

Control motor

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1. Experimental goals

Control the forward and reverse rotation of the motor on the Transbot SE, and control the movement speed of the motor by controlling the PWM duty cycle of the motor.

2. Experiment preparation

The position of the red box in the picture below is the interface of motor MOTOR A on the left and motor B on the right. The motor interface has an anti-reverse connection function and can be connected to the motor using the Transbot SE motor cable.

Transbot_Lib library function needed to control the motor of Transbot SE:

```
set_motor(index, speed)
```

Parameter explanation: Control the motor PWM pulse to control the motor speed. This function does not use the encoder speed measurement function.

index: Corresponding ID number: MOTOR_A = 1, MOTOR_B= 2, speed: Control the motor speed.

index=[1, 2], speed=[-100, 100]

Return value: None.

3. Experimental results

Since this function controls the rotation of the motor by modifying the PWM duty cycle, it can only be used to test whether the motor is working normally. This function is rarely used in actual use.

3.1jetson motherboard/Raspberry Pi 4B

Please view the course video.

3.2 Raspberry Pi 5

Enter docker

Note: If you have a terminal that automatically starts docker, you can directly enter the temp directory in docker to view it. There is no need to manually start docker

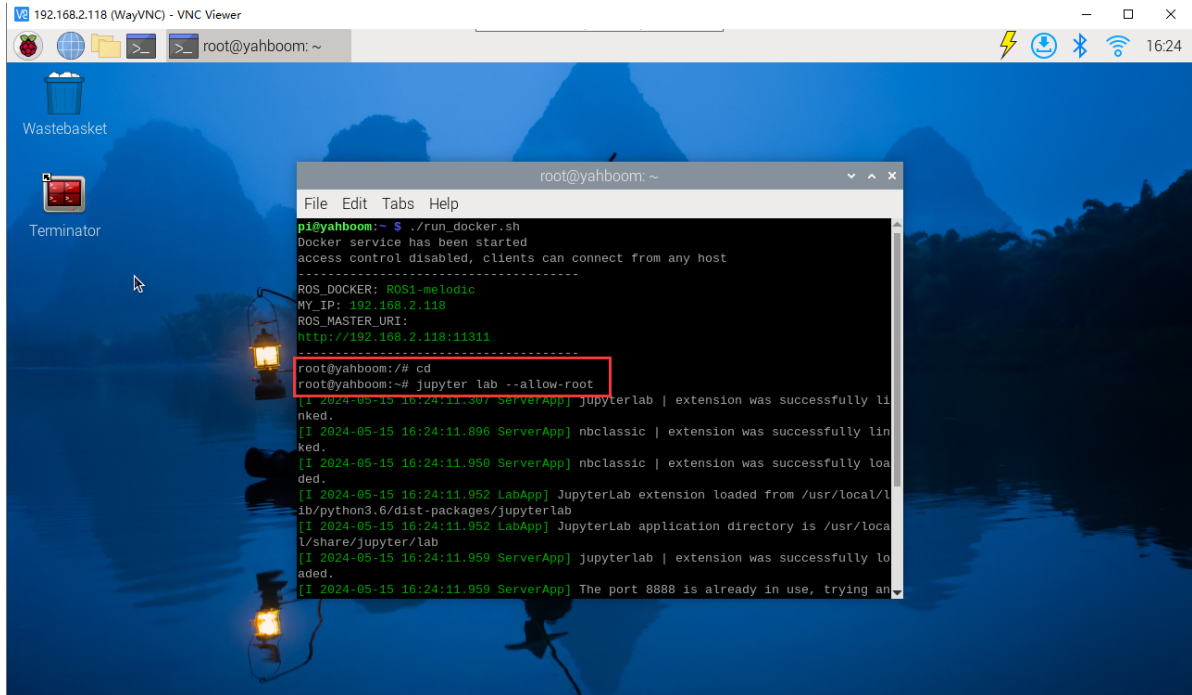
Start docker manually

```
./run_docker.sh
```

