

ZB-Stick with Home Assistant

This document describes how to use POPP ZB-Stick with existing Home Automation platform called Home Assistant (Hass.io) (<https://www.home-assistant.io/>).

POPP ZB-Stick firmware version, referenced in this guide: **6.3.0**

Home Assistant (Hass.io) software version, referenced in this guide: **0.112.4**

This guide focuses on:

- Connect POPP ZB-Stick to the target PC or Raspberry Pi
- Setup Zigbee Home Automation component in Home Assistant
- Troubleshooting
- Zigbee devices Pairing and Removal
- Zigbee devices examples

This guide DOES NOT focus on Home Assistant (Hass.io) installation and initial configuration. Please follow the official instructions <https://www.home-assistant.io/hassio/installation/>.

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Introduction

POPP ZB-Stick can be used in 2 options with Home Assistant:

With a generic Linux machine, with Home Assistant installed

Home Assistant installed and running



With a Raspberry Pi (any other single board computer) with Home Assistant installed

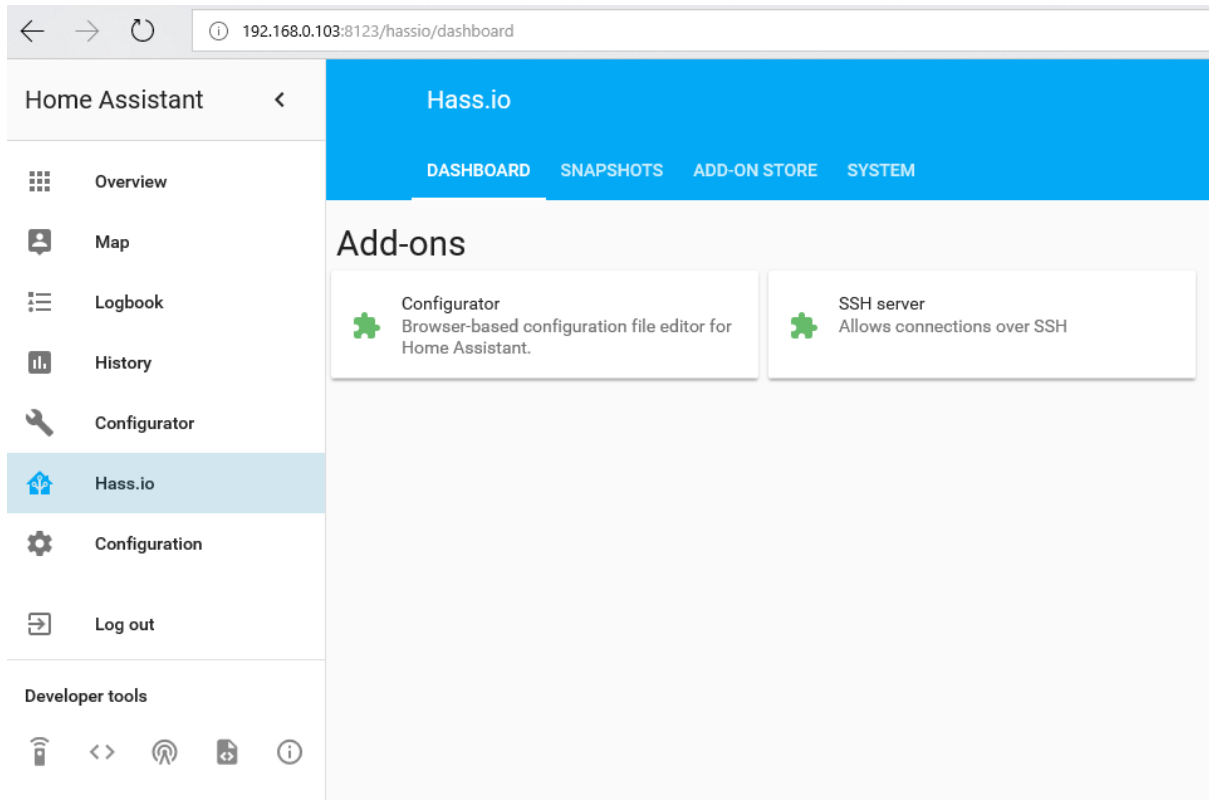
Home Assistant installed and running



Initial setup and connection

This guide does not cover Home Assistant (Hass.io) installation. We assume, that you can access Home Assistant Web Interface using your browser.

