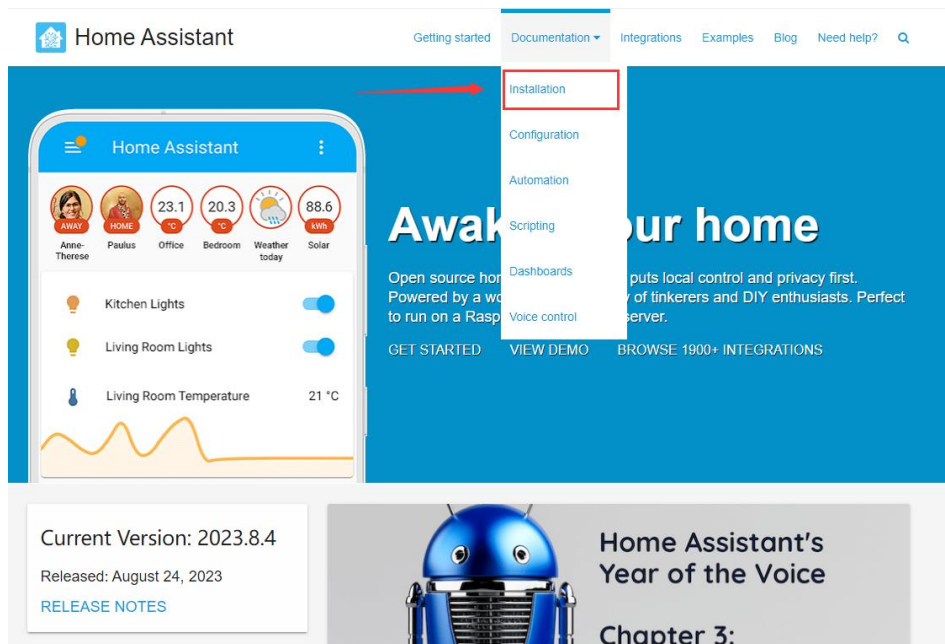


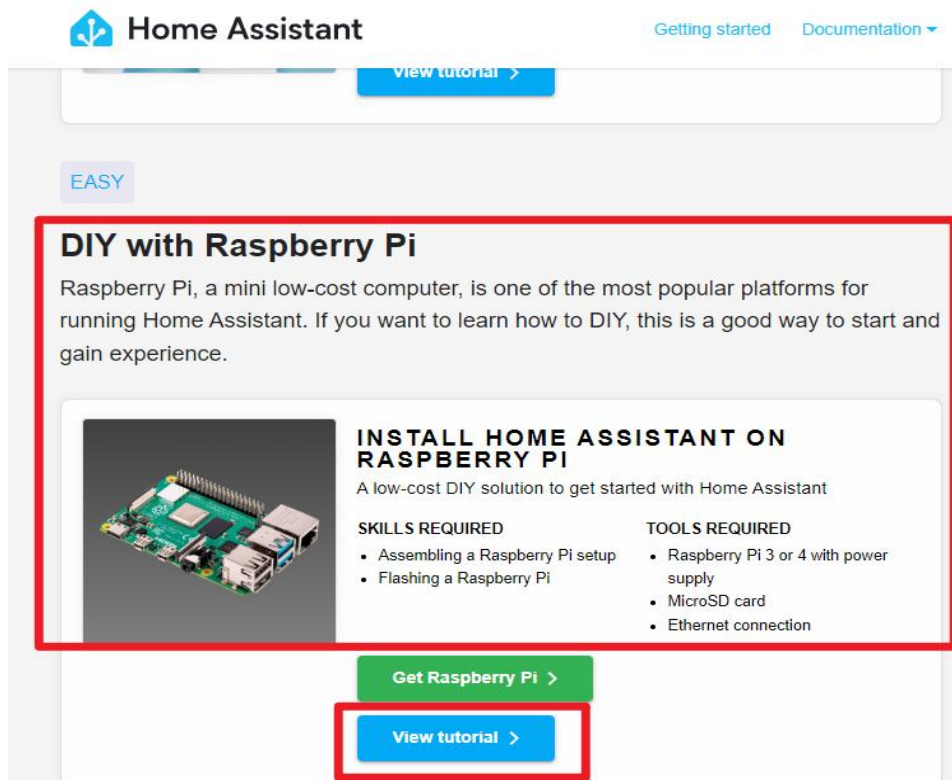
Home Assistant Raspberry Pi Server Configuration

1. Installation of Home Assistant

(1) Go to the URL <https://www.home-assistant.io/> and click on the Installation directory of Documentation on the home page.



(2) Select Raspberry Pi and click View tutorial.



2. Write the image to the SD card

Install Home Assistant Operating System

This guide shows how to install the Home Assistant Operating system onto your Raspberry Pi using Raspberry Pi Imager.

If Raspberry Pi Imager is not supported by your platform, you can use [Balena Etcher](#) instead.

WRITE THE IMAGE TO YOUR SD CARD

1. Download and install the Raspberry Pi Imager on your computer as described under <https://www.raspberrypi.com/software/>.

Raspberry Pi OS

Your Raspberry Pi needs an operating system to work. This is it. Raspberry Pi OS (previously called Raspbian) is our official supported operating system.



Install Raspberry Pi OS using Raspberry Pi Imager

Raspberry Pi Imager is the quick and easy way to install Raspberry Pi OS and other operating systems to a microSD card, ready to use with your Raspberry Pi. [Watch our 45-second video](#) to learn how to install an operating system using Raspberry Pi Imager.

Download and install Raspberry Pi Imager to a computer with an SD card reader. Put the SD card you'll use with your Raspberry Pi into the reader and run Raspberry Pi Imager.



