

IOT ONLINE COURSE

Developing low-cost & open-source IoT solutions

D-GW-4: Gateway Web Admin Interface (LowCostLoRaGw github version)

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Contents

- ⦿ This tutorial presents the web admin interface which is an add-on to the low-cost gateway framework
- ⦿ Refer to D-GW-1 to understand the gateway configuration and architecture
- ⦿ Note that the SD card image has everything needed, including the web admin interface installed, so you may skip the installation procedure if you flashed our SD card image
- ⦿ Let's get started...

Gateway web admin interface (1)

- ① To install the web admin interface, check if you have the `gw_web_admin` folder in your `lora_gateway` folder
- ① If you don't, then update to the latest version
- ① Then, go into `gw_web_admin` and run the `install.sh` script
 - ① `cd gw_web_admin`
 - ① `sudo ./install.sh`



Gateway web admin interface (2)

① <http://192.168.200.1/admin> (with WiFi connection)

① Login: admin

① Password: loragateway






Gateway Web Admin  2020-01-09T13:35:39 [online] [Test Internet](#) [pkt logger](#) [Reboot](#) [Shutdown](#) 

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Gateway configuration

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After changing gateway parameters, you need to reboot for changes to take effect.
Date/Time: 2020-01-09T13:35:40
Radio configuration file is for single channel radio
last low-level status: 2020-01-09T13:35:34 0m-0d-0h-0min from current date
last rx: 2020-01-08T10:02:37.701447> +++ rxlorar[868100], lorawan type=0x40 src=0x26011721 seq=0 len=10 SNR=7 RSSIpkt=-41 BW=125 CR=4/5 SF=12

Mode	1	
Spreading Factor	12	
Frequency	-1	
PA_BOOST	<input checked="" type="checkbox"/>	

Use mode=11 to indicate LoRaWAN mode
For single-channel gateways, the default LoRaWAN mode means SF12BW125 and sync word 0x34. In this mode you can change the Spreading Factor SF.
Change frequency for a single-channel gateway if needed. Leave frequency as -1 to use default values (for LoRaWAN mode: 868.1MHz for BAND868, 923.2MHz for BAND900 and 433.175 for BAND433).
PA_BOOST is required for some radio modules such as inAir9B, RFM92W, RFM95W, NiceRF LoRa1276. After changing the PA_BOOST settings, run **Gateway Update/Basic config** to recompile the low-level gateway program.

Gateway main page

Gateway main page (configuration page)

Gateway Web Admin 2020-01-09T13:35:39 [online] Test Internet pkt logger Reboot Shutdown

Gateway configuration

Radio Gateway

After changing gate
Date/Time: 2020-01-09T13:35:39
Radio configuration file is for single channel radio
last low-level status: 2020-01-09T13:35:34 0m-0d-0h-0min from current date
last rx: 2020-01-08T10:02:37.701447> +++ rxloro[868100]. lorawan type=0x40 src=0x2601172

Mode	1	
Spreading Factor	12	
Frequency	-1	
PA_BOOST	<input checked="" type="checkbox"/>	

Use mode=11 to indicate LoRaWAN mode
For single-channel gateways, the default LoRaWAN mode means SF12BW125 and sync word 0x34 . In this mode you can change the Spreading Factor SF.
Change frequency for a single-channel gateway if needed. Leave frequency as -1 to use default values (for LoRaWAN mode: 868.1MHz for BAND868, 923.2MHz for BAND900 and 433.175 for BAND433).
PA_BOOST is required for some radio modules such as inAir9B, RFM92W, RFM95W, NiceRF LoRa1276. After changing the PA_BOOST settings, run **Gateway Update/Basic config** to recompile the low-level gateway program.

Callouts:

- Check Internet connectivity & get github version
- Display a simple packet logger
- Reboot the gateway. Need to reboot after any update
- Shutdown the gateway

Main gateway configuration (1)

radio configuration section

Gateway Web Admin WAZIup 2020-01-09T13:35:39 [online] Test Internet pkt logger Reboot Shutdown

Clouds Gateway Update System

Gateway configuration

Radio Gateway Network Server Alert Mail Alert SMS

After changing gateway parameters, you need to reboot for changes to take effect.
Date/Time: 2020-01-09T13:35:40
Radio configuration file is for single channel radio
last low-level status: **2020-01-09T13:35:34 0m-0d-0h-0min from current date**
last rx: **2020-01-08T10:02:37.701447> +++ rxlora[868100]. lorawan type=0x40 src=0x26011721 seq=0 len=10 SNR=7 RSSIpkt=-41 BW=125 CR=4/5 SF=12**

Mode	1	
Spreading Factor	12	
Frequency	-1	
PA_BOOST		true

Use mode=11 to indicate LoRaWAN mode
For single-channel gateways, the default LoRaWAN mode means SF12BW125 and sync word 0x34. In this mode you must use the Spreading Factor SF.
Change frequency for a single-channel gateway if needed. Leave frequency as -1 to use default values (for LoRaWAN 868.1MHz for BAND868, 923.2MHz for BAND900 and 433.175 for BAND433).
PA_BOOST is required for some radio modules such as inAir9B, RFM92W, RFM95W, NiceRF LoRa1276. After changing PA_BOOST settings, run **Gateway Update/Basic config** to recompile the low-level gateway program.