It is highly recommended to have SSH Server and Configurator addons installed, at least during the Zigbee setup phase. To install them just follow the Hass.io installation guide (<https://www.home-assistant.io/hassio/installation/>).



Connect POPP ZB-Stick to your Raspberry Pi or PC

Once you have inserted the USB adapter, check the configuration.

- Wait for Hass.io to boot
- Connect to the web interface using your favourite browser

- Navigate to the **Supervisor -> System -> Hardware** menu

The screenshot shows the Home Assistant Supervisor interface. On the left, the 'Supervisor' menu item is selected. At the top, the 'System' tab is active. The 'Information' section displays the Supervisor version (229) and Host system details (Homeassistant HassOS 4.11, production). A 'HARDWARE' button is present. The 'System log' section shows a list of system logs.

- Confirm the USB Adapter is detected and visible as serial ports (/dev/ttyUSB0 and in this example)

The screenshot shows the 'Hardware' section of the Home Assistant Supervisor interface. It lists various hardware components: serial ports (/dev/ttyUSB0, /dev/ttyAMA0, /dev/ttyS0, /dev/serial/by-id/usb-1a86_USB2.0-Serial-if00-port0), input, disk, gpio, and audio. A red arrow points to the serial port /dev/ttyUSB0.

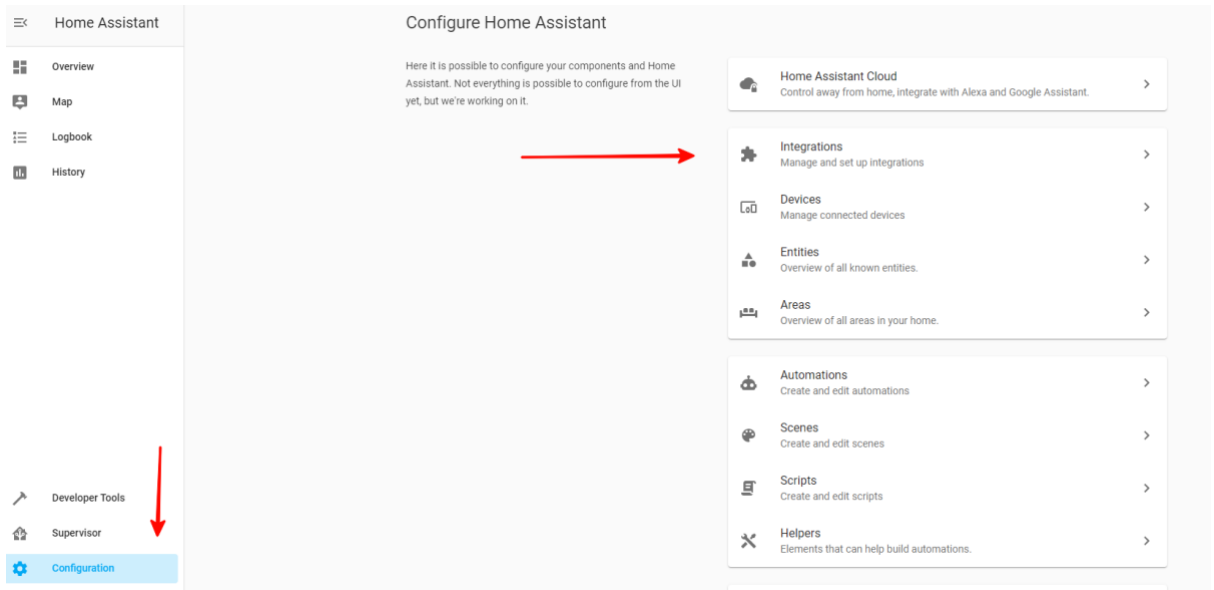
Zigbee HA Component configuration

To work with POPP ZB-Stick from Home Assistant we are using Zigbee Home Automation Component (<https://www.home-assistant.io/components/zha/>). It comes preinstalled into Hass.io so we only need to configure it properly to get it working.

