Latest version of this Manual here:

Home Assistant Guide for ODROID-M1S

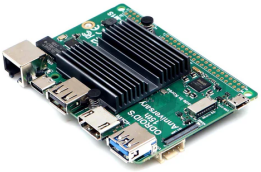
ameriDroid

High-Performance Electronics

4 April 2022

Index

The Home Assistant ODROID-M1S includes:



1. ODROID-M1S: The ODROID-M1S is like a desktop computer that you can hold in your hand. It can do fun things like browse the Internet, watch movies, allow you to run programs, games, and much more! The M1S comes with on board 64GB eMMC with HA OS already installed.

2. Power Supply 12V/2A (USB-C): The power supply is what will provide the computer with electricity to work.

3. CR2032 Coin Cell: battery for the real-time clock (RTC)

4. Ethernet Cable: Connect one end to the M1S and the other end to your Router for Ethernet Connection.

Things that you need to supply:

1. Ethernet connection to the Internet
2. A power outlet into which to plug the power adapter
3. Your excitement!

We'll discover some things you can do with your kit. We're sure you'll find many more things to do after you've gotten familiar with some of these projects!

Connecting Accessories

For the final steps:

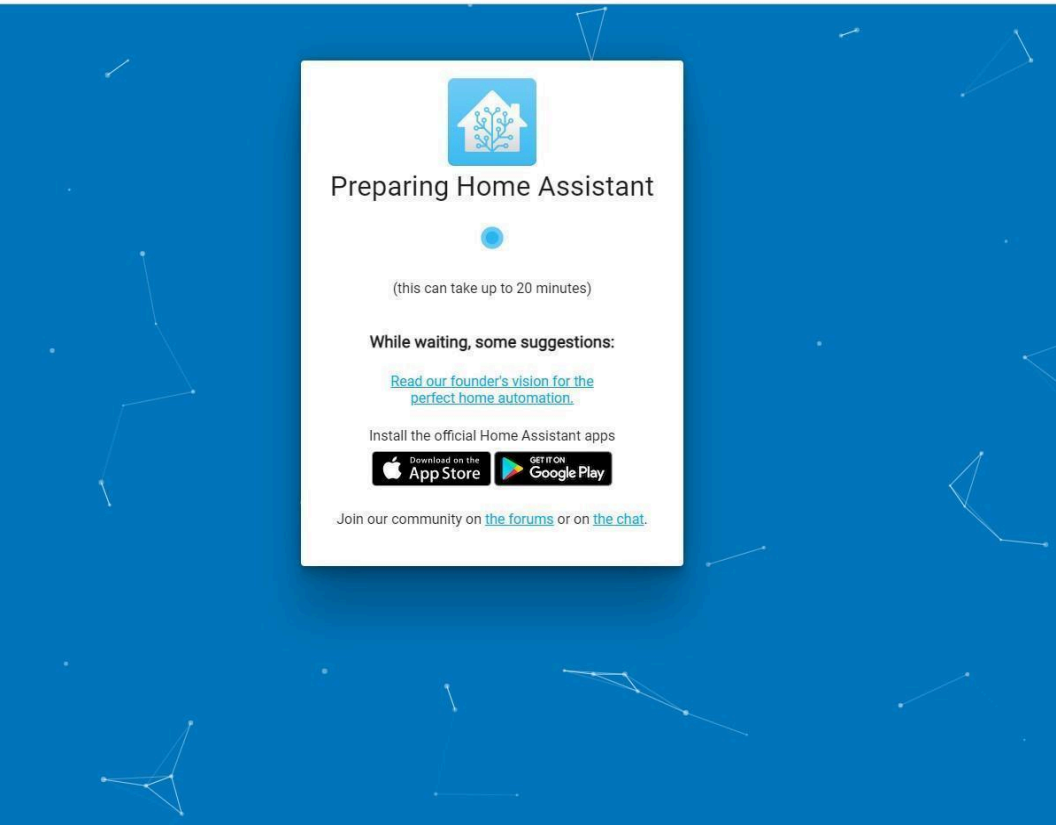
- Use the Ethernet cable by connecting it to the Ethernet port and the other end to your network router or active network port.
- Connect the Power Supply.
- Enjoy Home Assistant in your hand-size computer.
- If you need to remove the case, there are four latches holding it together, two on each shorter side of the case. Push two of them in, one by one, using a flat screwdriver.

Next Steps

Setting up Home Assistant

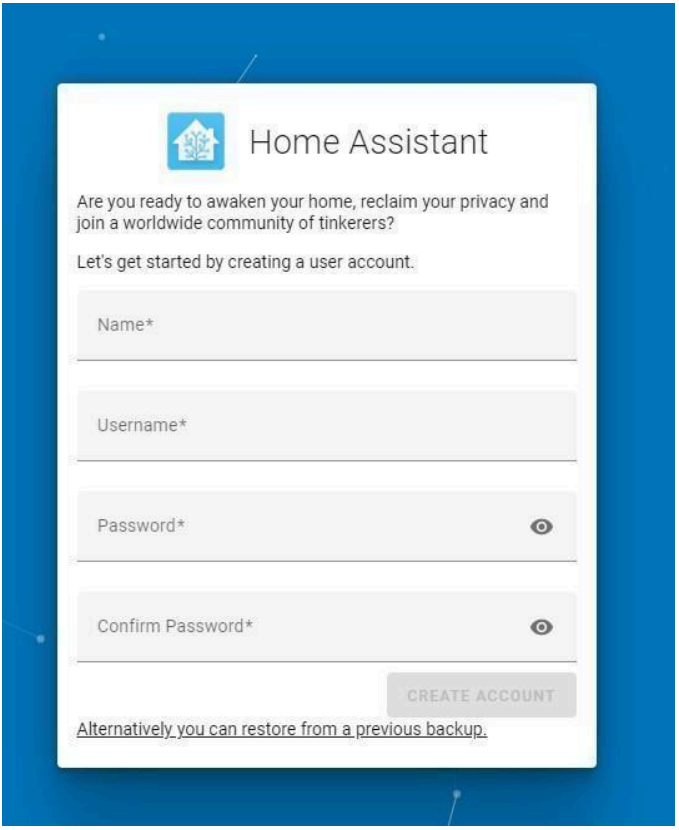
STEP 1: Go to your browser

Go to your browser on your laptop, phone or tablet and try accessing http://homeassistant.local:8123/ you can also download the home assistant app on iOS or Android. If this doesn't work, try "Alternate Step 1" below.