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[Download for Ubuntu for x86](#)

[Download for Windows](#)

[Download for macOS](#)

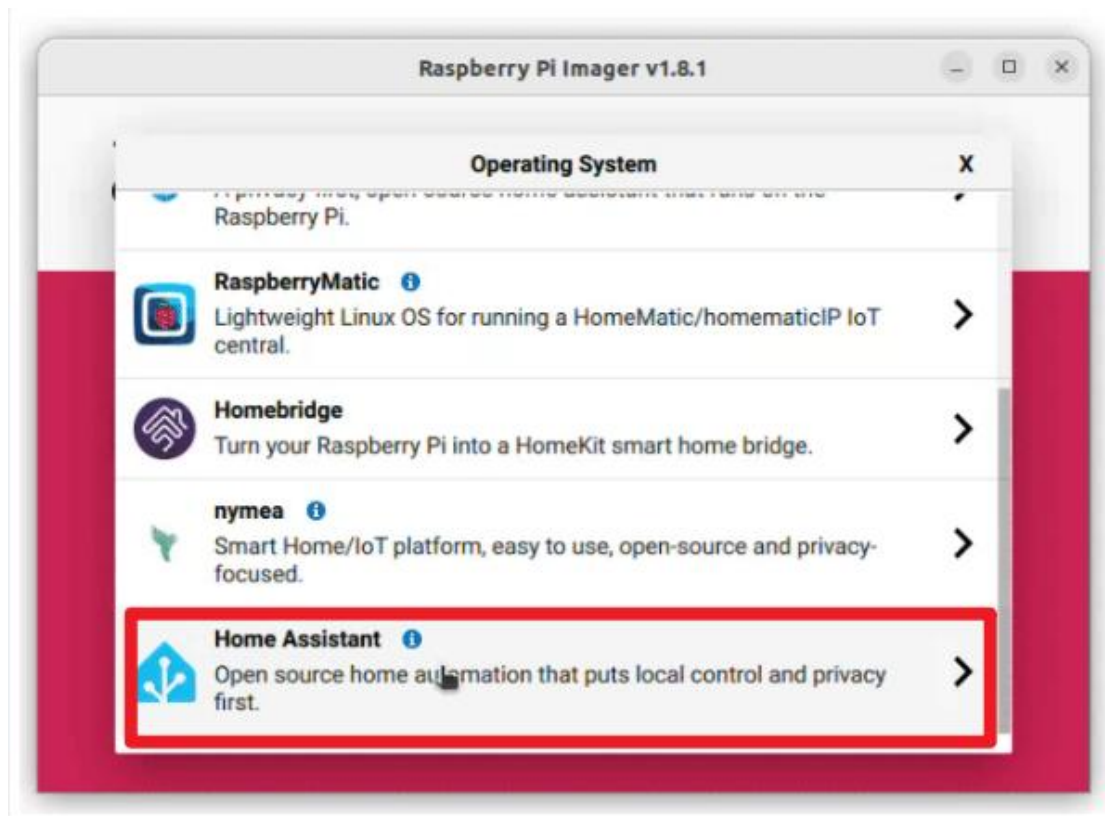


4. Open Raspberry Pi Imager and select your Raspberry Pi device.



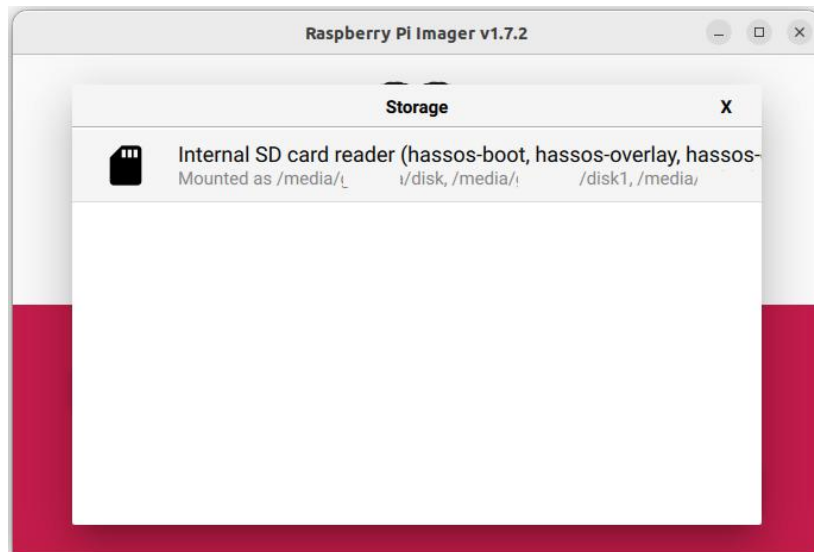
5. Select Operating System:

- (1) Select "Select OS".
- (2) Select Other Dedicated Operating Systems > Home Assistant and Home Automation > Home Assistant.
- (3) Select the Home Assistant operating system (RPi 3 or RPi 4) that matches your hardware.



6. Select storage:

- (1) Insert the SD card into the computer. **Note:** The contents of the card will be overwritten.
- (2) Select your SD card.



7. Write the installer to the SD card:

- (1) To start the process, select Next.
- (2) Wait for the Home Assistant OS to write to the SD card.



8. Eject the SD card.

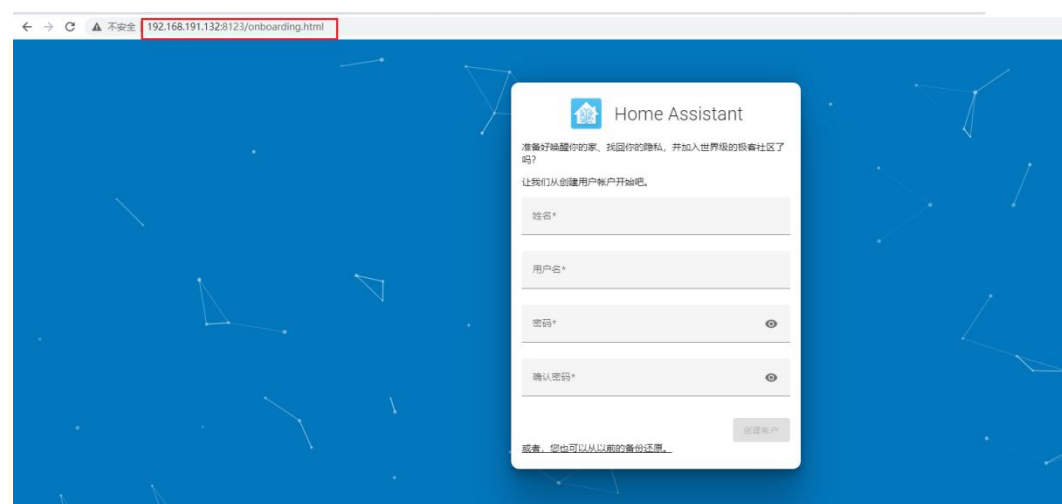
9. Start Raspberry Pi

- (1) Insert the SD card into the Raspberry Pi.
- (2) Plug in the Ethernet cable and make sure the Raspberry Pi is connected to the same network as your computer.