Callouts:

- Indicate a single-channel or SX1301 concentrator hardware configuration
- Last status from low-level radio layer, normally every 10mins
- Last radio packet reception time
- Edit PA_BOOST setting. You must use **Gateway update/Basic config** to recompile
- Pre-defined LoRa mode. Mode 11 indicates LoRaWAN mode. Use **Gateway Configure for LoRaWAN**
- Changing the Spreading Factor is only relevant in LoRaWAN mode
- Set to a customized frequency band, e.g. 433.3MHz

Gateway configuration section

Easy configuration button to for LoRaWAN settings. Select which LoRaWAN network server to activate

Indicate raw format to handle customized packet format. Required for LoRaWAN mode

Set the downlink timer in seconds
-1 means no downlink support

Set the periodic status timer in seconds, 0 means no periodic tasks

Radio **Gateway** Network Server Alert Mail Alert SMS Downlink Request Get post-proc

After changing gateway parameters, you need to reboot for changes to take effect.
Date/Time: 2020-01-09T13:35:40

Configure for LoRaWAN TTN cloud ChirpStack cloud

Gateway ID	0000B827EBEFC4A6	
Gateway ID MD5 hashed	620dd0a7916e36f445086e22ae49af1d	not editable
IP address	192.168.2.3	not editable
MAC address	eth0: b8:27:eb:ef:c4:a6	not editable
GPS coordinates	Latitude : 43.314106 Longitude : -0.363887	
wappkey		<input type="checkbox"/> false
raw format		<input checked="" type="checkbox"/> true
aes_lorawan	for local decrypt	
aes	for local decrypt	
lsc	for local decrypt	<input type="checkbox"/> false
downlink	0	
status	600	

Set gateway ID (should normally be pre-configured)

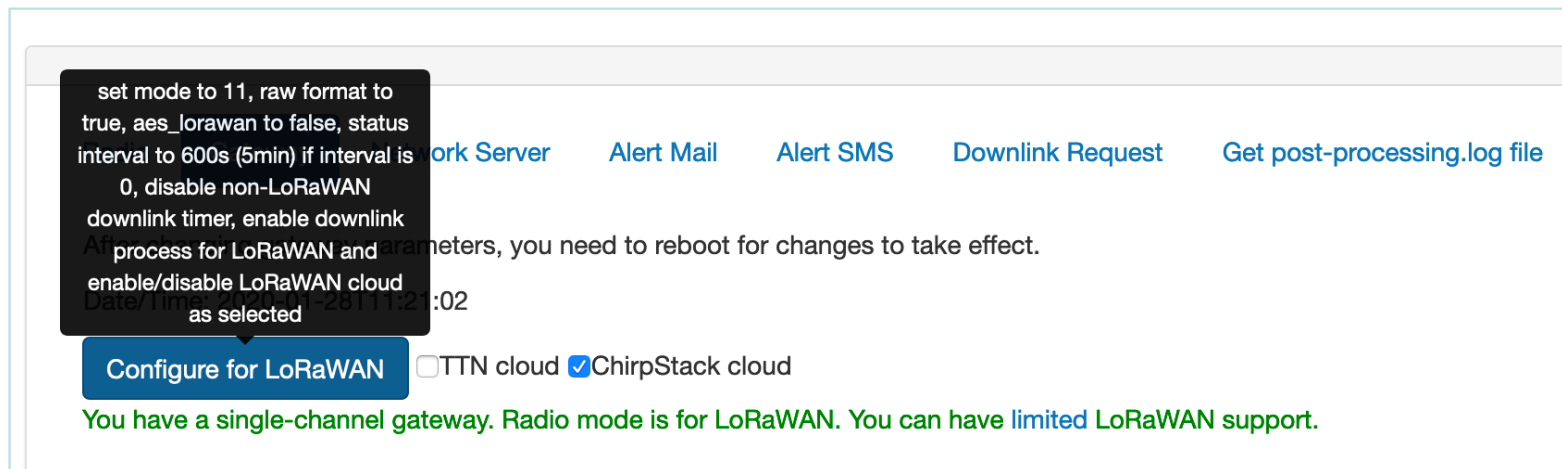
Default id is 0000XXXXXXXXXXXX with the 6 bytes of the MAC address of the gateway network interface (e.g. B827EBD4F300)

The MD5 hash of the gateway's ID

Enables local decryption at gateway. Decryption keys must be defined

Main gateway configuration (3a)

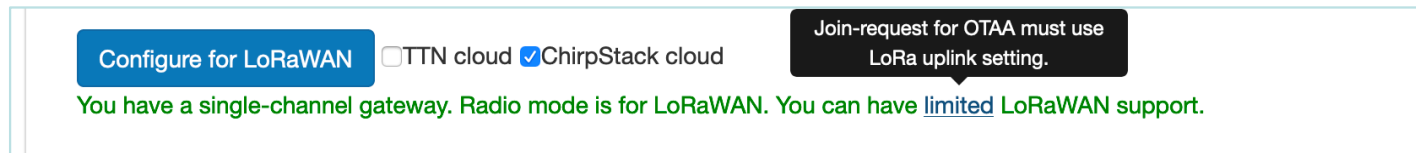
- ⦿ Configuring for LoRaWAN mode
 - ⦿ LoRaWAN mode enables reception from LoRaWAN devices and LoRaWAN downlink support including Over-The-Air-Activation (OTAA)
 - ⦿ Select a LoRaWAN cloud
 - ⦿ TheThingNetwork (TTN)
 - ⦿ Local or remote open-source ChirpStack
 - ⦿ Use the **Configure for LoRaWAN** button to automatically change all relevant parameters for LoRaWAN mode



The screenshot shows a configuration page with a dark tooltip box containing the following text: "set mode to 11, raw format to true, aes_lorawan to false, status interval to 600s (5min) if interval is 0, disable non-LoRaWAN downlink timer, enable downlink process for LoRaWAN and enable/disable LoRaWAN cloud as selected". Below the tooltip, there are several blue links: "Work Server", "Alert Mail", "Alert SMS", "Downlink Request", and "Get post-processing.log file". A "Configure for LoRaWAN" button is visible, along with radio buttons for "TTN cloud" (unchecked) and "ChirpStack cloud" (checked). A green status message at the bottom reads: "You have a single-channel gateway. Radio mode is for LoRaWAN. You can have limited LoRaWAN support."

