

Heltec halow gateway + board setup and example

Official github repo: https://github.com/HelTecAutomation/ESP_HaLow

Updated July 2025

Halow Gateway setup



Image from Heltec HT-H7608 Datasheet.

1. Power on the gateway and connect it to your laptop through the ethernet.

The red light once powered on means its booting up. The first time it booting up the light will turn yellow; configuration mode.

2. Go to <http://10.42.0.1/> (configuration side) and login User: Root, PASSWORD: heltec.org

Welcome!

This wizard will guide you through the initial setup of this device.

You can exit now if you'd prefer to configure manually.

HaLow Configuration

Country

The country determines the capabilities of your HaLow network. **Warning:** If you are currently using HaLow, modifying this value may cause you to lose access to this device. For details, see the [regulatory data table](#).

System Configuration

Hostname


Hostname is used for many device id purposes, including DNS.

keep it on **Country: US** and change the hostname

3. Select Standard WiFi HaLow

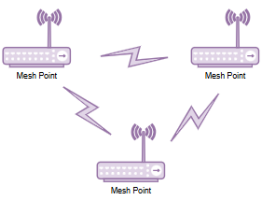
Select a Wizard

Standard WiFi HaLow



Setup your device as a normal Access Point (AP) or Client (Station).

802.11s Mesh

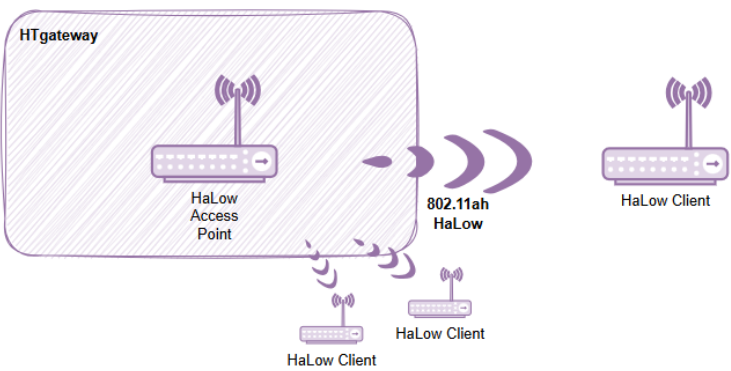


Setup your device as part of an 802.11s Mesh (either as a Mesh Point or a Mesh Gate).

4. Choose Access Point

This wizard will guide you in setting up your device as a simple **Client** or **Access Point**. You can exit now if you prefer to complete your configuration manually.

This Device



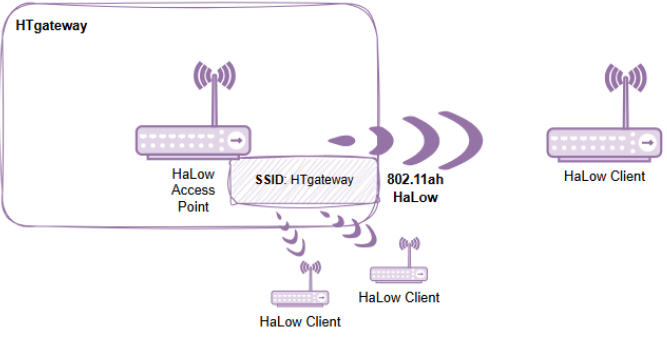
☒ Access Point

☐ Client

? In **Access Point** mode, the device can accept connections from HaLow clients.

5. Configure the frequency, bandwidth, SSID and password

This Device



SSID: HTgateway

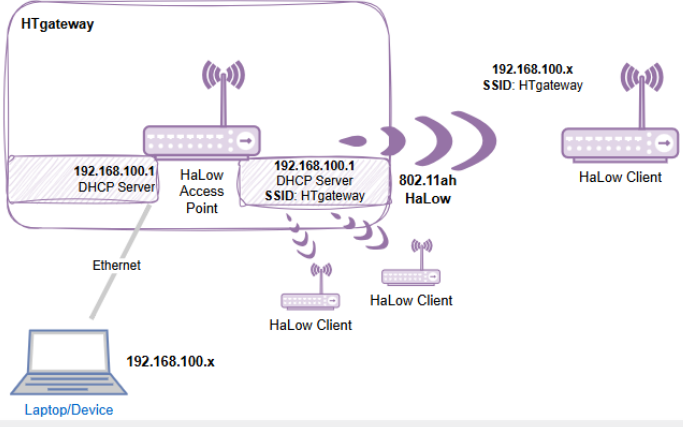
Passphrase: heltec.org

Operating Frequency: Width 8 MHz Channel 44 (924 MHz)