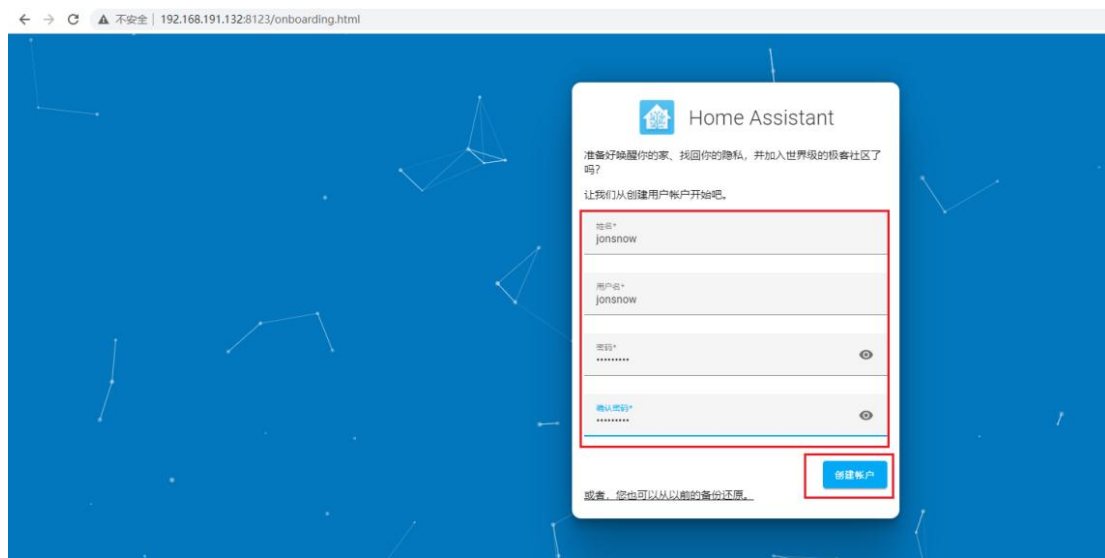
10. start the Raspberry Pi, start after the completion of we can see the LAN ip address and port information, 8123 is the management panel port

11. Register for Home Assistant

(1) After starting the virtual machine, we in the local browser, enter the Home Assistant's LAN ip address plus 8123 port number (you can also directly enter the URL: `homeassistant.local:8123`), you can see the management panel

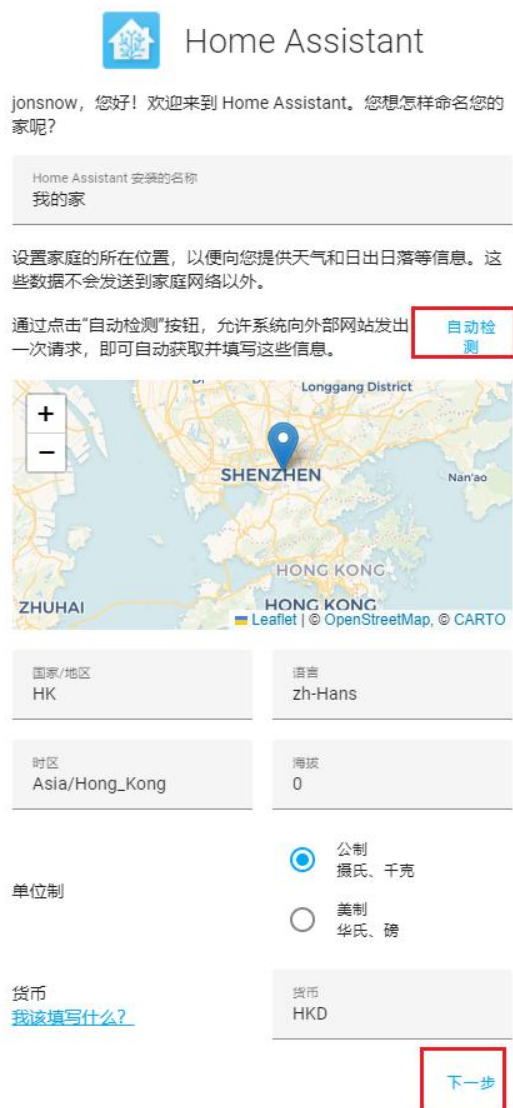


(2) The first time you visit the login, you need to create an account, fill in the relevant user name and password, create an account.



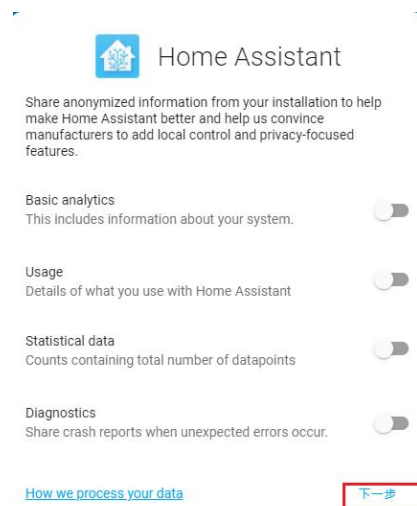
The screenshot shows the Home Assistant onboarding page in a web browser. The browser's address bar displays "192.168.191.132:8123/onboarding.html". The page has a blue background with a constellation pattern. A white form titled "Home Assistant" is centered on the right. The form contains the following fields: "姓名*" (Name) with the value "jonsnow", "用户名*" (Username) with the value "jonsnow", "密码*" (Password) with masked characters, and "确认密码*" (Confirm Password) with masked characters. Each field has a red rectangular box around it. Below the fields is a blue button labeled "创建帐户" (Create Account). At the bottom of the form, there is a link that says "或者, 您也可以从以前的备份还原..." (Or, you can also restore from a previous backup...). The browser's security indicator shows "不安全" (Not secure).