Main gateway configuration (3b)

- ⦿ Limited LoRaWAN support with single-channel gateway
 - ⦿ Only 1 frequency and 1 Spreading Factor, e.g. datarate
 - ⦿ When building DIY LoRaWAN devices with LMIC for instance, you can easily make the datarate of device and gateway to be similar
 - ⦿ For OTAA, join-request must use the same datarate than data uplink



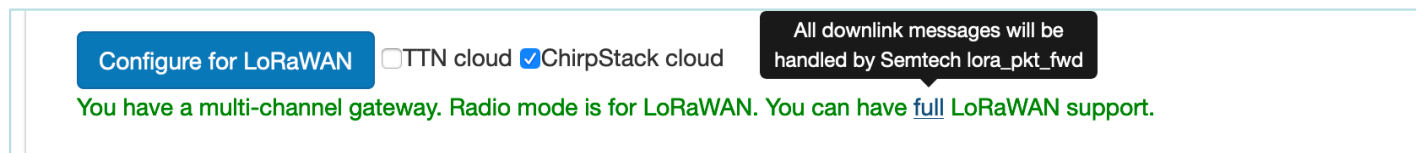
Configure for LoRaWAN TTN cloud ChirpStack cloud

Join-request for OTAA must use LoRa uplink setting.

You have a single-channel gateway. Radio mode is for LoRaWAN. You can have limited LoRaWAN support.

- ⦿ Full LoRaWAN with multi-channel gateway

- ⦿ With an SX1301-based concentrator shield, you can have full LoRaWAN



Configure for LoRaWAN TTN cloud ChirpStack cloud

All downlink messages will be handled by Semtech lora_pkt_fwd

You have a multi-channel gateway. Radio mode is for LoRaWAN. You can have full LoRaWAN support.

- ⦿ and still benefit from the versatility of our open gateway architecture to push to any cloud platforms as well as local edge processing capabilities

⦿ Network Server configuration section (open-source ChirpStack)

Radio Gateway **Network Server** Alert Mail Alert SMS Downlink Request Get post-processing.log file

After changing gateway parameters, you need to reboot for changes to take effect.
Date/Time: 2020-01-13T10:56:10
ChirpStack seems to be installed, OK.

Enabled	[go to ChirpStack web page]	<input checked="" type="checkbox"/>
CloudChirpStack.py		<input checked="" type="checkbox"/>
ChirpStack Server	127.0.0.1	<input type="text"/>
source list	Empty	<input type="text"/>

Show whether ChirpStack is installed or not

Enable/Disable message upload to the ChirpStack Network Server

127.0.0.1 indicates a local ChirpStack Network Server

Note that you can also use a remote ChirpStack Network Server by indicating its IP address

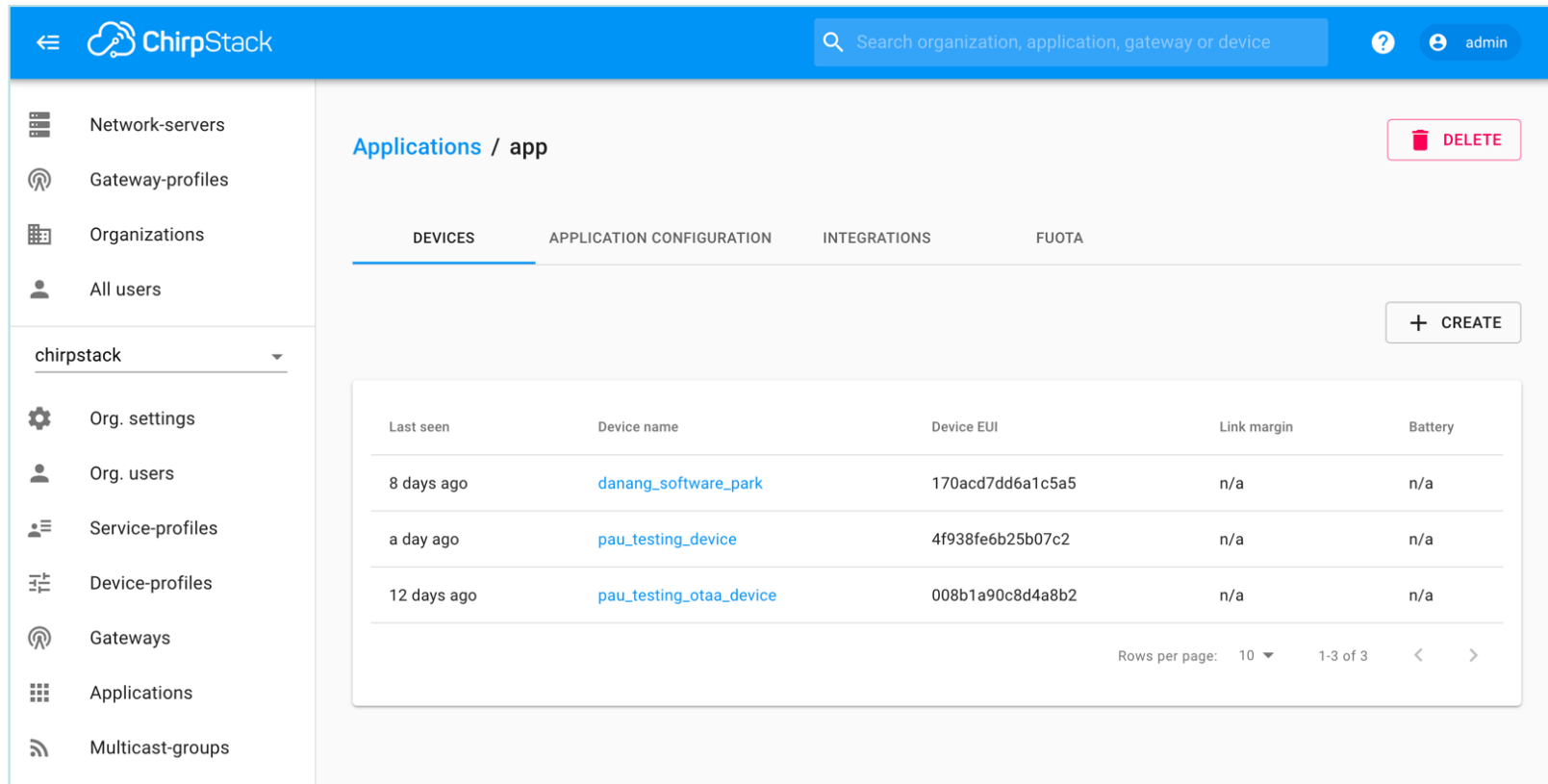
If ChirpStack is installed, it can be started (and enabled at boot)