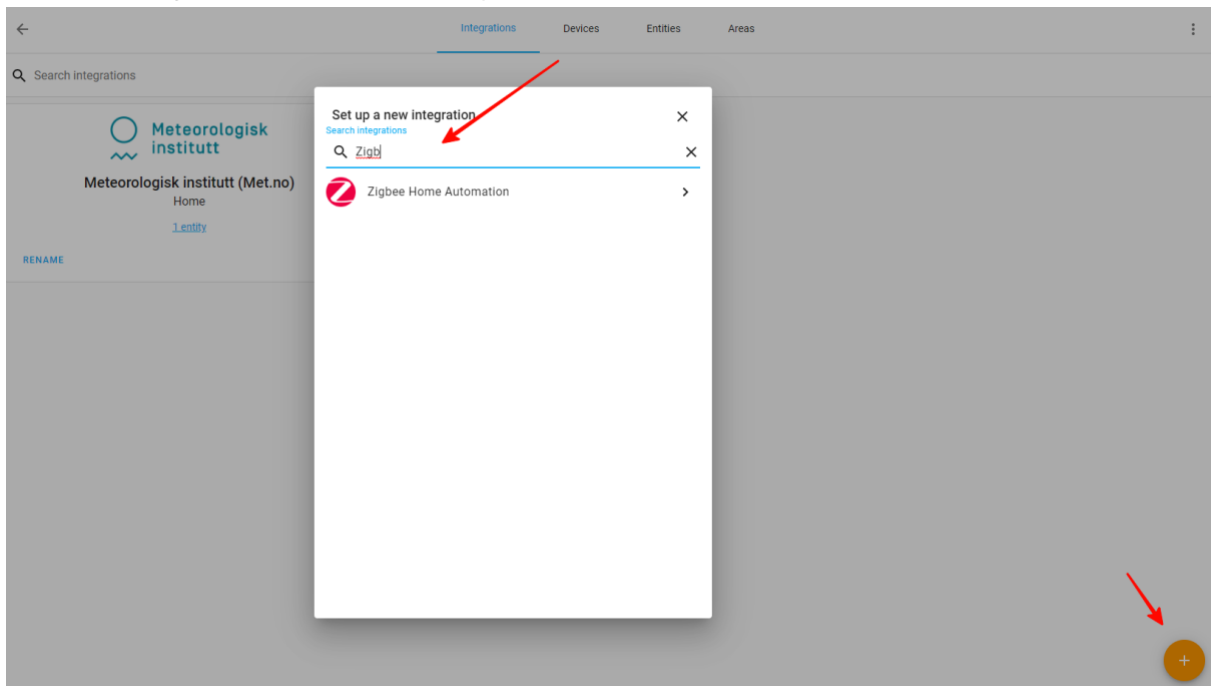
Configure Zha component

To setup Zigbee Home Automation component to work properly with POPP ZB-Stick we need to:

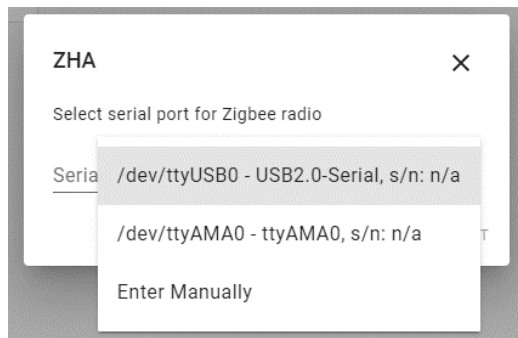
- Navigate to the **Configuration -> Integrations**



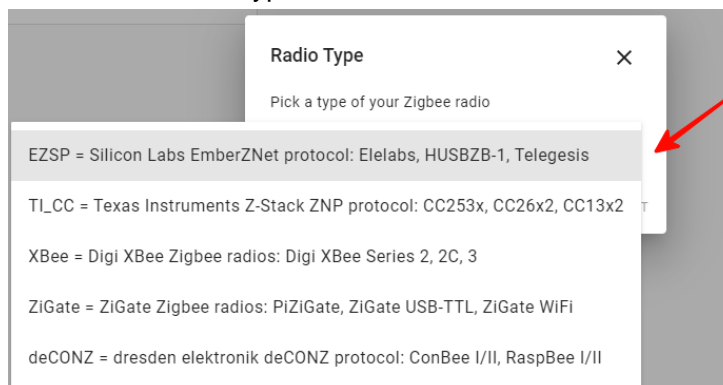
- Add new Integration and search for **Zigbee Home Automation**