(3) Area selection, either manual positioning or automatic detection.



The screenshot shows the Home Assistant area selection page. The page has a white background. At the top, there is a Home Assistant logo and the text "jonsnow, 您好! 欢迎来到 Home Assistant. 您想怎样命名您的家呢?" (Hello jonsnow! Welcome to Home Assistant. How do you want to name your home?). Below this is a text input field for "Home Assistant 安装的名称" (Name of Home Assistant installation) with the value "我的家" (My home). The next section is titled "设置家庭的所在位置, 以便向您提供天气和日出日落等信息。这些数据不会发送到家庭网络以外。" (Set the location of your home, so we can provide you with weather and sunrise/sunset information. This data will not be sent outside your home network.). Below this is a map of Shenzhen, China, with a blue pin indicating the location. To the right of the map is a blue button labeled "自动检测" (Automatic detection). Below the map are four input fields: "国家/地区" (Country/Region) with the value "HK", "语言" (Language) with the value "zh-Hans", "时区" (Time zone) with the value "Asia/Hong_Kong", and "海拔" (Altitude) with the value "0". Below these fields are two radio buttons for "单位制" (Units): "公制" (Metric) with the value "摄氏、千克" (Celsius, Kilograms) and "美制" (Imperial) with the value "华氏、磅" (Fahrenheit, Pounds). The "公制" option is selected. Below the units are two input fields: "货币" (Currency) with the value "HKD" and a link "我该填写什么?" (What should I fill in?). At the bottom right is a blue button labeled "下一步" (Next step).

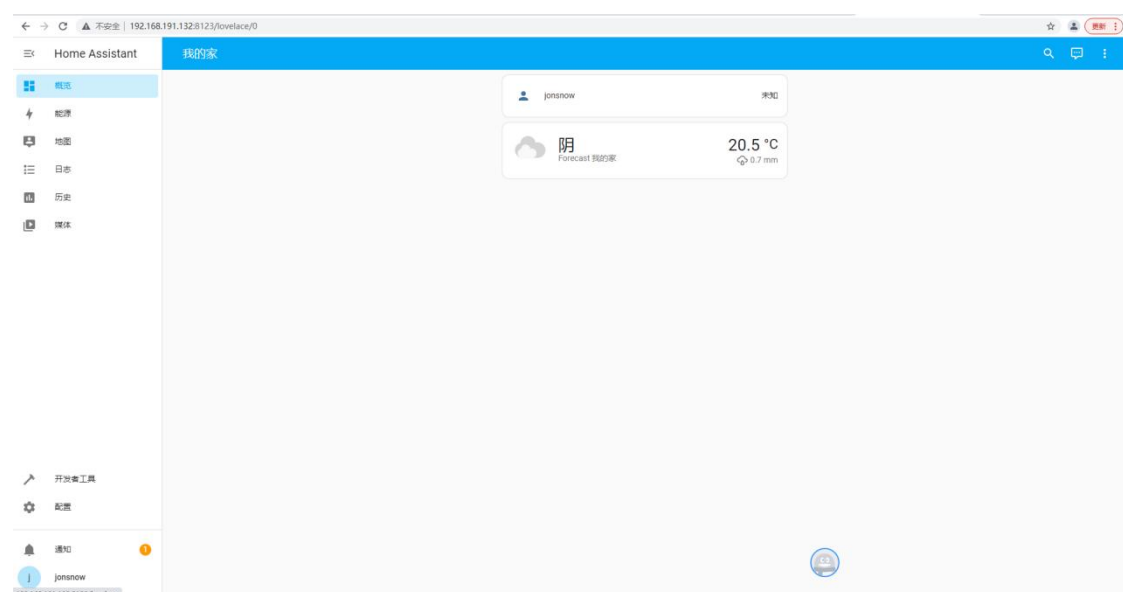
(4) Next click Next by default



(5) Then click Finish, here prompted to add a smart device, you can click Finish, and then set up your own settings.



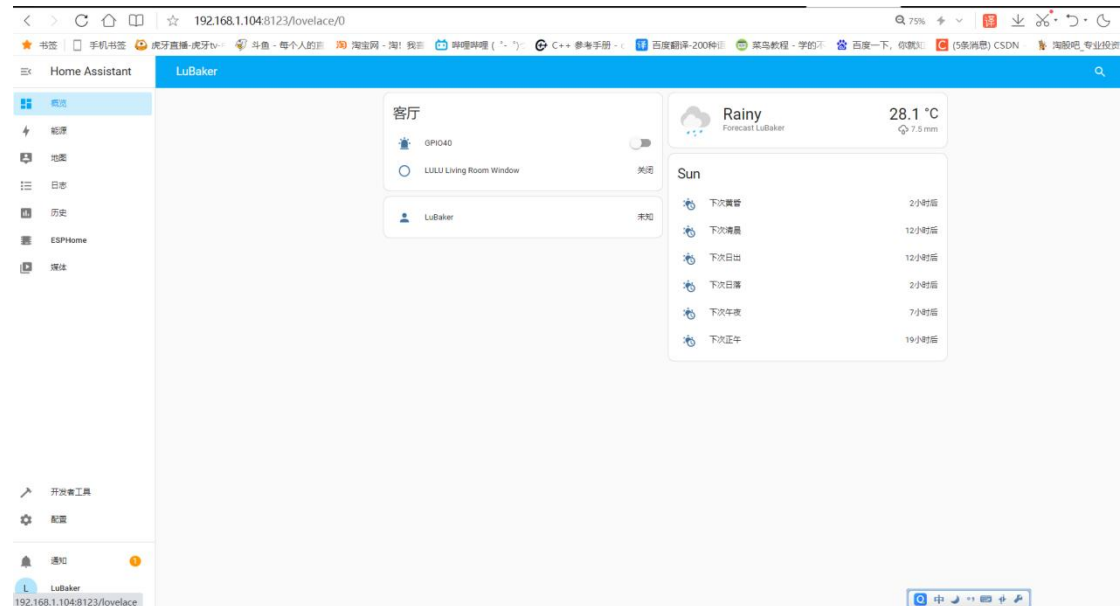
(6) Then you're in the control panel screen