Open the local ChirpStack web page

- For more information about the ChirpStack open-source LoRaWAN network server, see <https://www.chirpstack.io/overview/>
- For more information on using ChirpStack with our framework, see https://github.com/CongducPham/LowCostLoRaGw/blob/master/gw_full_latest/scripts/chirpstack/README.md
- You can use the (local) ChirpStack Network Server to register gateways, create devices, handle LoRaWAN downlink, ...

ChirpStack example page (1)

Local ChirpStack Applications page



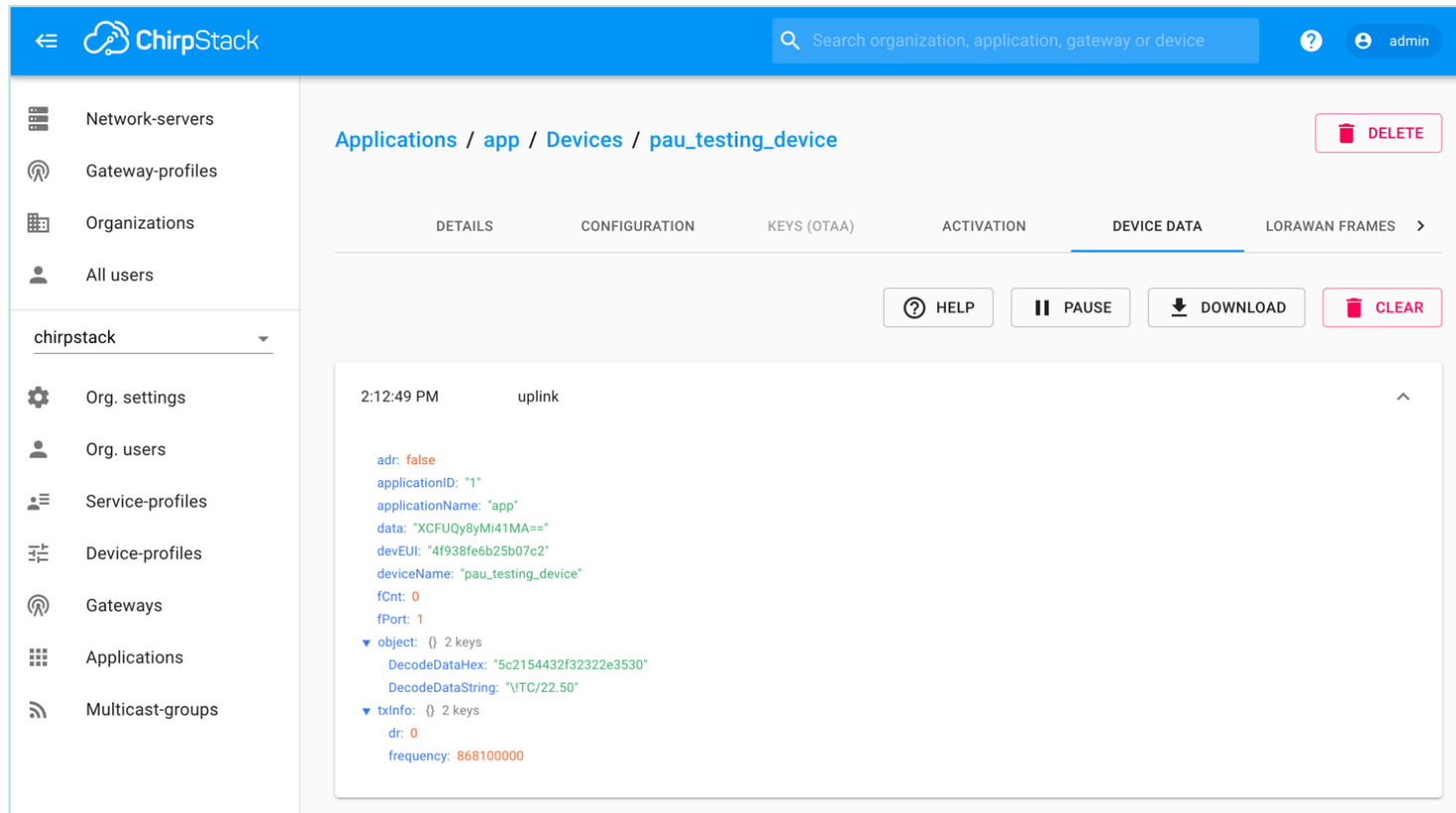
The screenshot shows the ChirpStack web interface. The top navigation bar is blue and contains the ChirpStack logo, a search bar, and a user profile icon labeled 'admin'. The left sidebar lists various system components: Network-servers, Gateway-profiles, Organizations, All users, and a dropdown menu for 'chirpstack' which includes Org. settings, Org. users, Service-profiles, Device-profiles, Gateways, Applications, and Multicast-groups. The main content area is titled 'Applications / app' and features a 'DELETE' button. Below the title are four tabs: DEVICES (selected), APPLICATION CONFIGURATION, INTEGRATIONS, and FUOTA. A '+ CREATE' button is located on the right side of the main area. The DEVICES tab displays a table with the following data:

Last seen	Device name	Device EUI	Link margin	Battery
8 days ago	danang_software_park	170acd7dd6a1c5a5	n/a	n/a
a day ago	pau_testing_device	4f938fe6b25b07c2	n/a	n/a
12 days ago	pau_testing_otaa_device	008b1a90c8d4a8b2	n/a	n/a

At the bottom right of the table, there is a pagination control showing 'Rows per page: 10', '1-3 of 3', and navigation arrows.