Run jupyter lab program

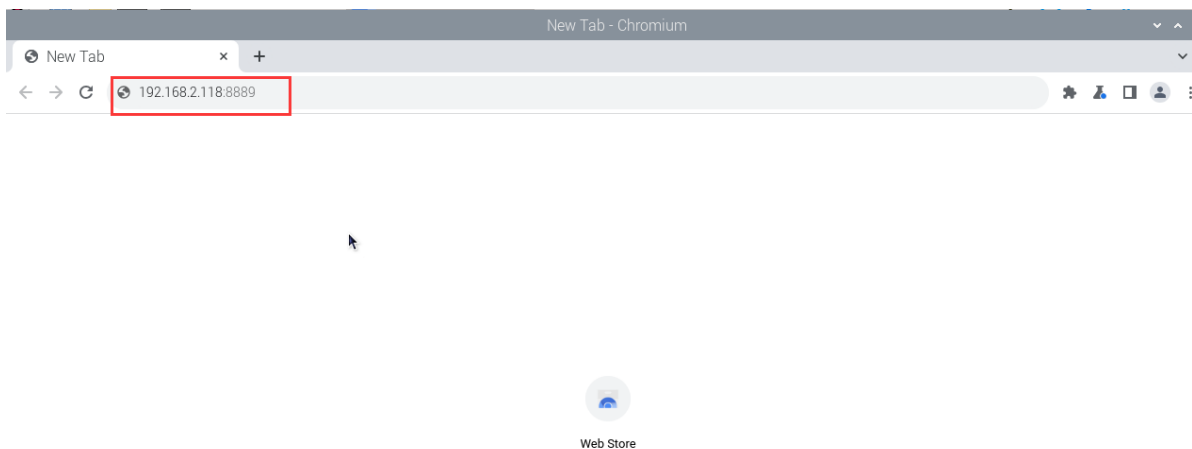
```
cd
```

```
jupyter lab --allow-root
```