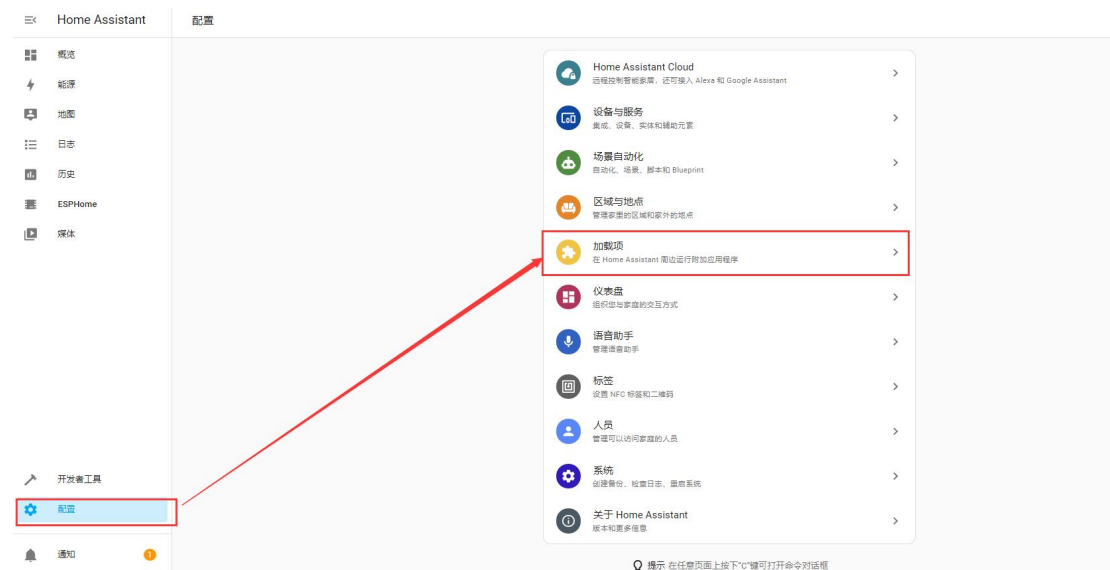
12. Configuring MQTT

Note: The Raspberry Pi and the local computer need to be on the same LAN (same network segment).

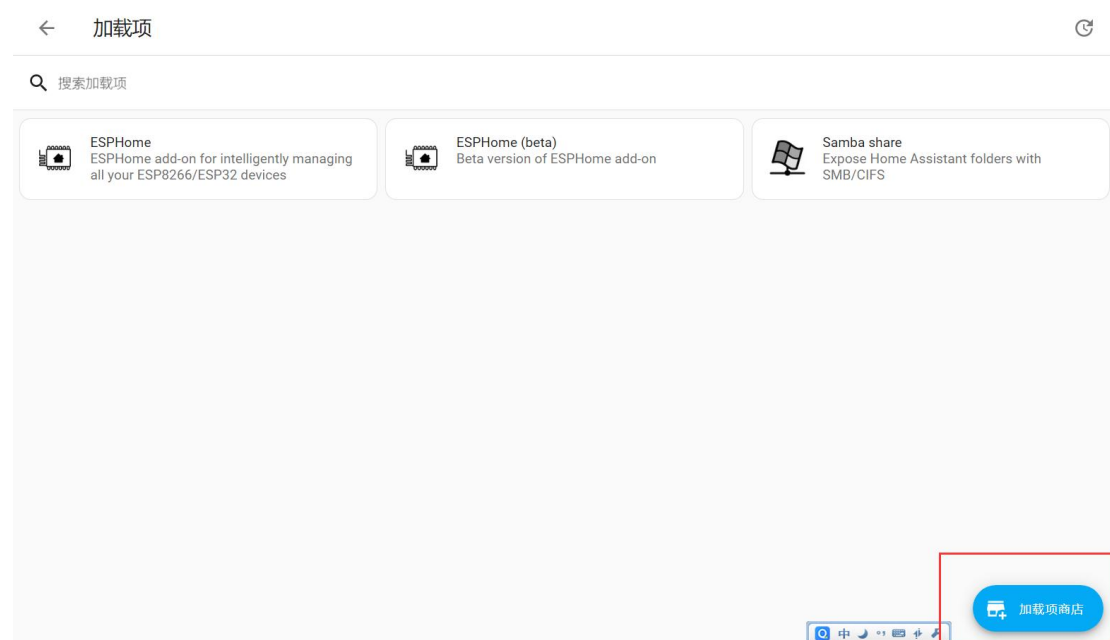
(1) Type `homeassistant.local:8123` in the browser