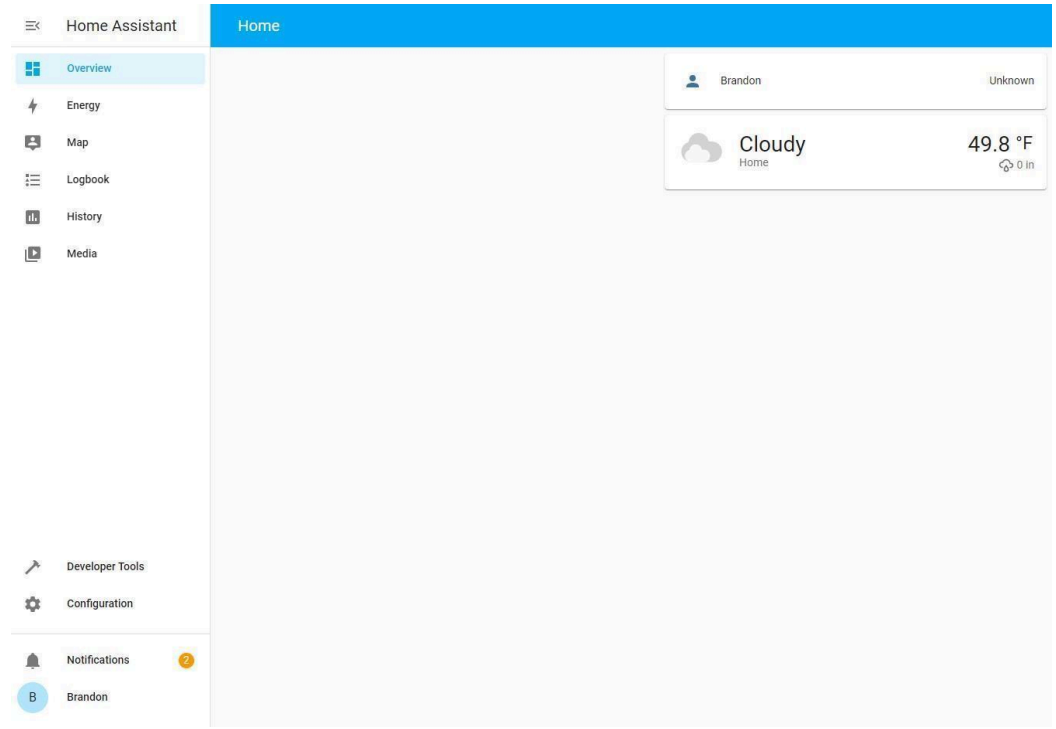


STEP 2: Create Account

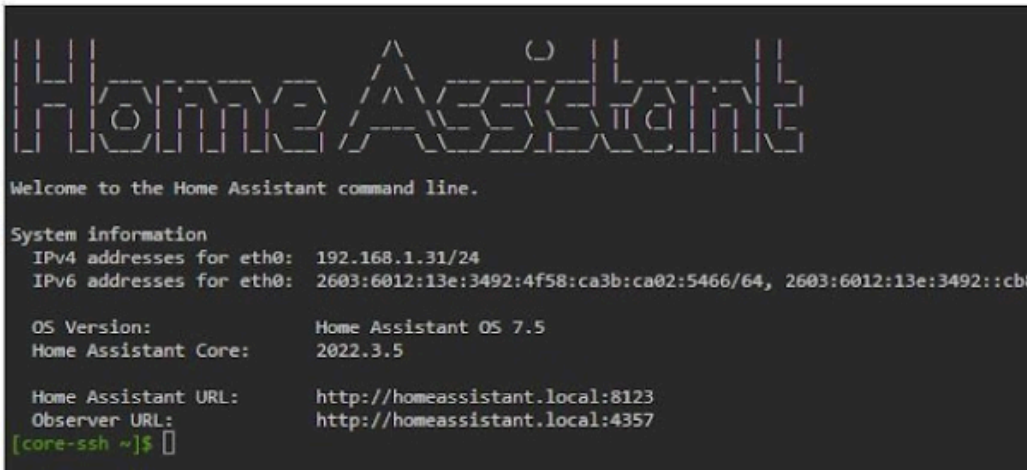
Wait until the Home Assistant OS gets updated and create your account.



STEP 3: Enjoy Home Assistant



Alternate STEP 1: Accessing Home Assistant from IPv4 Address



If you are not able to access http://homeassistant.local:8123/ you will most likely be able to access Home Assistant using the IPv4 address assigned to your device. In order to find the IPv4 follow the next steps:

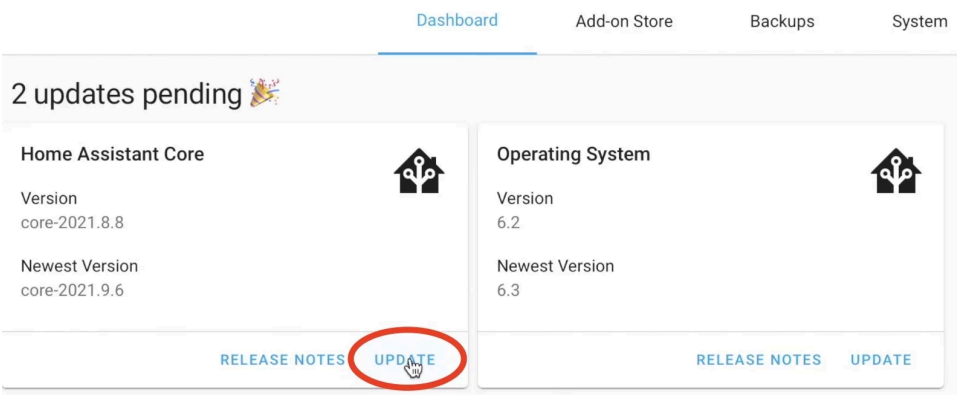
- Connect your ODROID-M1S to a monitor using the HDMI cable and a Keyboard via USB.
- When the username is asked, write “root” and press enter.
- If a password is required, write “root” and press enter.

You should get a screen like the one on the one above. Make a note of the line that states “IPv4 addresses for eth0”. The part from the slash to the end of the line (“/24” in the example above) should be ignored in this case.

- Now just use the IPv4 address to access Home Assistant from your web browser.
- Based on the example above, it would be http://192.168.1.31:8123/ (replace the “192.168.1.31” with the IPv4 address shown on your Home Assistant, but leave the “:8123/” on the end)

STEP 4: Check for Updates

After creating a Home Assistant account and logging in, go to the "Settings" option in the sidebar and look at the top item in the list. If it says something about an update, install the Home Assistant updates (Make sure to update both the Operating System and Home Assistant Core).

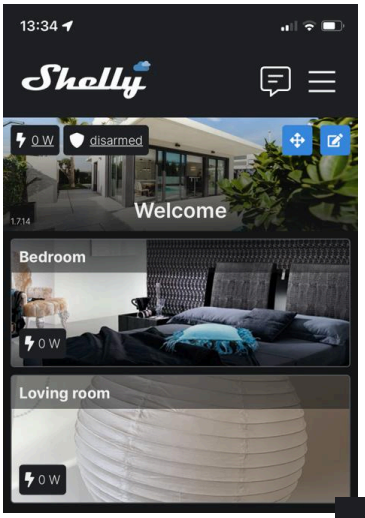


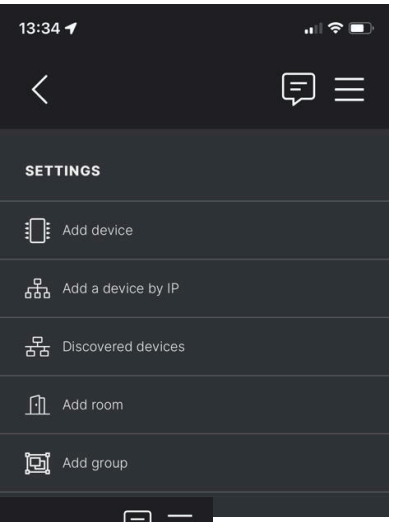
Setting Up Shelly and Other IP-Based Devices

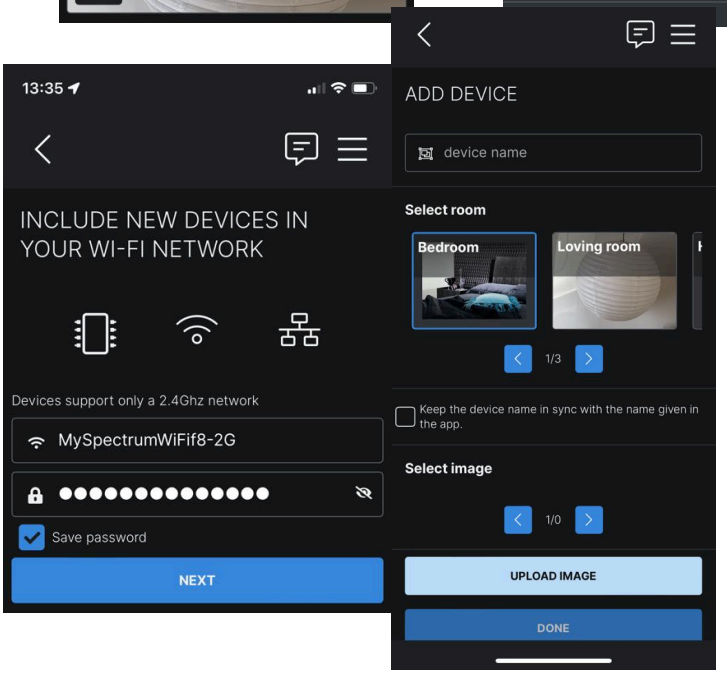
STEP 1: Add your device in your device's App

(Shelly shown as a demonstration)

Go to your Shelly app, select ☰ and click on "Add device"