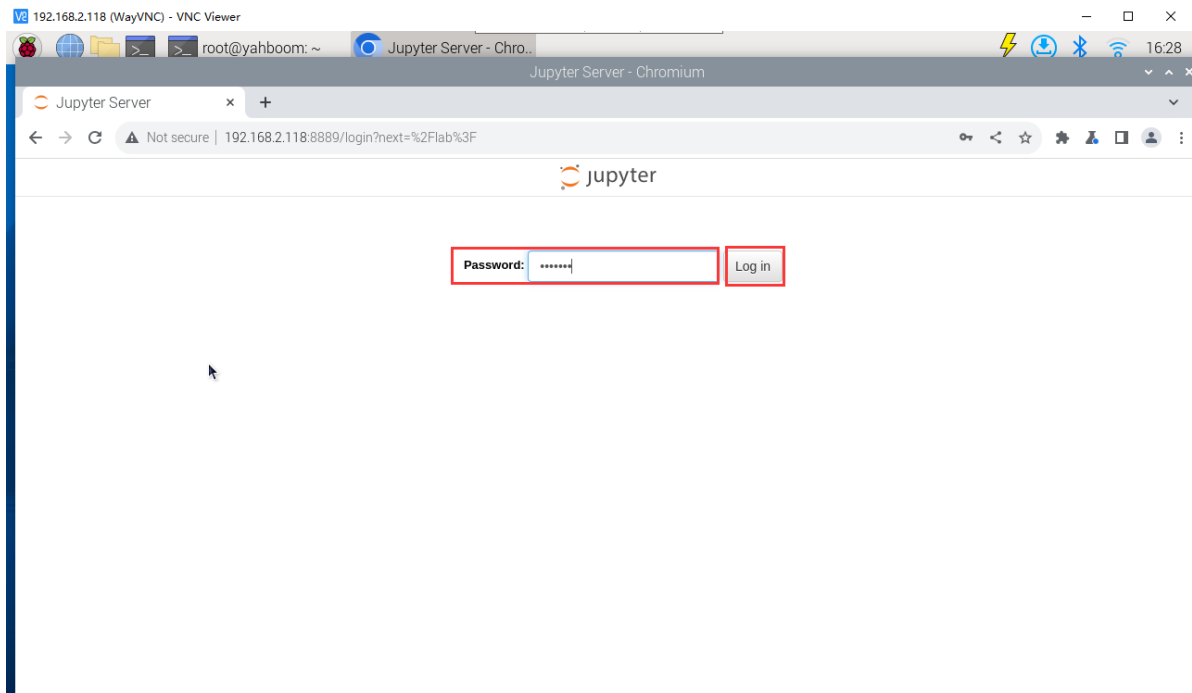


Taking the current IP address 192.168.2.118 as an example, open the browser of Raspberry Pi 5 or enter in the browser of your computer