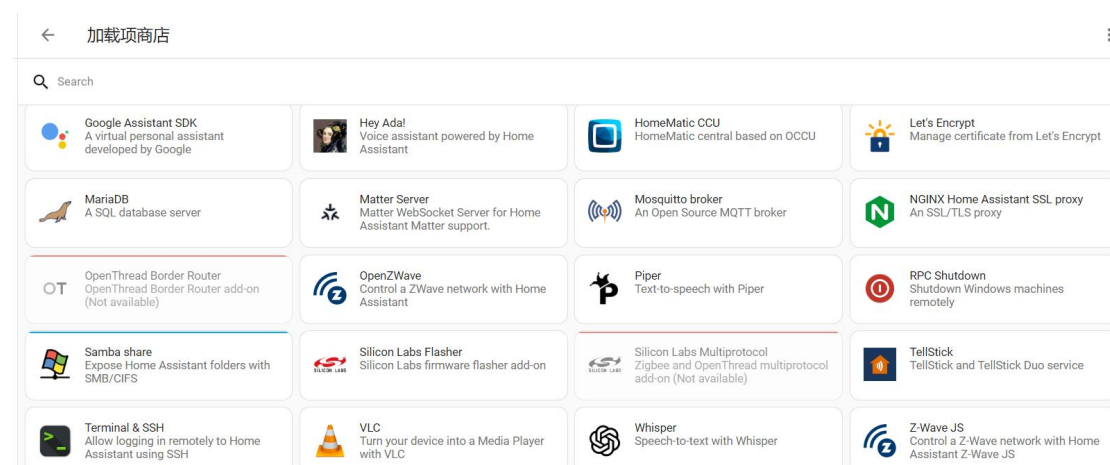
(2) Click Configuration--->Add-ons



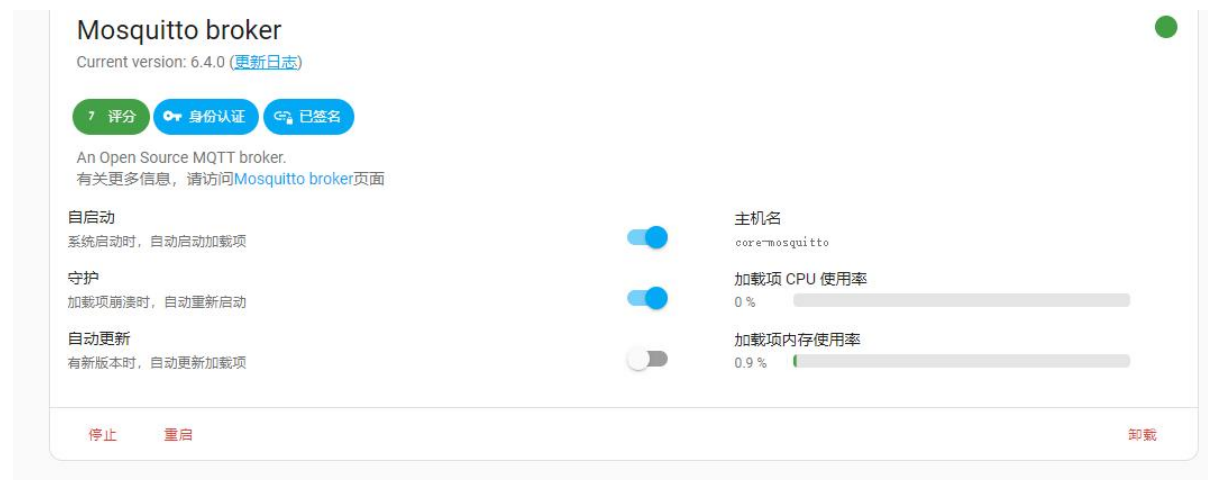
(3) Click on the add-ons shop



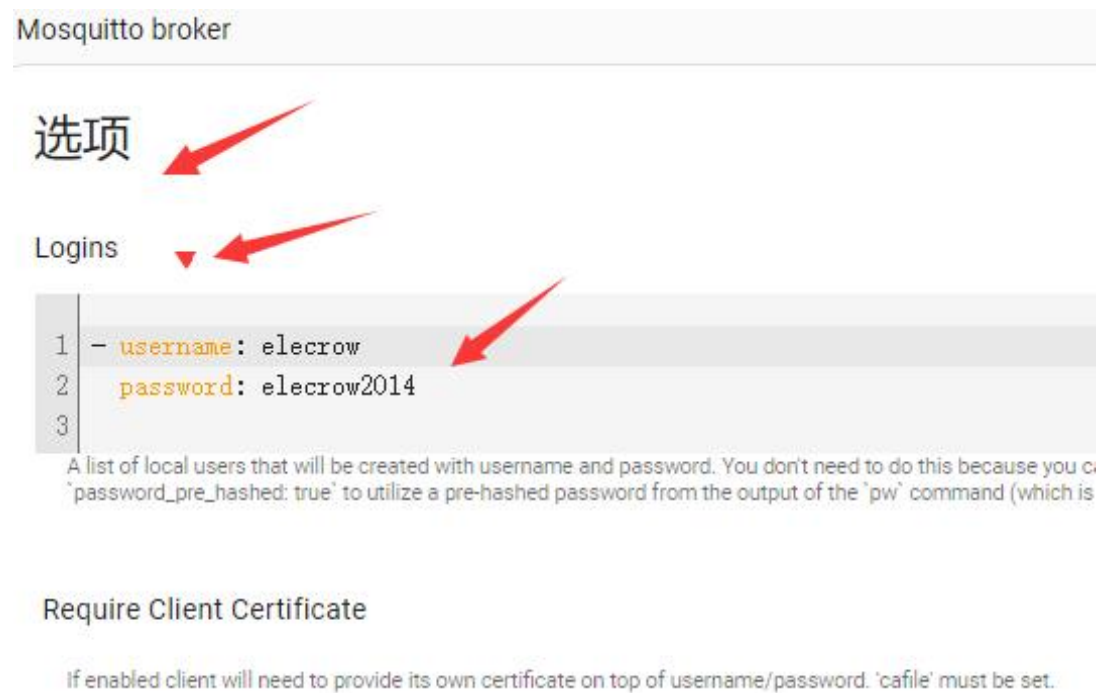
(4) Select "Mosquitto broker".