ChirpStack example page (2)

Local ChirpStack Device/Data page

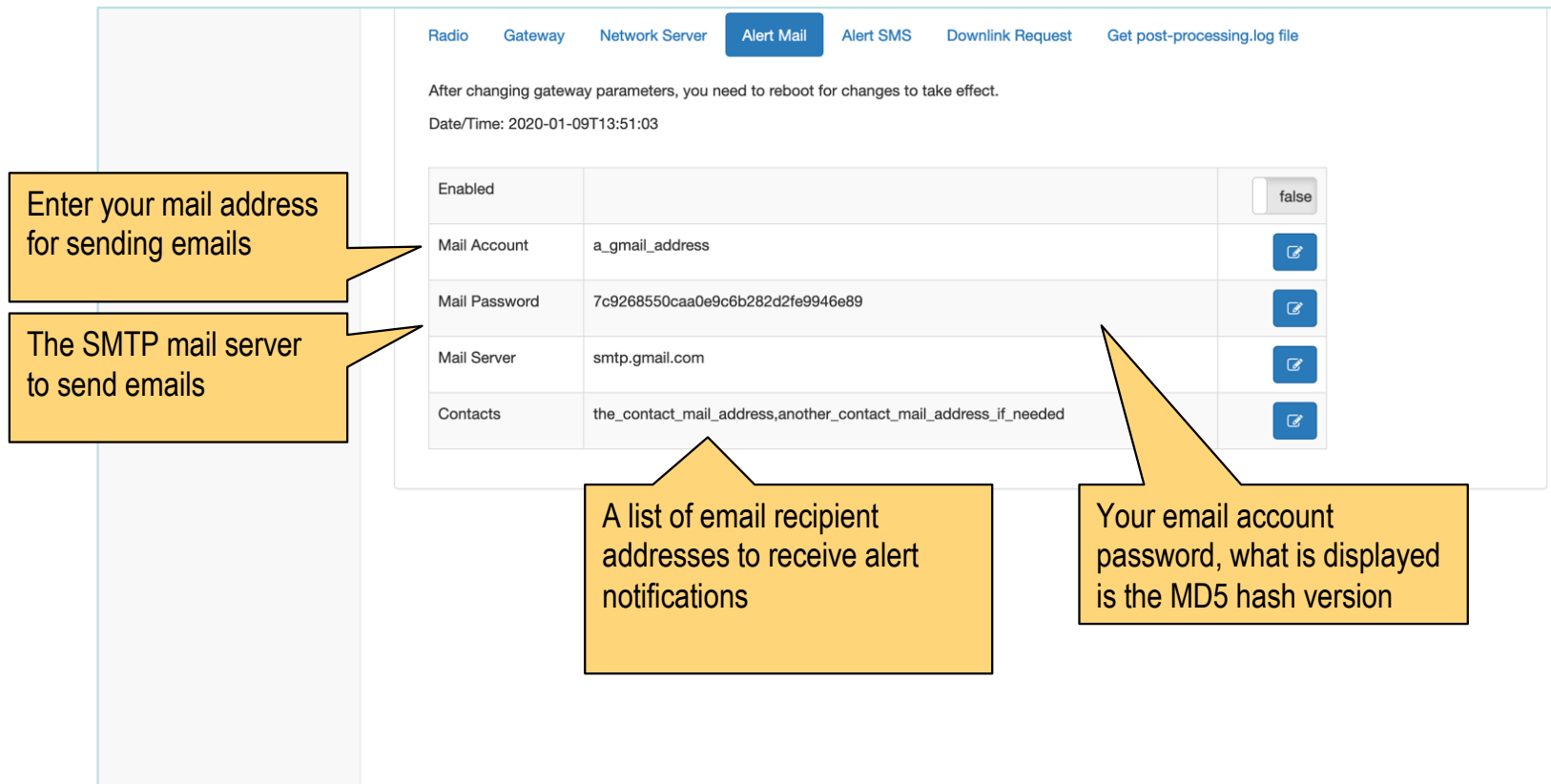


The screenshot displays the ChirpStack web interface. The top navigation bar is blue and contains the ChirpStack logo, a search bar, and the user 'admin'. The left sidebar lists various system components: Network-servers, Gateway-profiles, Organizations, All users, chirpstack (selected), Org. settings, Org. users, Service-profiles, Device-profiles, Gateways, Applications, and Multicast-groups. The main content area shows the breadcrumb 'Applications / app / Devices / pau_testing_device' and a 'DELETE' button. Below this are tabs for DETAILS, CONFIGURATION, KEYS (OTAA), ACTIVATION, DEVICE DATA (selected), and LORAWAN FRAMES. A row of action buttons includes HELP, PAUSE, DOWNLOAD, and CLEAR. The main display area shows an uplink message at 2:12:49 PM with the following decoded data:

```
2:12:49 PM      uplink
adr: false
applicationID: "1"
applicationName: "app"
data: "XCFUQy8yMi41MA=="
devEUI: "4f938fe6b25b07c2"
deviceName: "pau_testing_device"
fCnt: 0
fPort: 1
▼ object: {} 2 keys
  DecodeDataHex: "5c2154432f32322e3530"
  DecodeDataString: "\ITC/22.50"
▼ txInfo: {} 2 keys
  dr: 0
  frequency: 868100000
```