? Available Bandwidths and Channels differ greatly across regions. The higher your bandwidth, the greater the potential throughput of the connection. If you're deploying multiple HaLow access points you may want to select distinct channels and a lower bandwidth to reduce interference.

6. Choose Upstream network

This Device



192.168.100.x
SSID: HTgateway

192.168.100.1
DHCP Server
SSID: HTgateway

802.11ah
HaLow

HaLow Client

HaLow Client

HaLow Client

Ethernet

192.168.100.x
Laptop/Device

☒ None

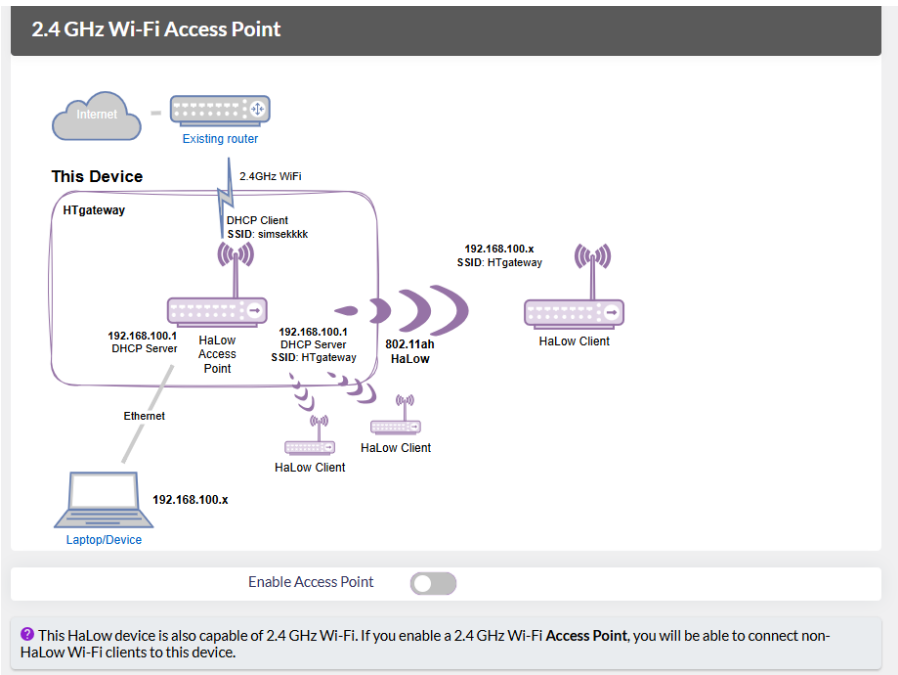
☐ Ethernet

☐ Wi-Fi (2.4 GHz)

? In **None** mode, your device will have a static IP address and run a DHCP server on all interfaces, the HaLow and non-HaLow networks will be isolated from each other.

For now, choose None, for only halow devices. If you are planning on working with non halow devices with the Halow devices, choose one of the other two.