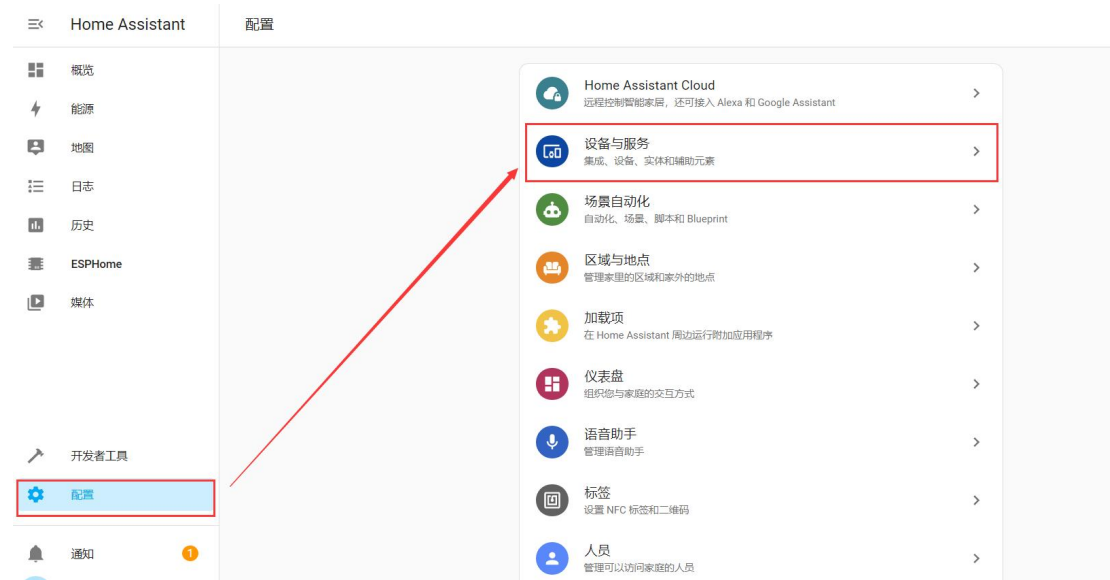
(5) Open "Mosquitto broker".



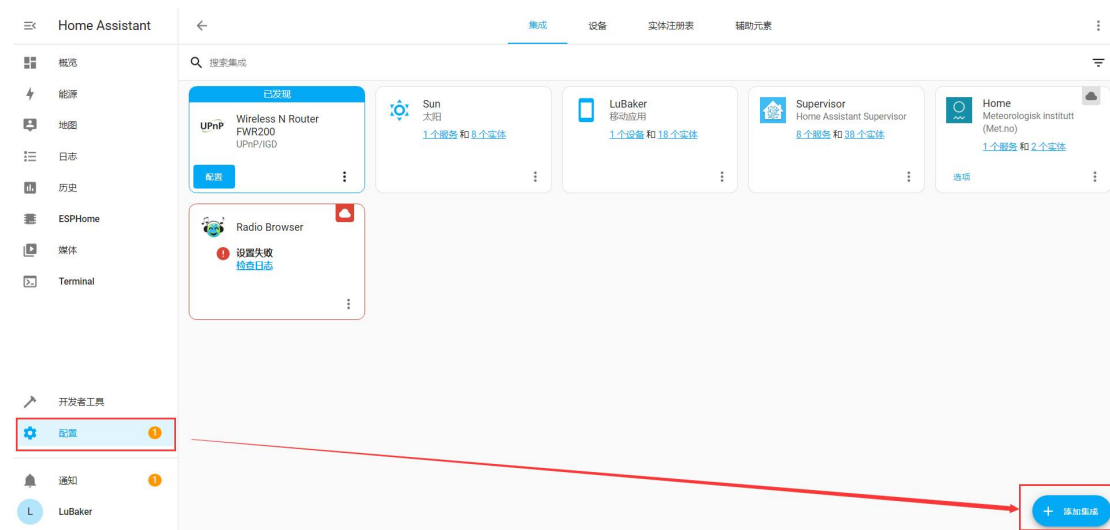
(6) click "Configuration" -> "Options" -> "Logins", set the user name and password.



(7) Go to "Equipment and Services"



(8) Click on "Add Integration".



(9) Search for "MQTT".



(10) configure the MQTT server information (server address that is, the previous Raspberry Pi server side of the address and port number, user name and password for the sixth step of the configuration of the user name and password)

服务器选项 ✕

请输入您的 MQTT 服务器的连接信息。

服务器*
192.168.50.233

The hostname or IP address of your MQTT broker.

端口*
1885

The port your MQTT broker listens to. For example 1883.

用户名
elecrow

The username to login to your MQTT broker.

密码
elecrow2014

The password to login to your MQTT broker.

高级选项 🔴

Enable and click [next](#) to set advanced options.

下一步

(11) In Configuration -> Add-ons -> Add Samba share

Info Documentation Configuration Log

Samba share


Current version: 10.0.2 [\(Changelog\)](#)

5 Rating

Host

Signed

Expose Home Assistant folders with SMB/CIFS.
Visit the [Samba share](#) page for more details



Start on boot

Make the add-on start during a system boot

🔴

Watchdog

This will start the add-on if it crashes

🔴

Auto update

Auto update the add-on when there is a new version available

🔴

Hostname

core-samba

Add-on CPU Usage

0 %

Add-on RAM Usage

1 %

STOP

RESTART

UNINSTALL

(12) Go to the configuration screen of Samba share and enter the account and password in the configuration screen.

←

信息配置日志

Samba share

选项

Username*

elecrow

The username you would like to use to authenticate with the Samba server.

Password*

elecrow

The password that goes with the username configured for authentication.