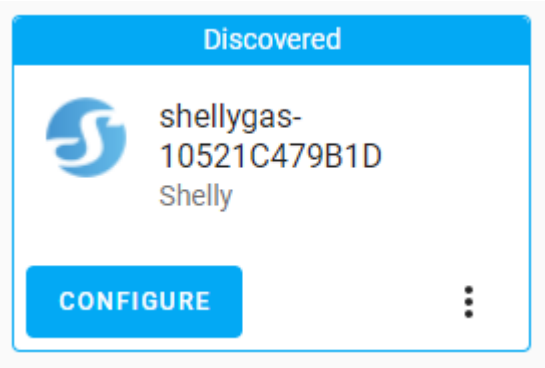


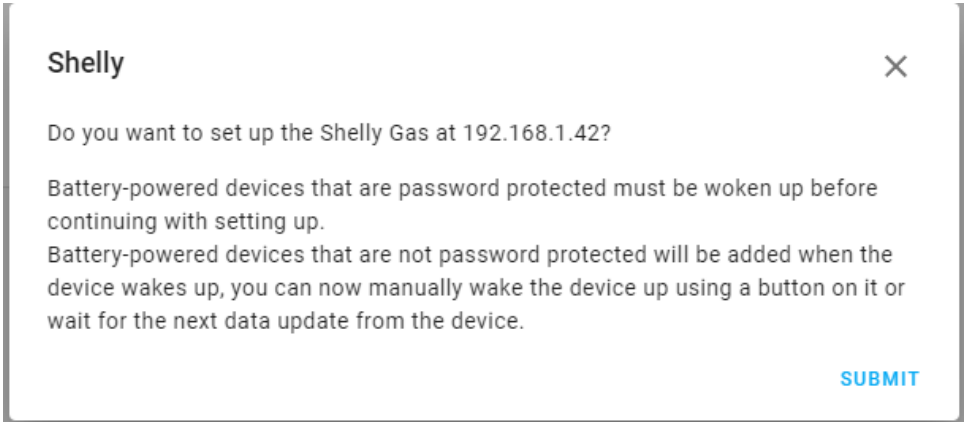


Make sure to connect to your 2.4Ghz network, pick a name, a room and hit "Done"

STEP 2: Configure Shelly Device on Home Assistant

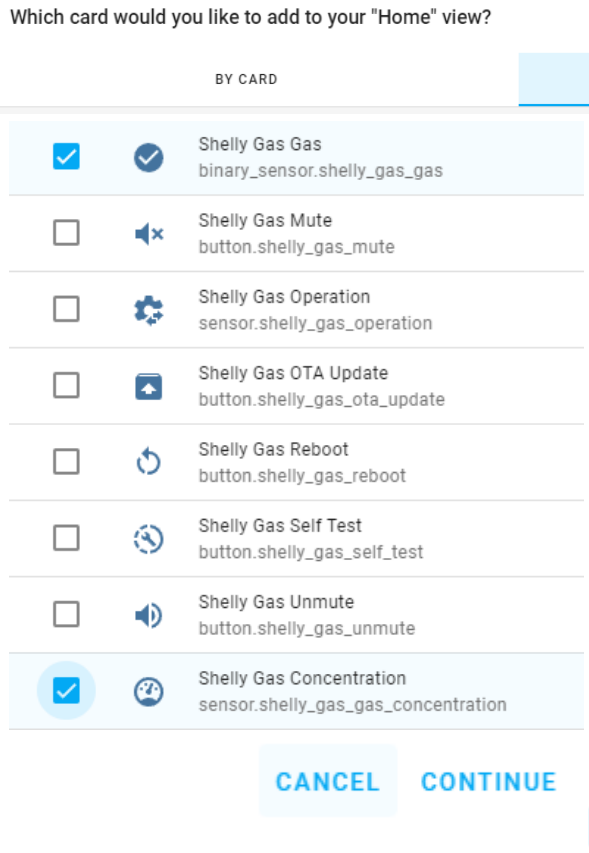
Once your Shelly device is connected to the same network as your Home Assistant, it should be detected automatically. Press “Configure” and then “Submit”.



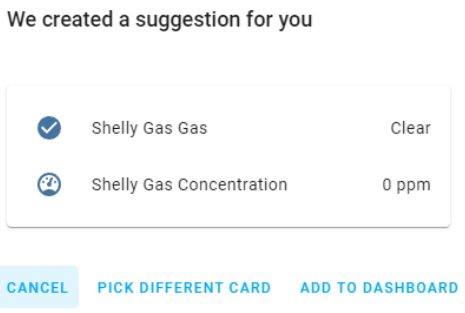


STEP 3: Add device to Overview

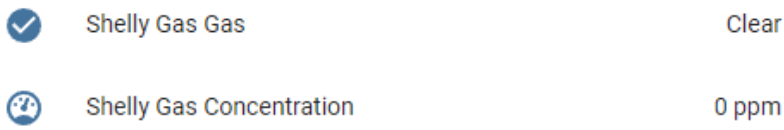
In your overview menu, select the three dots on the right top corner, and hit “Edit Dashboard”, once in there select the “Add Card” option, and go to the “Select by Entity” tab.



There you should find the entities included with your device, in my case “Shelly Gas”. Mark all the entities that you would like to add and hit “Continue”



Then you can pick a different card, or add the suggested one to the dashboard, and it will look like this.

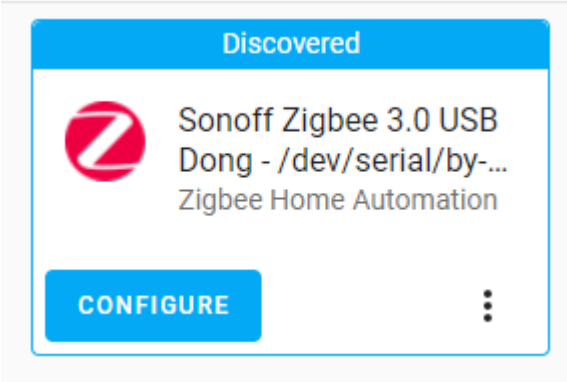


Setting Up Zigbee

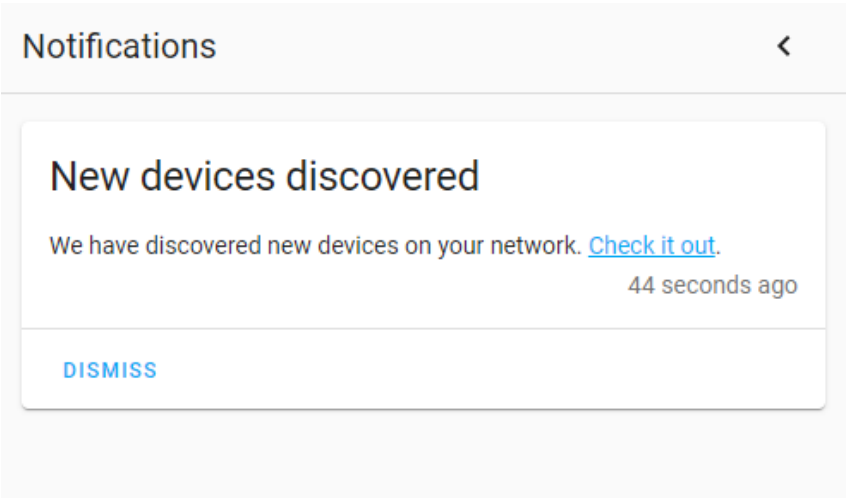
STEP 1: Insert the Zigbee 3.0 USB Dongle Plus in the USB

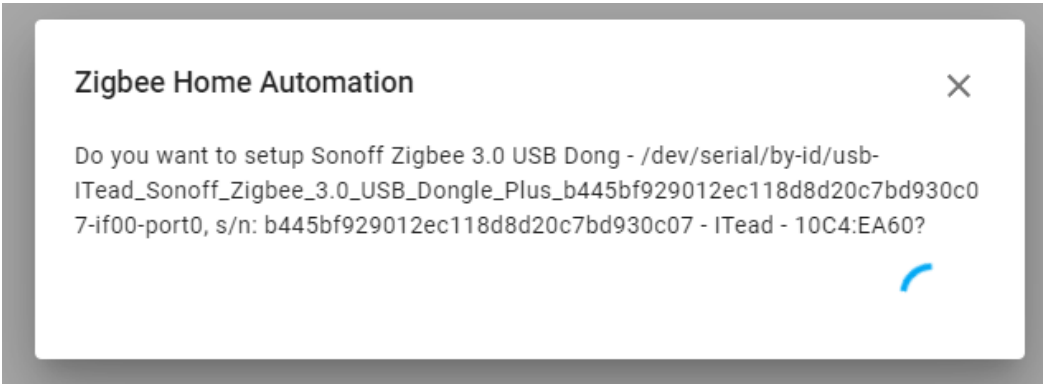
Connect your preferred Zigbee USB Dongle in the USB Port on the ODROID-M1S