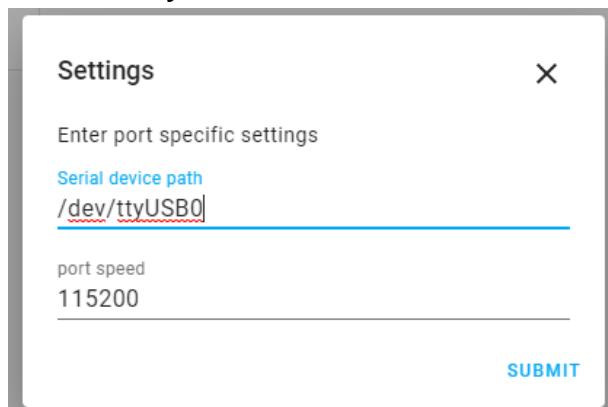
- Select **Enter Manually**



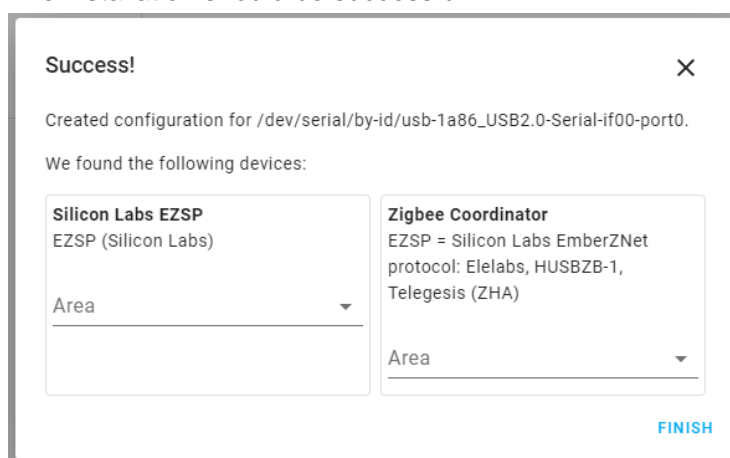
- Select **EZSP** radio type



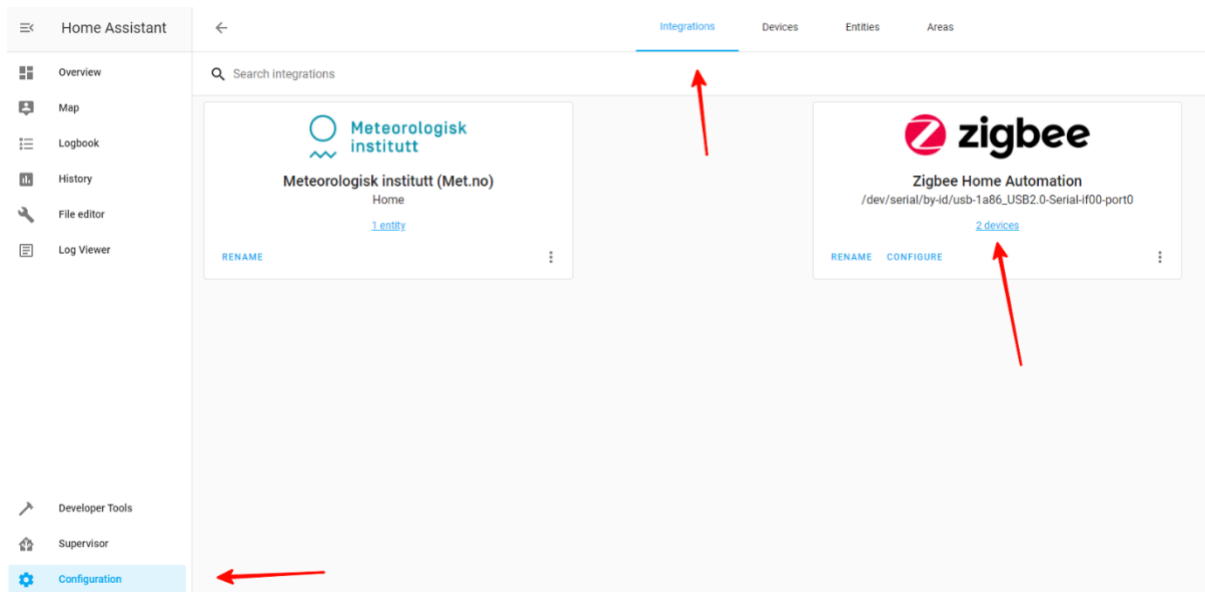
- Enter **/dev/ttyUSB0** as Serial Port and select Baud rate 115200