Main gateway configuration (5)

Gateway email alerting section



Radio Gateway Network Server **Alert Mail** Alert SMS Downlink Request Get post-processing.log file

After changing gateway parameters, you need to reboot for changes to take effect.
Date/Time: 2020-01-09T13:51:03

Enabled		<input type="checkbox"/> false
Mail Account	a_gmail_address	<input type="text"/>
Mail Password	7c9268550caa0e9c6b282d2fe9946e89	<input type="text"/>
Mail Server	smtp.gmail.com	<input type="text"/>
Contacts	the_contact_mail_address,another_contact_mail_address_if_needed	<input type="text"/>

Enter your mail address for sending emails

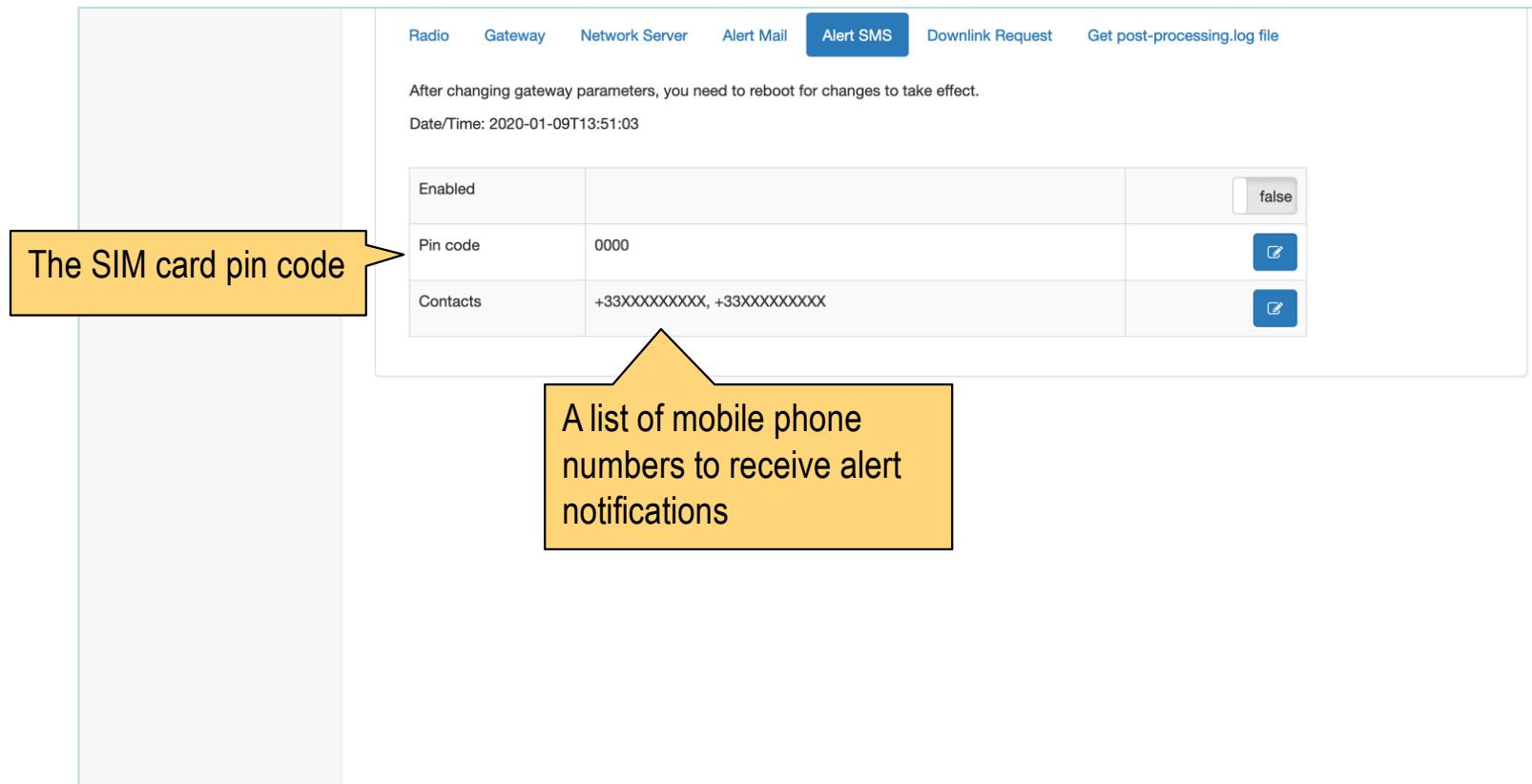
The SMTP mail server to send emails

A list of email recipient addresses to receive alert notifications

Your email account password, what is displayed is the MD5 hash version

Main gateway configuration (6)

⦿ Gateway SMS alerting section (needs cellular)