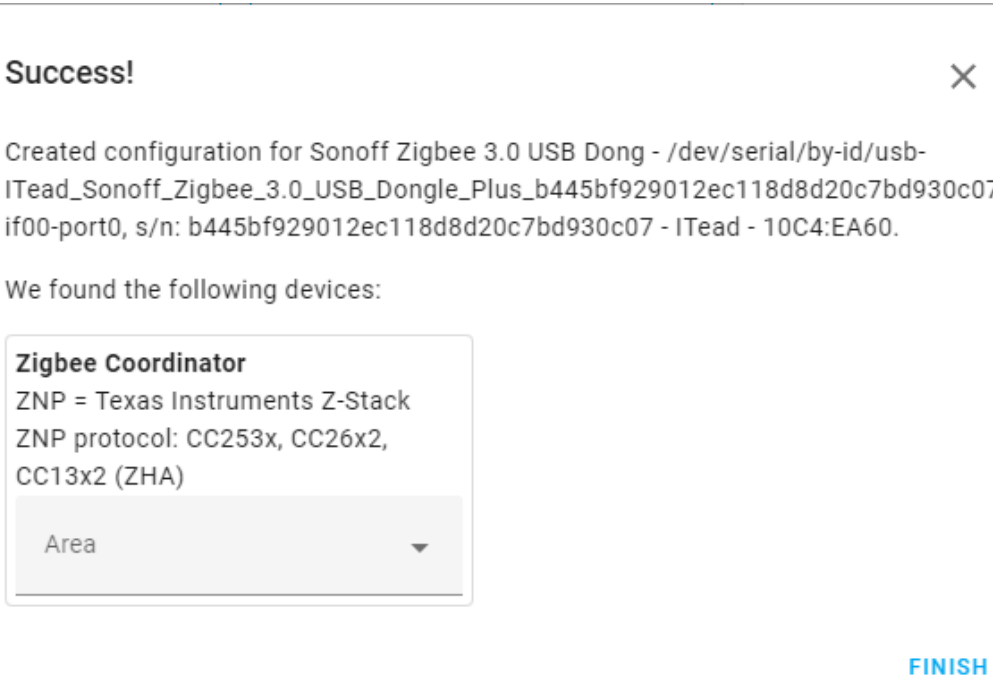
STEP 2: Configure the Zigbee Dongle on the Home Assistant Interface



Check out the new devices discovered, select “configure” and then hit submit, it will take a minute to configure Zigbee.

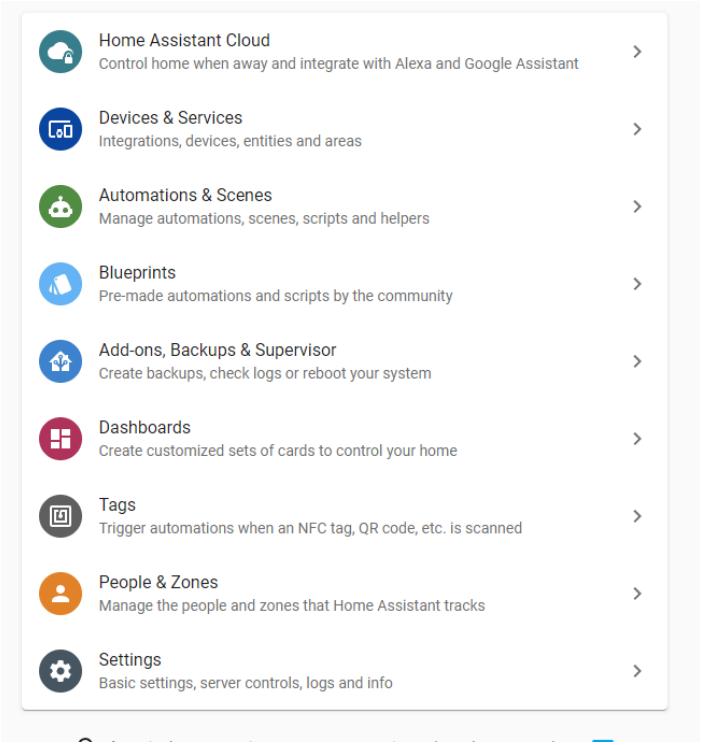


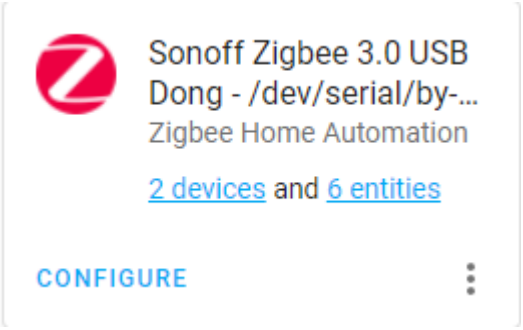




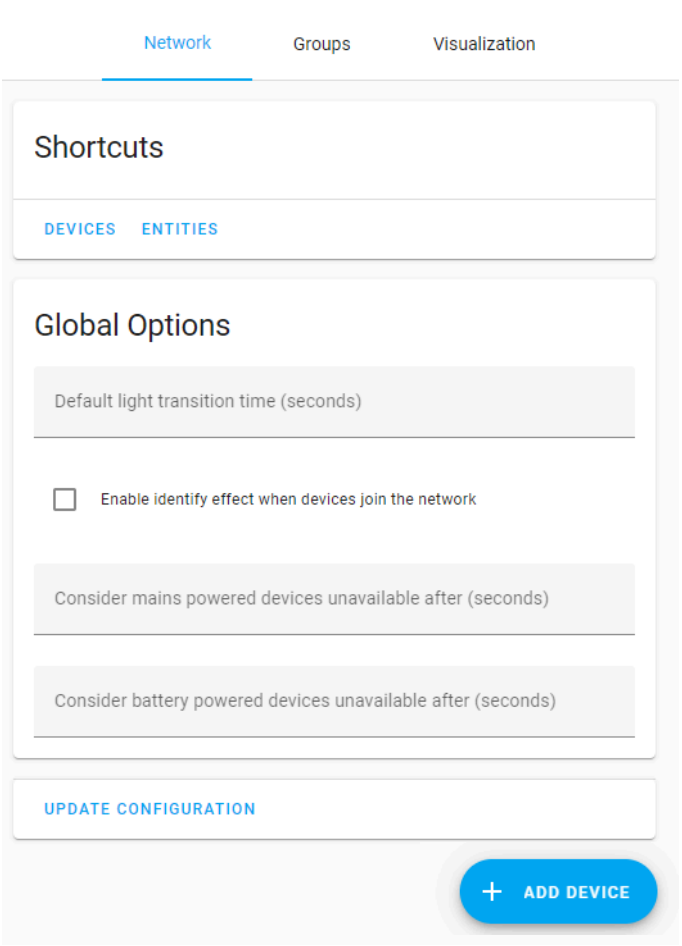
Once you get the success message, select the area where your Zigbee is and hit “finish”

Go to “Configuration”-->”Devices & Services” and hit “Configure” on your Zigbee Device.

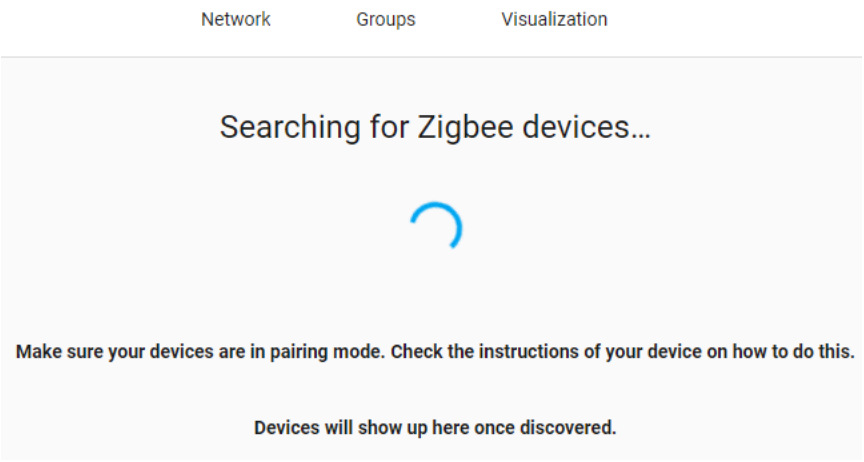


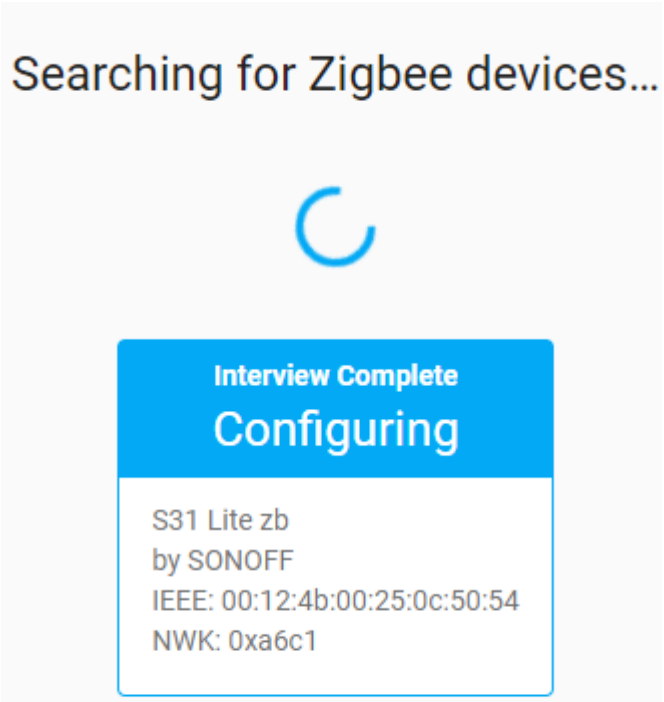


Once you enter your Zigbee configuration select “Add device” on your bottom right.