Workgroup*

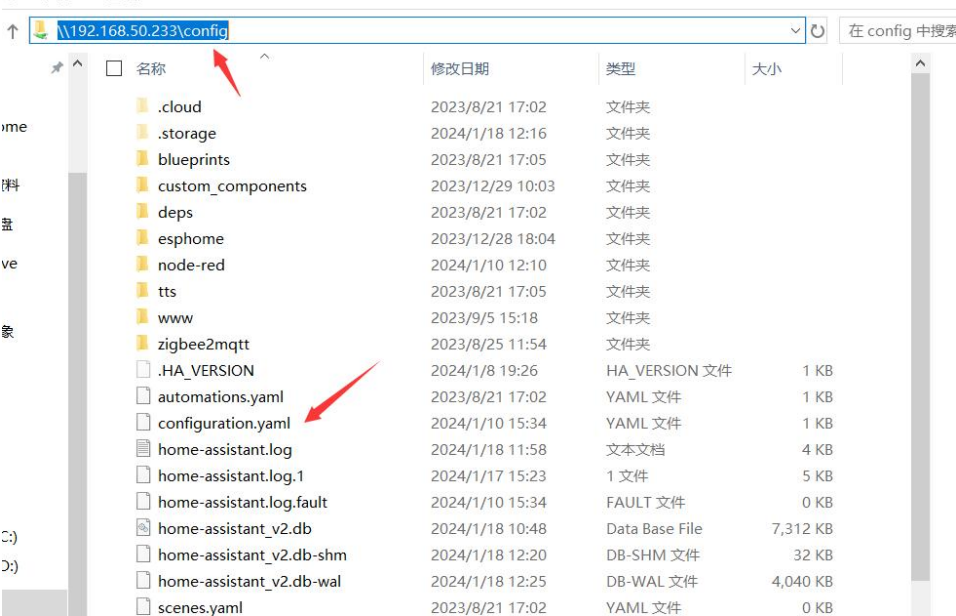
WORKGROUP

Change WORKGROUP to reflect your network needs.

Enable Compatibility Mode

13. MQTT use case

(1) in the computer, open my computer, enter \\192.168.50.233, enter the configuration folder, open the configuration.yaml



(2) Add a light and temperature/humidity sensor module by entering the following code in configuration.yaml. You need to pay attention to the format indentation, you can refer to the following figure for format indentation.

```
mqtt:
  switch:
    - unique_id: led_1
      name: "led_1"
      state_topic: "TOESP01S"
      command_topic: "TOESP01S"
      payload_on: "1"
      payload_off: "2"
    - unique_id: led_2 ..... #设备ID
      name: "led_2" ..... #设备名称
      state_topic: "TOESP01S" ..... #订阅端口
      command_topic: "TOESP01S" ..... #同上
      payload_on: "3" ..... CSDN@JASON LI
```

```
1
2 # Loads default set of integrations. Do not remove.
3 default_config:
4
5 # Load frontend themes from the themes folder
6 frontend:
7   themes: !include_dir_merge_named themes
8
9 automation: !include automations.yaml
10 script: !include scripts.yaml
11 scene: !include scenes.yaml
12
13 mqtt:
14   light:
15     - name: "led"
16       state_topic: "esp32/led/state"
17       command_topic: "esp32/led/command"
18       payload_on: "ON"
19       payload_off: "OFF"
20   sensor:
21     - name: "Temperature"
22       state_topic: "esp32/temperature"
23       unit_of_measurement: "°C"
24     - name: "Humidity"
25       state_topic: "esp32/humidity"
26       unit_of_measurement: "%"
27
```

```
mqtt:
  light:
    - name: "led"
      state_topic: "esp32/led/state"
```

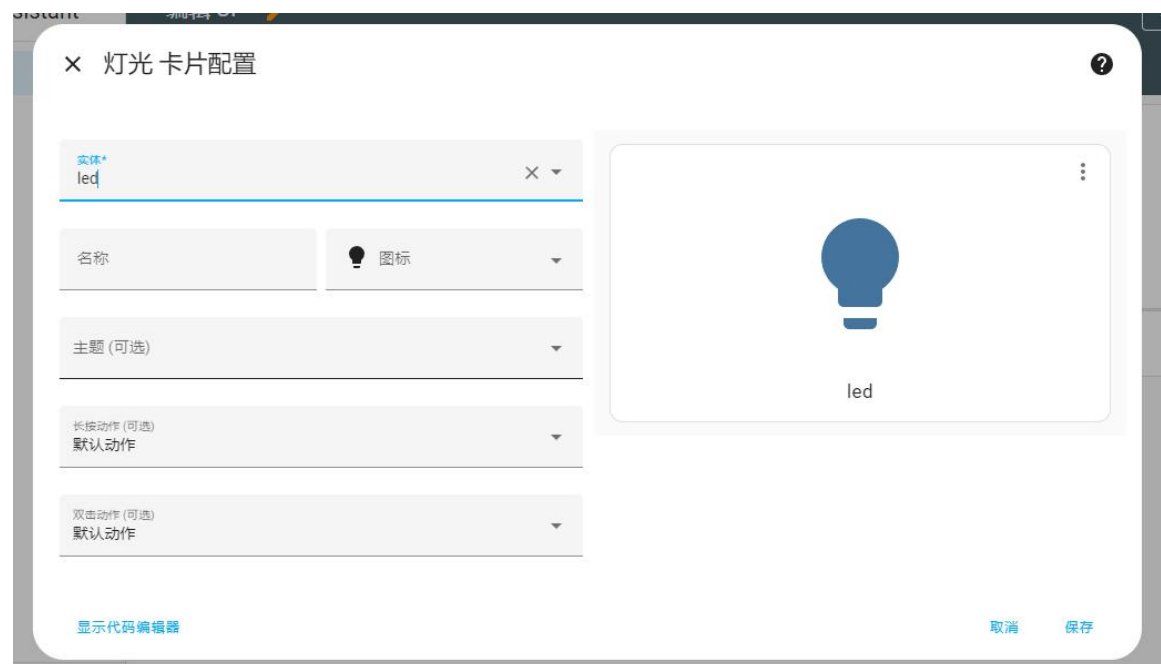
```

    command_topic: "esp32/led/command"
    payload_on: "ON"
    payload_off: "OFF"
  sensor:
    - name: "Temperature"
      state_topic: "esp32/temperature"
      unit_of_measurement: "° C"
    - name: "Humidity"
      state_topic: "esp32/humidity"
      unit_of_measurement: "%"

```

Above belongs to the configuration in yaml file to enable lights and sensors with brightness. For more knowledge refer to the link: <https://www.home-assistant.io/integrations/light.mqtt/>.

14. After saving the above code, go to the main interface->Overview->Edit Dashboard->Add Card->Select the entity just written in configuration.yaml in the card->Click Finish to complete the addition.



15. Burn the corresponding arduino code for the screen. (Refer to "2.8inch_Squareline_Demo Download Introduction" document)

16. Server-side effect display