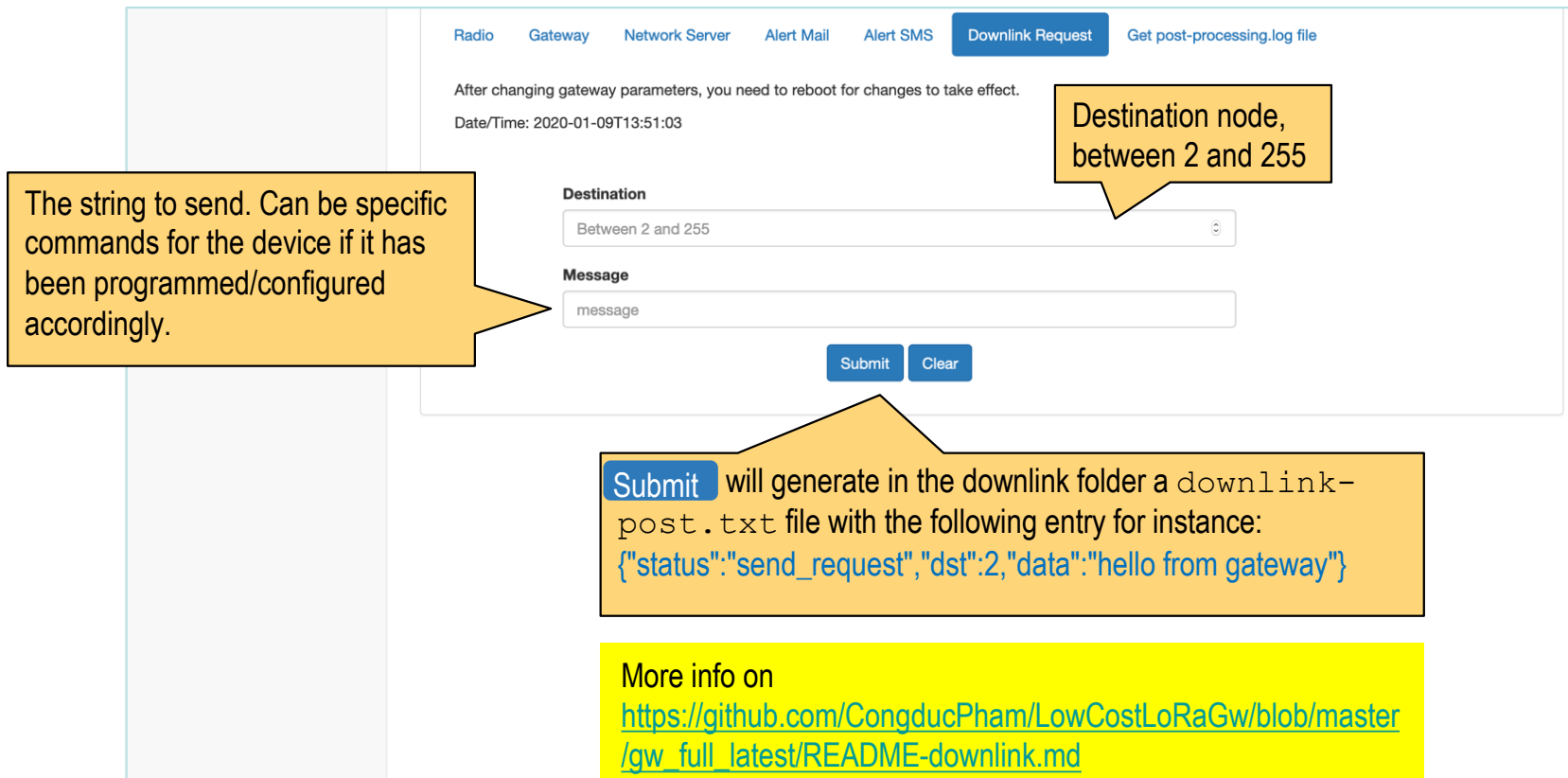
The screenshot shows the 'Alert SMS' configuration page. At the top, there are navigation tabs: Radio, Gateway, Network Server, Alert Mail, Alert SMS (selected), Downlink Request, and Get post-processing.log file. Below the tabs, a message states: 'After changing gateway parameters, you need to reboot for changes to take effect.' The date/time is '2020-01-09T13:51:03'. The configuration table is as follows:

Enabled		<input type="checkbox"/> false
Pin code	0000	<input type="button" value="✎"/>
Contacts	+33XXXXXXXXX, +33XXXXXXXXX	<input type="button" value="✎"/>

Two callouts are present: one pointing to the 'Pin code' field with the text 'The SIM card pin code', and another pointing to the 'Contacts' field with the text 'A list of mobile phone numbers to receive alert notifications'.

Main gateway configuration (7)