- The installation should be successful



Now the Zigbee Integration should appear:



Setup Logging (optional)

To spot any potential issues it is good practice to enable logging, at least during the setup and installation period. To do it, just add the following lines to the configuration file

/config/configuration.yaml:

logger:

default: warn

logs:

homeassistant.components.zha: debug

bellows.ezsp: debug

bellows.uart: debug

zigpy.zdo: debug

zigpy.application: debug

Home Assistant

Overview

Map

Logbook

History

Configurator

Hass.io

Configuration

Log out

Developer tools

Configurator

Trigger platforms

Select trigger platform

Events

*

Entities

Sun (sun.sun)

Conditions

Select condition

Services

automation.reload

/config/configuration.yaml

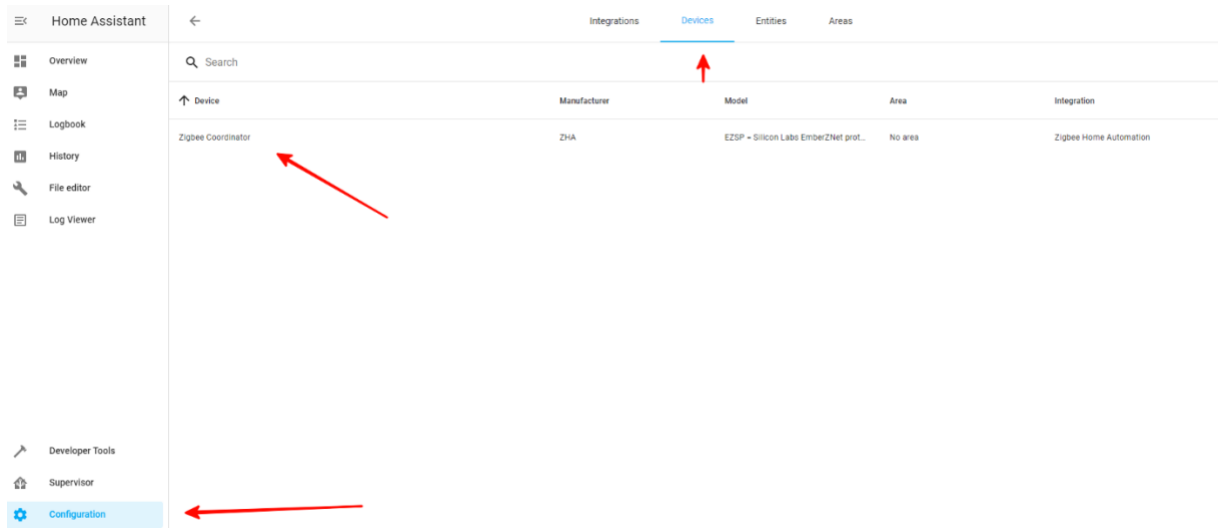
```
36 updater:
37   - # Optional, allows Home Assistant developers to focus on
38     - # include_used_components: true
39   -
40   # Discover some devices automatically
41   discovery:
42   -
43   # Allows you to issue voice commands from the frontend in
44   conversation:
45   -
46   # Enables support for tracking state changes over time
47   history:
48   -
49   # View all events in a logbook
50   logbook:
51   -
52   # Enables a map showing the location of tracked devices
53   map:
54   -
55   # Track the sun
56   sun:
57   -
58   # Weather prediction
59   sensor:
60     - platform: yr
61     -
62     # Text to speech
63     tts:
64       - platform: google
65       -
66     # Cloud
67     cloud:
68     -
69     group: !include groups.yaml
70     automation: !include automations.yaml
71     script: !include scripts.yaml
72   -
73   panel_iframe:
74     - configurator:
75       - title: Configurator
76       - icon: mdi:wrench
77       - url: http://192.168.0.103:3218
78       -
79   logger:
80     - default: warn
81   - logs:
82     - homeassistant.components.zha: debug
83     - bellows.essp: debug
84     - bellows.uart: debug
85     - zigpy.zdo: debug
86     - zigpy.application: debug
87   -
```