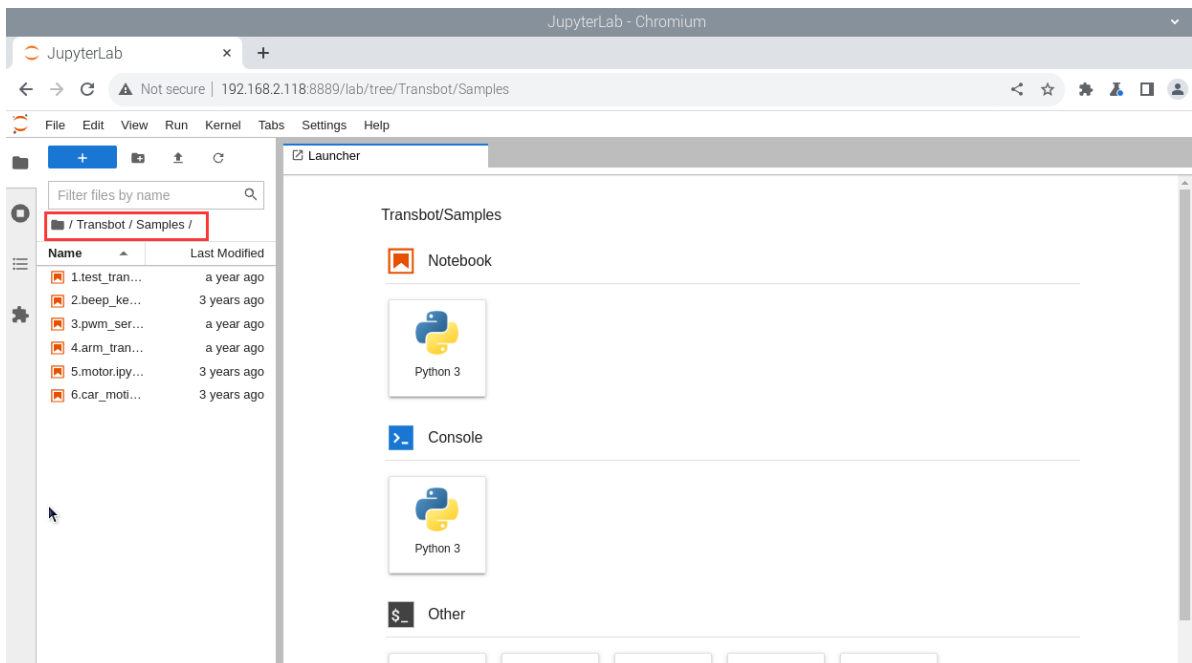
```
192.168.2.118:8889
```



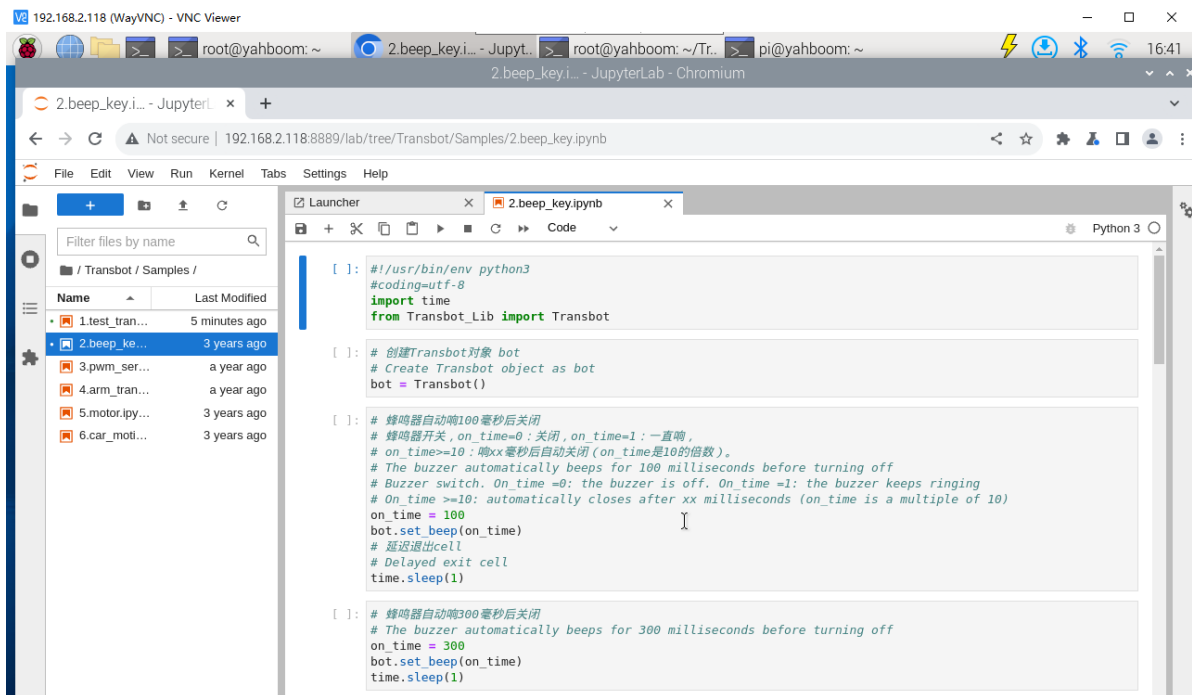
Enter the jupyter lab login interface after pressing Enter, enter the password yahboom, and then click login