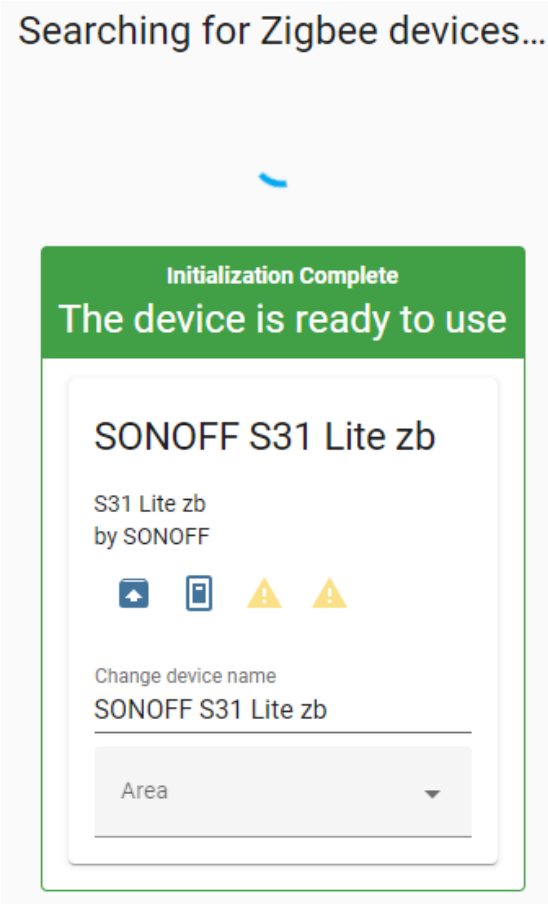


Home Assistant will use the Zigbee Dongle to search for Zigbee compatible devices that are in pairing mode.


Network
Groups
Visualization
Searching for Zigbee devices...
Make sure your devices are in pairing mode. Check the instructions of your device on how to do this.
Devices will show up here once discovered.

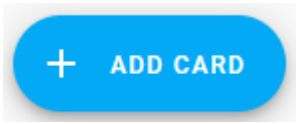

Searching for Zigbee devices...
Interview Complete
Configuring
S31 Lite zb
by SONOFF
IEEE: 00:12:4b:00:25:0c:50:54
NWK: 0xa6c1

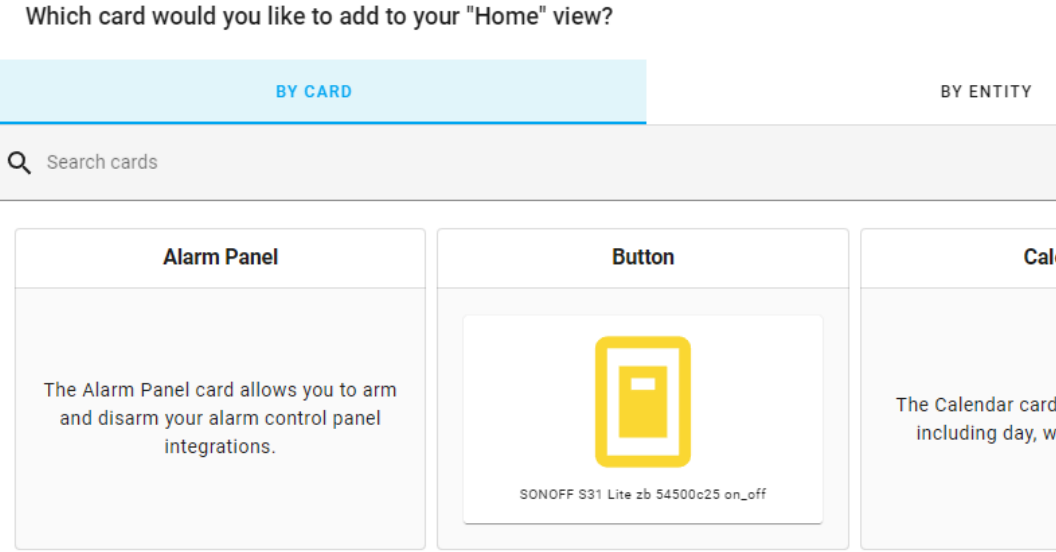
Home Assistant will automatically detect and configure the device

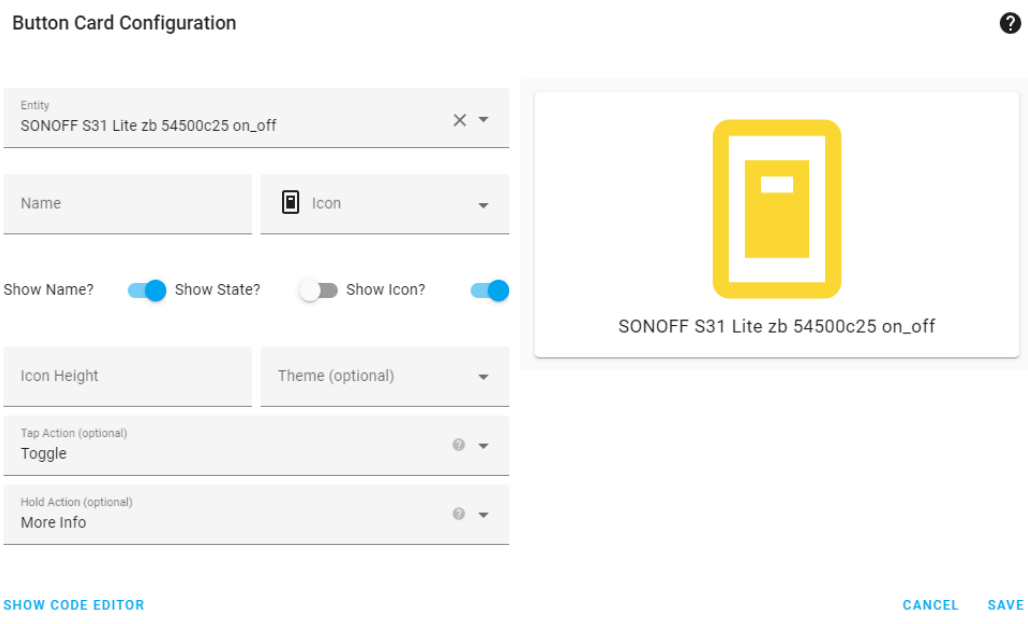


STEP 3: Add your new device to your Overview

In your overview menu, select the three dots on the right top corner, and hit “Edit Dashboard”, once in there select the “Add Card” option, where you should find the option of adding your recently detected device