Zigbee HA Component Usage

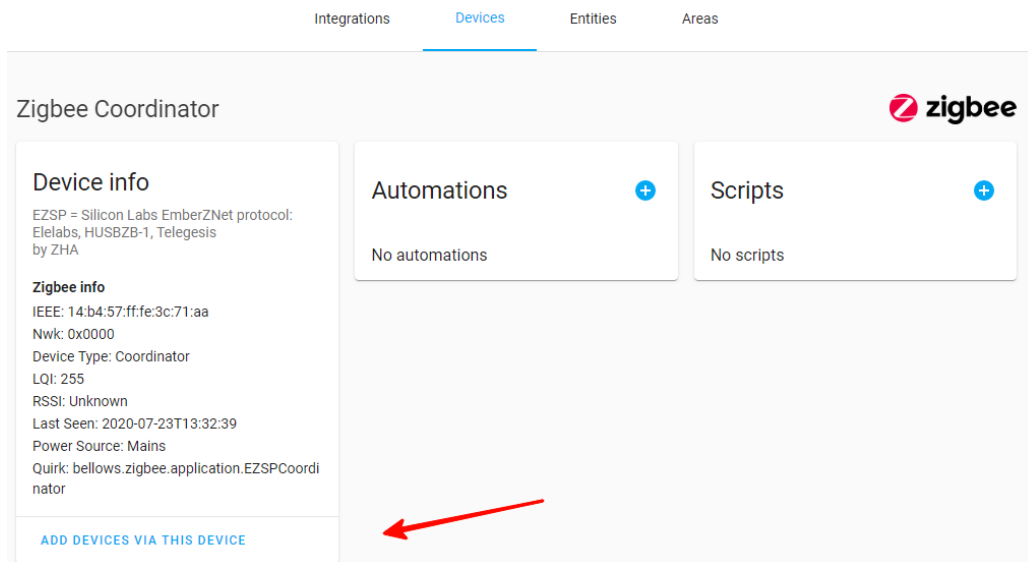
Once Zigbee Component is added and configured properly you can start to use it.

Add your devices to the Home Assistant

Open **Configuration** and go to **Devices** and **Zigbee Coordinator**



Start “Add Devices via this device”



When you will call it, you have 60 seconds to add the device.

Searching for ZHA 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.

During this period, you need to follow Device manual to put it in Pairing mode. Sometimes you just need to give it power.

If the device is found, you will be able to see it in the logs (example device)

Searching for ZHA Zigbee devices...



IKEA of Sweden TRADFRI bulb E27 CWS opal 600lm
TRADFRI bulb E27 CWS opal 600lm
by IKEA of Sweden