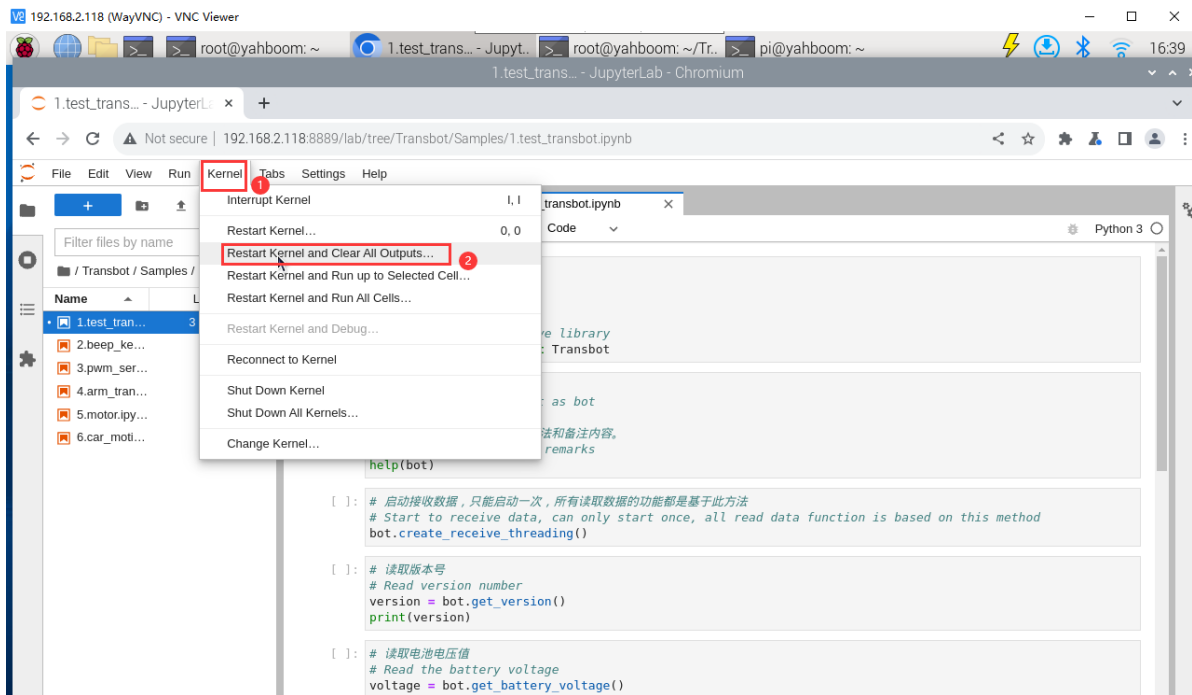
Enter the Transbot/Samples directory



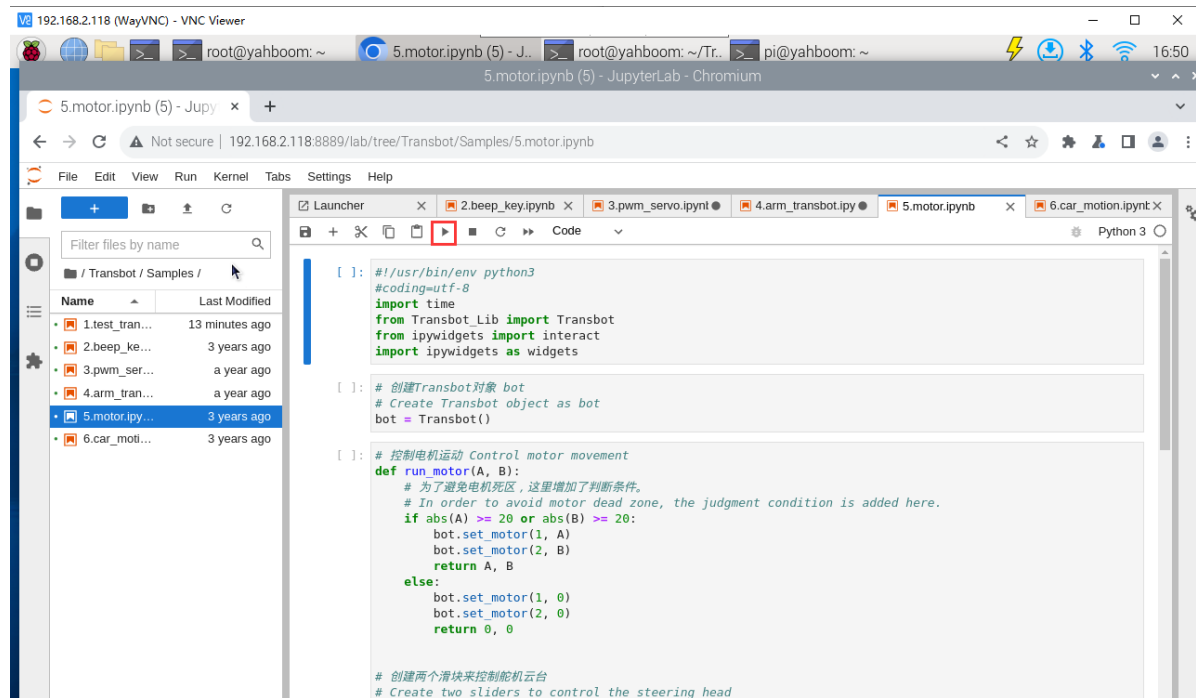
Double-click the code you want to run



Restart the kernel and clear all output before running



Click on the first code block, then click the run button to start running one by one



4. Program source code

Turn on the power of the Transbot SE robot, and open Jetson Nano or the browser of the remote computer to enter the Jupyter lab editor.

Reference code path: Transbot/Samples/5.motor.ipynb