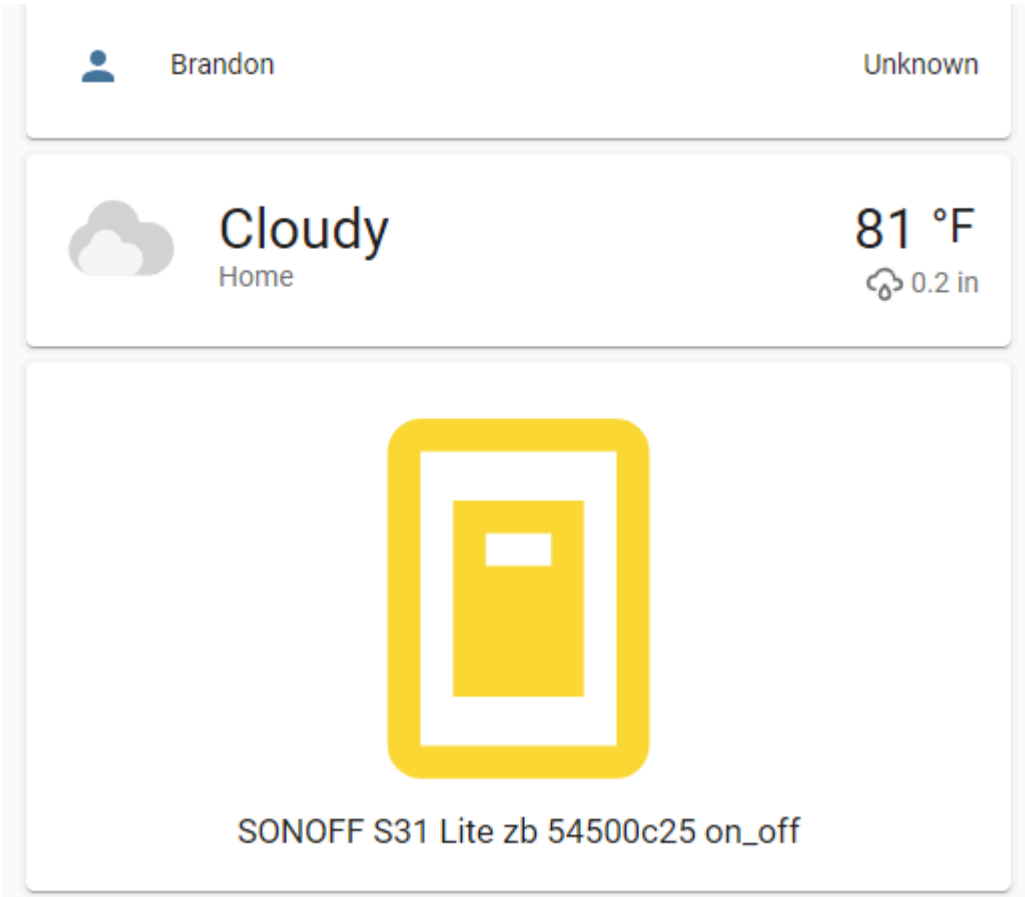






Configure your selected card and hit “save”.

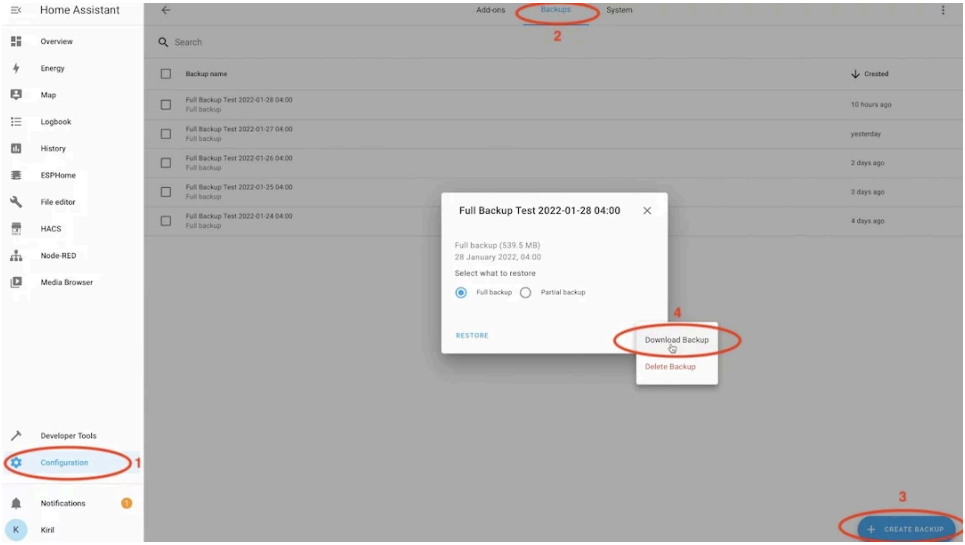
Now you will be able to control your new device from your Home Assistant Overview.


Brandon
Unknown
Cloudy
Home
81 °F
0.2 in
SONOFF S31 Lite zb 54500c25 on_off

Moving data to external hard drive (SSD or NVMe)

STEP 1: Create and Download Backup

Create a backup & download it first, before continuing with the Home Assistant External Data Disk move procedure.



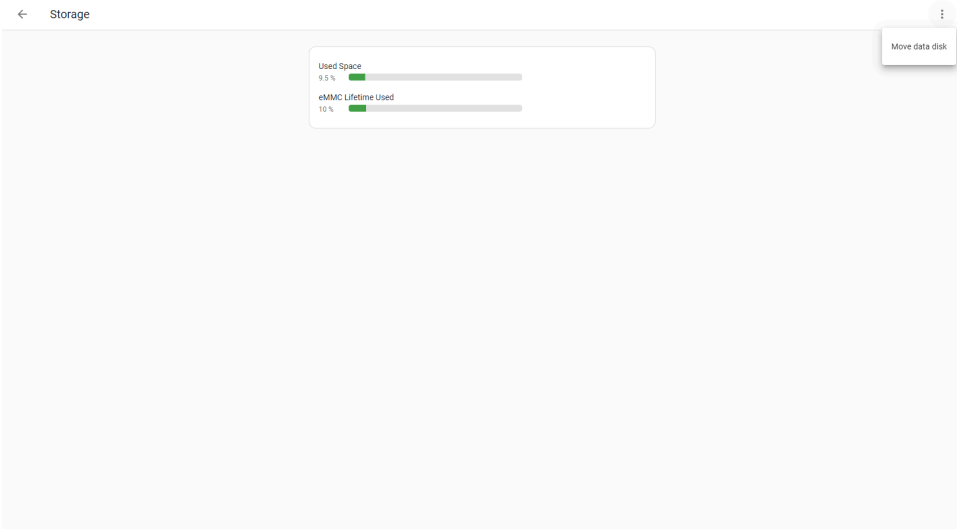
STEP 2: Connect your external SSD

When you are ready with the backups, boot your Home Assistant as usual with the SSD drive or NVMe connected to the device. You can connect them via SATA, M.2 Key or to any of the blue USB ports (USB 3.0) on your device, as they are faster than the other USB ports.

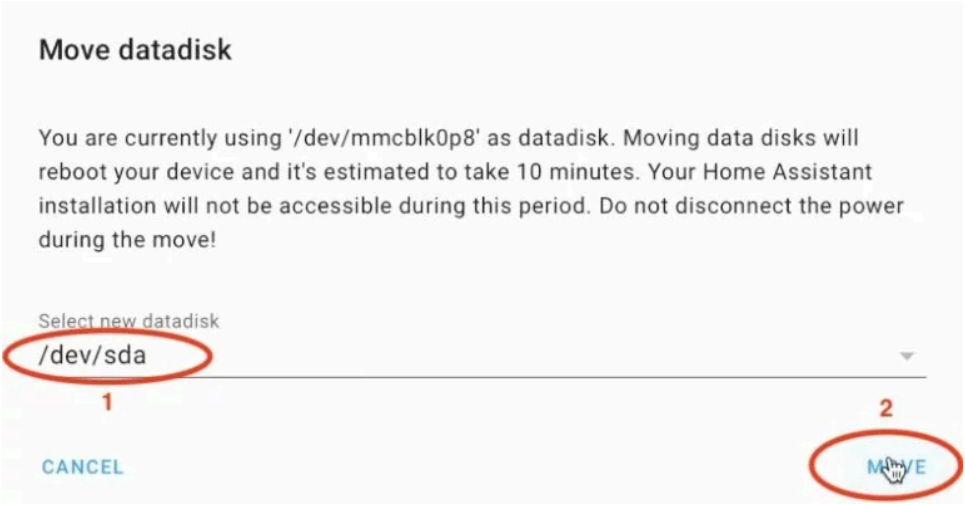
STEP 3: Use UI to move the Home Assistant data to the external data disk

Open your Home Assistant web interface and go to:

Configuration > System > Storage > click on the three dots menu on the top right then select Move datadisk.



You should see a warning/dialog saying the following:



You are currently using /dev/mmcblkXXXX (this is the representation of your eMMC or microSD) as data disk.

Moving data disk will reboot your device and it is estimated to take 10 minutes.

Your Home Assistant installation will not be accessible during this period.

Do not disconnect the power during the move.

To continue, select your SSD drive from the dropdown list and click on the move button.