Change device name

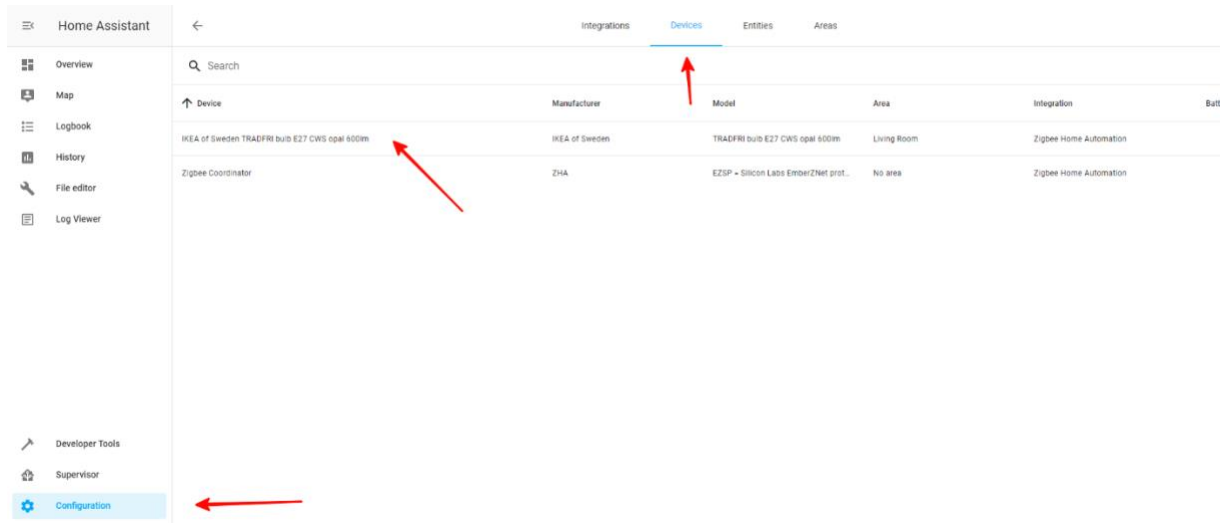
IKEA of Sweden TRADFRI bulb E27 CWS opal 600lm

Area

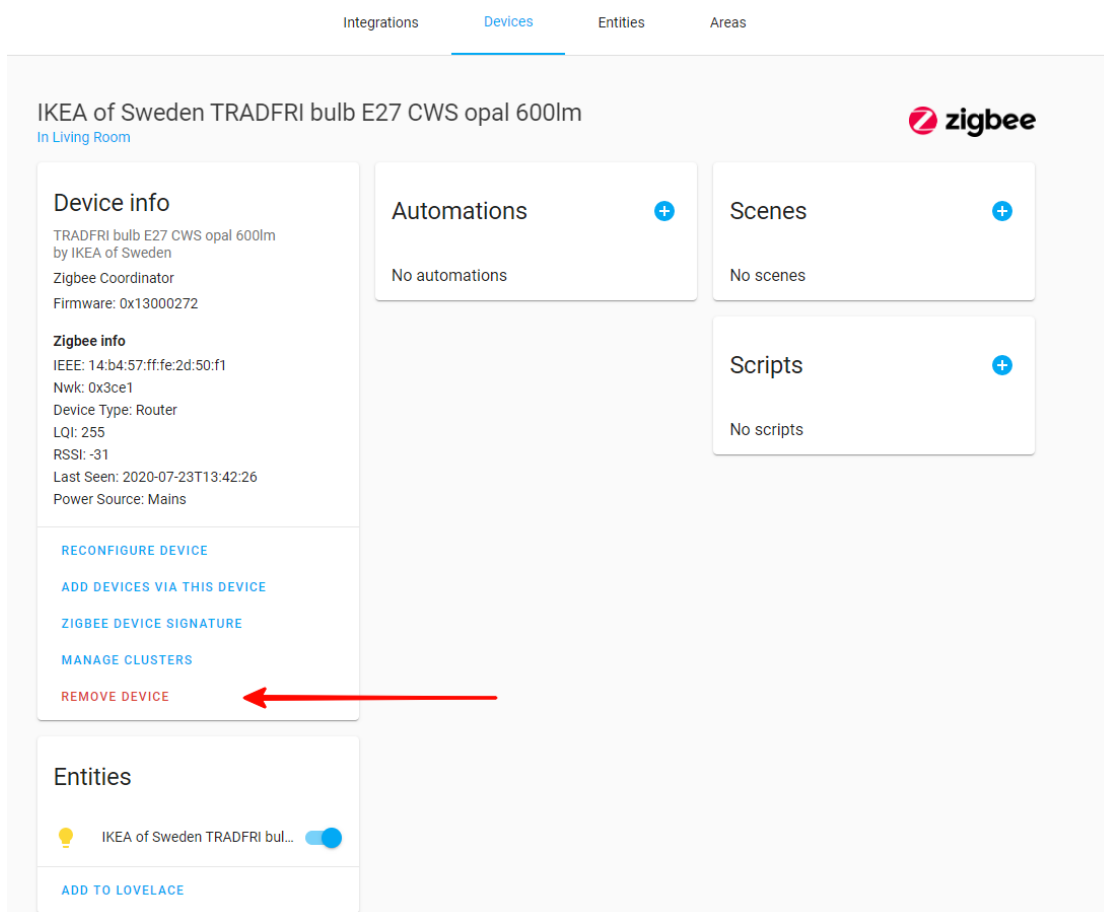
```
[0x3ce1:1:0x0000]: 'async_initialize' stage succeeded
[0x3ce1:1:0x1000]: 'async_initialize' stage succeeded
[0x3ce1:1:0x0019]: 'async_initialize' stage succeeded
[0x3ce1:1:0x0005]: 'async_initialize' stage succeeded
[0x3ce1](TRADFRI bulb E27 CWS opal 600lm): power source: Mains
[0x3ce1](TRADFRI bulb E27 CWS opal 600lm): completed initialization
[0x3ce1:1:0x0006]: attempting to update onoff state - from cache: False
[0x3ce1:1:0x0006] ZCL deserialize: <ZCLHeader frame_control=<FrameControl frame_type=GLOBAL_COMMAND manufacturer_specific=False is_reply=True disable_default_response=True> manufacturer=None tsn=63
command_id=Command.Read_Attributes_rsp>
None: polling current state - from cache: True
```

