl start yahboom_oled
```

- Stop yahboom_oled service.

```
systemctl stop yahboom_oled
```

- Restart yahboom_oled service

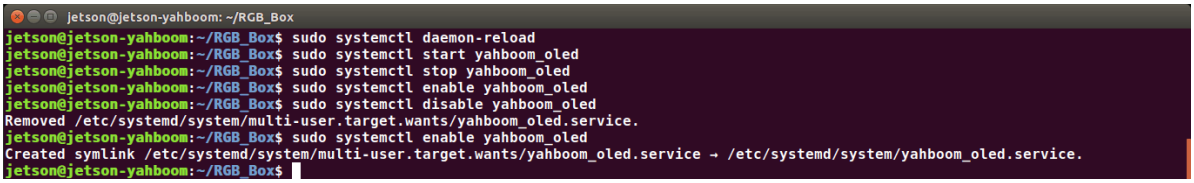
```
systemctl restart yahboom_oled
```

- Setting up the yahboom_oled service to start on boot

```
systemctl enable yahboom_oled
```

- Disable yahboom_oled service boot-up self-start

```
systemctl disable yahboom_oled
```



Note: The picture is to demonstrate the effect of each command after running, run the command yourself according to your needs.

4. Run kill_oled.sh

Running the kill_oled.sh file will stop the yahboom_oled service and the yahboom_oled service process, at this time the OLED display will not show anything.

- Add executable permissions

```
chmod +x kill_oled.sh
```

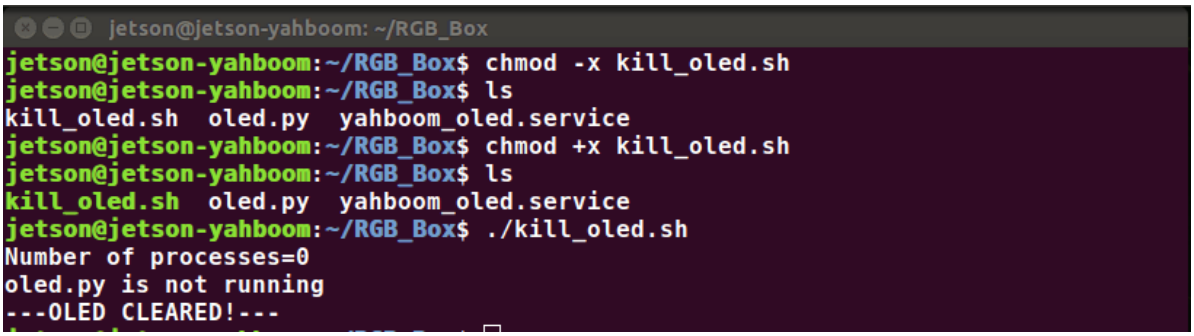
- Cancellation of executable privileges

```
chmod -x kill_oled.sh
```

NOTE: Normally the executable file name is in green font!

- Run the file kill_oled.sh

```
./kill_oled.sh
```

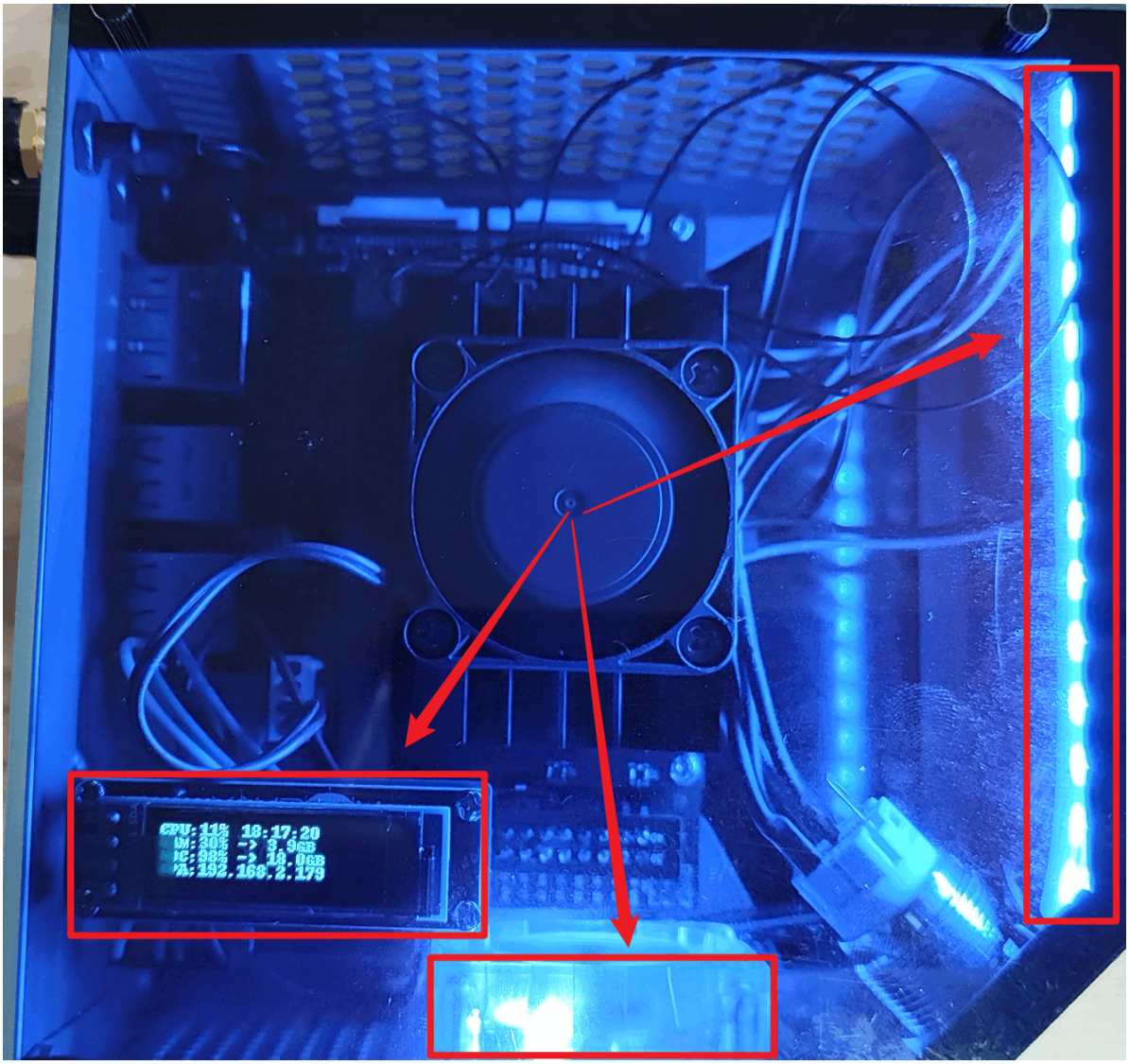


- operating effect

IV. Experimental phenomena

Following the steps in the tutorial will enable the yahboom_oled service to boot up.

After the Jetson series motherboard is powered on, the OLED display will show information about the system, and the fan and RGB light bar will work in the corresponding state.


CPU: 11% 18:17:20
RAM: 30% -> 3.9GB
SWAP: 0% -> 18.0GB
IP: 192.168.2.179