7. Skip this for now



8. Press Apply and now you are ready.

If later on you want to change some settings, use a sim needle to hold on the button for 4 seconds, till the light turns yellow. What the different colours mean, can be seen here:

| Color | Status | Description |
|-------|------------------------|---|
| Red | Always on/Blinking | System booting |
| Green | Blinking | Getting IP address (AP/Mesh-gateway , @RJ45) HaLow connecting(STA/Mesh-Point, @RJ45) |
| | Always on ^① | Getted IP address (AP/Mesh-gateway , @ RJ45) Halow connected(STA/Mesh-Point, @RJ45) |
| Blue | Blinking | Getting IP address (AP/Mesh-gateway , @USB) HaLow connecting(STA/Mesh-Point, @USB) |

| | | |
|--------------|------------------------|--|
| | Always on ^② | Getted IP address (AP/Mesh-gateway , @ USB) Halow connected(STA/Mesh-Point, @USB) |
| Yellow | Light up and release | Enter Configuration mode |
| White | Light up and release | Factory reset |
| Yellow-Green | Alternate flicker | Configuration mode |
| Yellow-Blue | Alternate flicker | Configuration mode |
| Purple | Blinking | Button pressed |

Button press:

| Status | Description |
|-----------------------|--|
| Single press | Switch network connection mode. The switch is green when connected to RJ45, blue when connected to USB |
| Long press 3 seconds | Yellow light is on, the device enters configuration mode |
| Long press 10 seconds | White light is on, factory reset |

Images from Heltec HT-H7608 Datasheet.

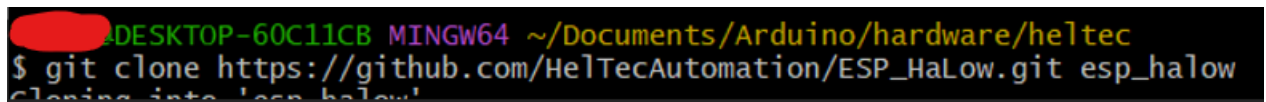
More information about the gateway can be found here:

https://docs.heltec.org/en/wifi_halow/ht-h7608/index.html

Heltec Halow board setup

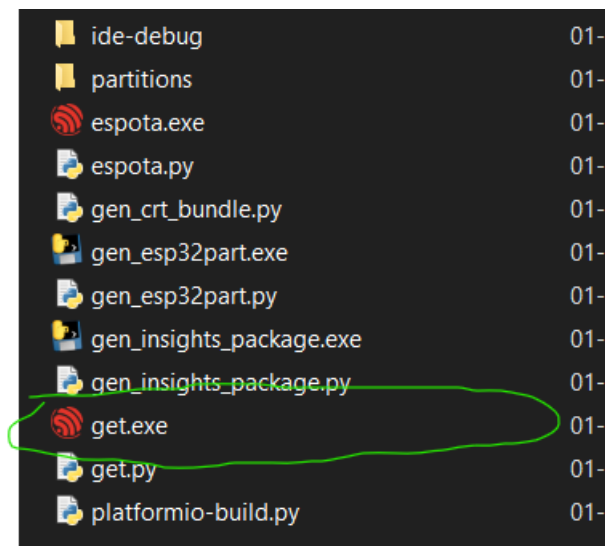
Setup for windows

1. Install Arduino ide and git'
2. Create a folder called "hardware" inside "USER/Documents/Arduino" and create a folder "heltec" inside that
3. Open a git bash and point it to USER/Documents/Arduino/hardware/heltec and run "**git clone https://github.com/HelTecAutomation/ESP_HaLow.git esp_halow**"



```
DESKTOP-60C11CB MINGW64 ~/Documents/Arduino/hardware/heltec  
$ git clone https://github.com/HelTecAutomation/ESP_HaLow.git esp_halow  
Cloning into 'esp_halow'...
```

4. Once installed now "**cd esp_halow**" and run "**git submodule update --init --recursive**"
5. Open up the esp_halow folder, go to **tools** and run "**get.exe**"



It will close once it's done.

6. Open up Arduino ide, choose **HT-HC33** in Tools -> Board

7. Install “basicparameters” from <https://github.com/Simssek210/T-halowtest>
And change the SSID and password to the gateway has and upload the sketch.
(If you are uploading the first time, it might need to hold the USER button while uploading)

Heltec has a few of ready-made sketches for WiFi Halow that can be found in

File -> Examples -> HT-HC33 -> WiFi Halow

More information about the board and Halow modem can be found in

<https://github.com/Simssek210/T-halowtest> or on <https://resource.heltec.cn/download/HT-HC33> and https://docs.heltec.org/en/wifi_halow/ht-hc32/index.html