Remove your device from Home Assistant

Open **Configuration** and go to **Devices**.



Select the device, which you would like to remove



Once you call this service you can verify in the logs, that the device has left the network.

Example: Philips Hue Bulb

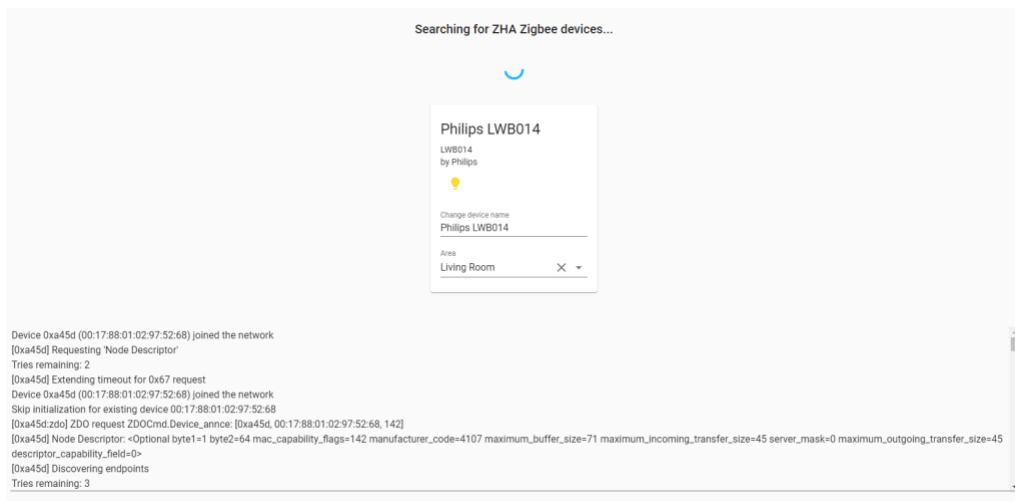
This example is done with Hue White Single bulb E26 but is applicable to other products as well.



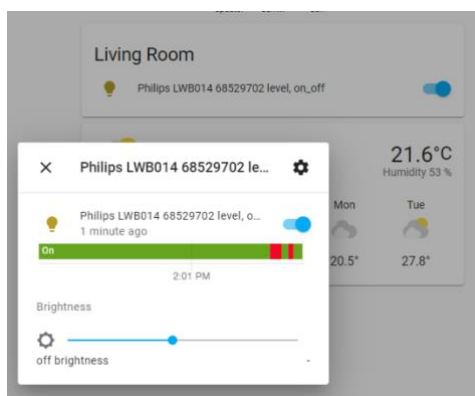
To control Philips Hue Light bulb using Home Assistant, one first needs to reset it.

Once it is reset, you can follow the regular process to Add it to the Home Assistant.

- Call **Add Devices** service as explained in Add devices section of this guide
- Power ON the Lightbulb
- Confirm it is added to the Home Assistant



Now you can control it directly or use in the scenarios.



Troubleshooting

If your issue is not described here or you need help resolving it, please contact support at **info@popp.eu**