Select USB drive and move the data disk

Appendices

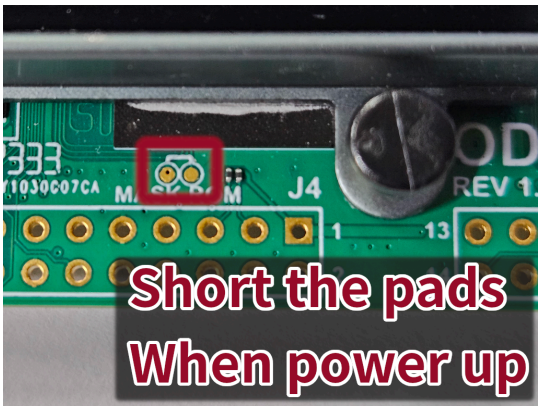
Appendix A: Flash your eMMC or microSD with different Operating Systems.

STEP 1: Connecting eMMC to your computer

You can connect your eMMC to your computer using a microUSB cable and a microSD. Grab a microSD and follow instructions on STEP 2 to flash the microSD with this image "https://dn.odroid.com/RK3566/ODROID-M1S/Installer/ODROID-M1S_EMMC2UMS.img"

After the microSD is flashed insert it on the M1S, connect the M1S to the Power (keep the microUSB connected from the M1S to your computer) and your computer should detect the 64GB onboard eMMC as a USB Storage, follow again STEP 2 Instructions to flash HA OS (https://github.com/home-assistant/operating-system/releases/download/14.1/haos_odroid-m1s-14.1.img.xz) on eMMC (detected as USB Storage).

Once balenaEtcher is done flashing, take out the microSD, microUSB, and your eMMC will be flashed and ready to go.



If your unit does not go straight to a red and blue LED, and instead the Blue LED flashes, that means that the unit is booting from the eMMC and jumping the microSD. In order to boot from the

microSD, the pads on the picture above need to be short.

To short the pads shown in the image, you'll need to follow these steps:

Turn Off Power: Ensure the ODROID-M1 is powered off and unplugged from any power source.

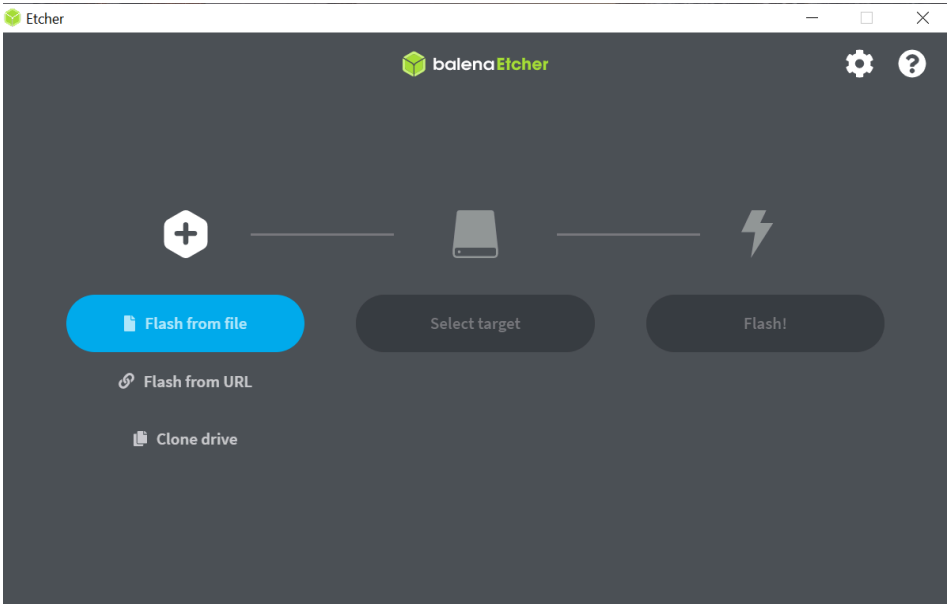
Prepare a Conductive Tool: You can use a small metal object like a screwdriver, tweezers, or a jumper wire. The tool should be conductive and small enough to make contact with both pads simultaneously.

Short the Pads: Place the metal tool across the two pads, ensuring that both pads are in contact with the tool. This creates a temporary electrical connection (short circuit) between them.

Power On the Device: While keeping the pads shorted, power on the ODROID-M1. This will trigger the action associated with shorting the pads (like entering a specific mode, such as mask ROM mode).

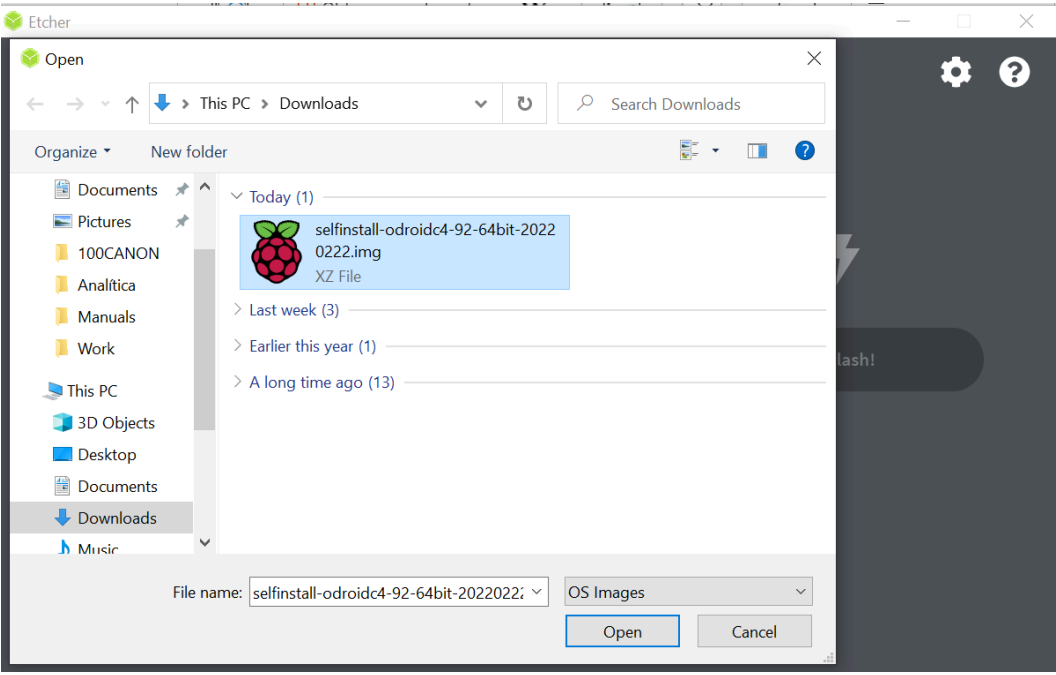
Remove the Tool: Once the board has powered on and the mode is triggered, you can remove the tool.

STEP 2: Flash eMMC using balenaEtcher

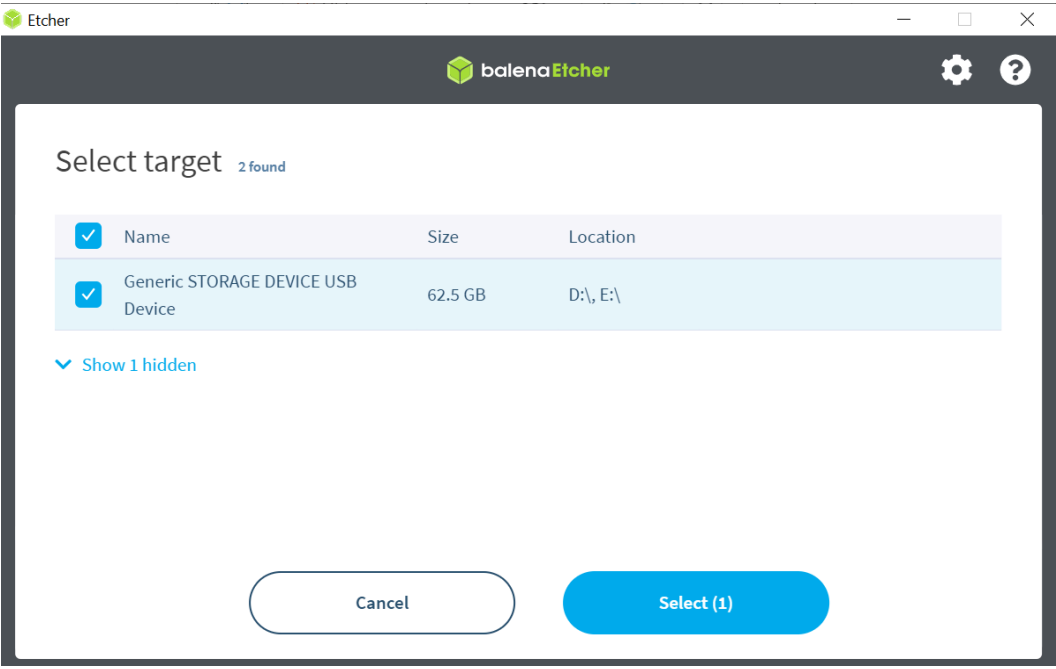


First, download balenaEtcher from https://www.balena.io/etcher/. Next, download the image that is desired, you can find them in STEP 1 of Appendix A.

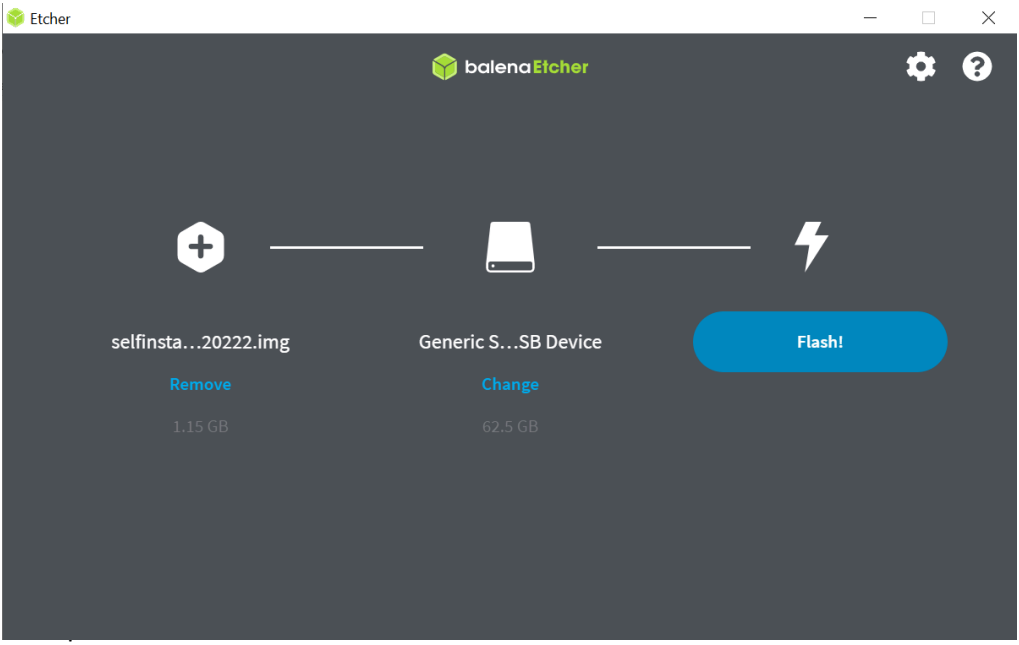
Now, run balenaEtcher and select the “Flash from file” option and find the operating system file that was just downloaded.


Etcher
Open
This PC › Downloads
Search Downloads
Organize
New folder
Documents
Pictures
100CANON
Analítica
Manuals
Work
This PC
3D Objects
Desktop
Documents
Downloads
Music
Today (1)
selfinstall-odroidc4-92-64bit-2022
0222.img
XZ File
Last week (3)
Earlier this year (1)
A long time ago (13)
File name: selfinstall-odroidc4-92-64bit-2022022
OS Images
Open
Cancel

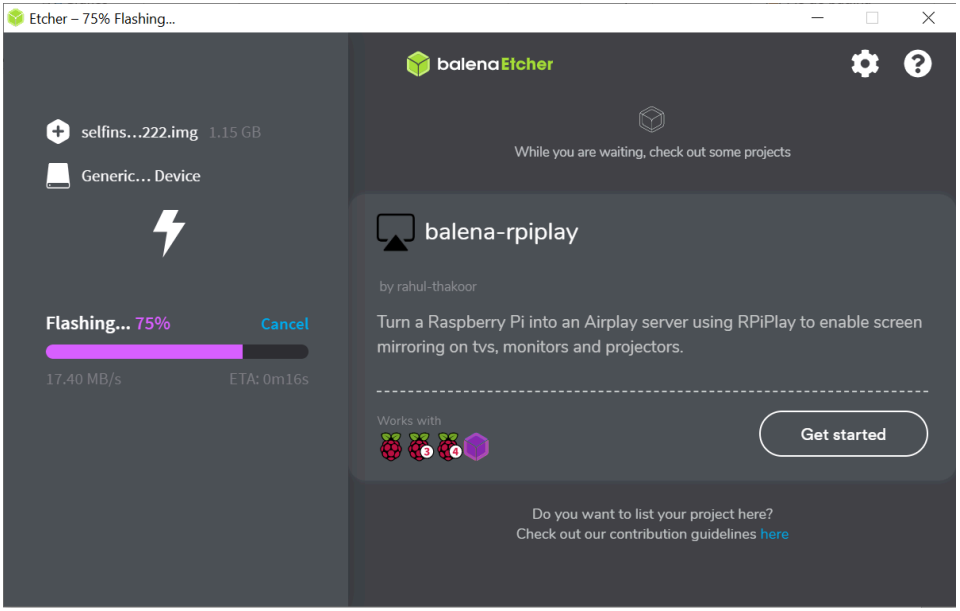
Next, click “Target” and select the eMMC Module or microSD card.



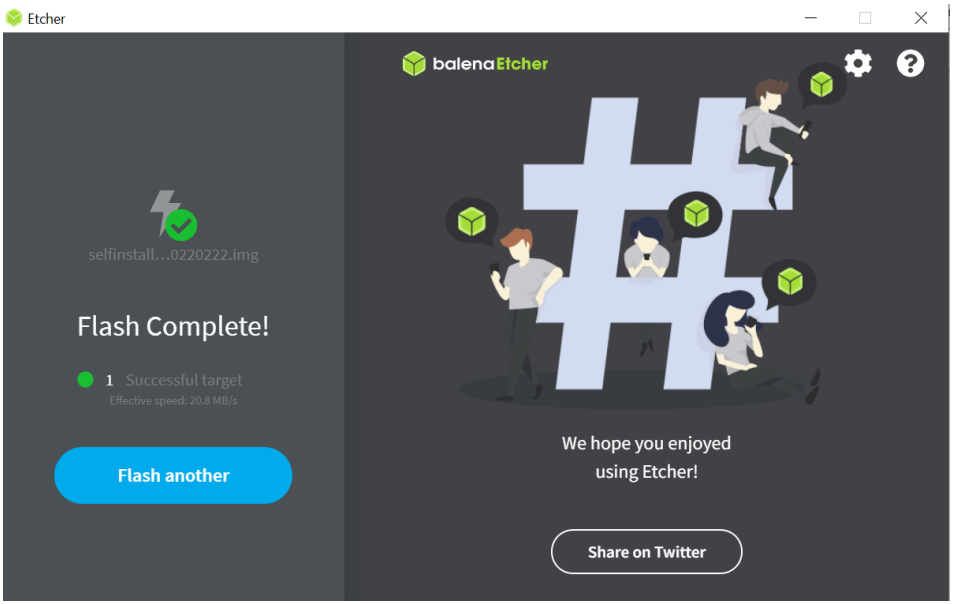
Once the correct target is selected, click “Flash!”



Wait while it flashes



And it is done!



We have a bunch of great written and video tutorials on ameriDroid.com about flashing eMMC modules and microSD cards. For instance, type “Flash eMMC” or “Write Image” in the search bar of ameriDroid.com and look at the articles that appear under “Pages & Posts”.

Appendix B: Interesting Notes About Power Supplies

Did you know that almost all electronic devices are designed to work with a specific voltage (V), or range of voltages? It's easiest to use the power supply recommended by the manufacturer. However, in some cases it may be necessary to find a different power supply.

- When deciding whether or not to connect a power supply to a device, check to make sure the voltage (V) of the power supply is in the range required by the device, not more or less.
- Check the amperage (A) of the power supply. Make sure it is equal to or more than the amperage specified by the device.
- If the amperage is listed in **mA**, simply move the decimal three digits to the left to find out how much it is in amps. For instance, 1500mA = 1500.0mA = 1.5A. Again, this number should be equal to or more than the device calls for.
- In some cases, it is possible for the device to draw more power than what is specified under "normal" operation. For instance, if a USB device is connected that draws a lot of power, like an external hard drive, it can require more power from the device than is stated for "normal" operation.
- These reasons (and others) are why we recommend particular power supplies for each device.