Generating non-LoRaWAN downlink messages



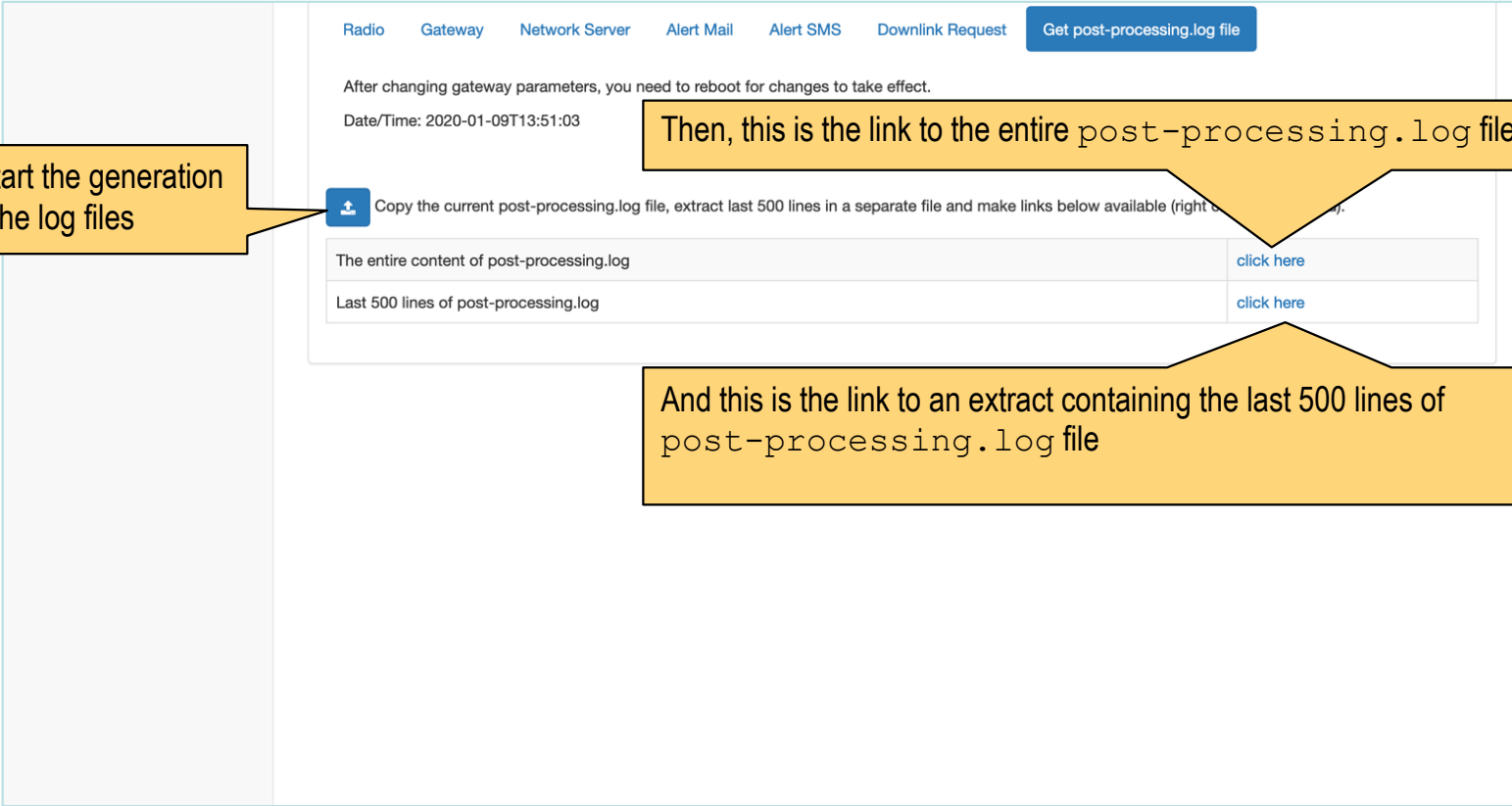
The screenshot shows a web interface for sending downlink messages. It includes a navigation bar with tabs for Radio, Gateway, Network Server, Alert Mail, Alert SMS, and Downlink Request. A note states: "After changing gateway parameters, you need to reboot for changes to take effect." The date/time is 2020-01-09T13:51:03. There are two input fields: "Destination" (with a dropdown menu showing "Between 2 and 255") and "Message" (with the text "message"). Below the fields are "Submit" and "Clear" buttons. A callout box explains: "The string to send. Can be specific commands for the device if it has been programmed/configured accordingly." Another callout box explains: "Destination node, between 2 and 255". A third callout box explains: "Submit will generate in the downlink folder a downlink-post.txt file with the following entry for instance: {\"status\": \"send_request\", \"dst\": 2, \"data\": \"hello from gateway\"}\". A yellow box at the bottom provides more information: "More info on https://github.com/CongducPham/LowCostLoRaGw/blob/master/gw_full_latest/README-downlink.md".

Main gateway configuration (8)

Gateway log files section

(1) Select this tab

(2) Click to start the generation of a copy of the log files



The screenshot shows a web interface with several tabs: Radio, Gateway, Network Server, Alert Mail, Alert SMS, Downlink Request, and 'Get post-processing.log file'. Below the tabs, there is a message: 'After changing gateway parameters, you need to reboot for changes to take effect.' and a date/time stamp: 'Date/Time: 2020-01-09T13:51:03'. A blue button with a download icon is labeled 'Copy the current post-processing.log file, extract last 500 lines in a separate file and make links below available (right click on the link to download)'. Below this, there are two rows of links: 'The entire content of post-processing.log' with a 'click here' link, and 'Last 500 lines of post-processing.log' with a 'click here' link.

Then, this is the link to the entire `post-processing.log` file

And this is the link to an extract containing the last 500 lines of `post-processing.log` file

Get gateway log files

- ⦿ The `Get post-processing.log file` option is a convenient way for an end-user to obtain the log file that can be sent (via mail for instance) to an experienced user for analysis or debug purposes
- ⦿ The entire `post-processing.log` file can be obtained, or only the last 500 lines
- ⦿ A simple packet logger page is more suitable to check in real time whether packets are received or not, see next slide

Real-time packet logger

Display the packet logger

Gateway Web Admin 2020-02-01T11:53:59 [online] Test Internet pkt logger Reboot Shutdown

Clouds Gateway Configuration Gateway Update System

Packet logger

rxlora

Show in real-time the last 20 packet receptions

LoRaWAN OTAA Packet from newly joined device: 0x2601298D

Showing last 20 packet receptions. Refreshing every 5s.

```

2020-02-01T11:52:43.376347> +++ rxlora[868100]. lorawan type=0x40 src=0x2601298D seq=1 len=13 SNR=7 RSSIpkt=-39 BW=125 CR=4/5 SF=12
2020-02-01T11:50:22.099860> +++ rxlora[868100]. dst=1 type=0x10 src=6 seq=119 len=10 SNR=6 RSSIpkt=-48 BW=125 CR=4/5 SF=12
2020-02-01T11:49:50.441191> +++ rxlora[868100]. dst=1 type=0x10 src=6 seq=118 len=10 SNR=7 RSSIpkt=-46 BW=125 CR=4/5 SF=12
2020-02-01T11:49:15.655164> +++ rxlora[868100]. lorawan type=0x40 src=0x26011721 seq=0 len=15 SNR=7 RSSIpkt=-47 BW=125 CR=4/5 SF=12
2020-02-01T11:48:57.001111> +++ rxlora[868100]. lorawan type=0x40 src=0x26011721 seq=0 len=15 SNR=6 RSSIpkt=-42 BW=125 CR=4/5 SF=12
2020-02-01T11:47:28.369677> +++ rxlora[868100]. lorawan type=0x00 src=0xD0019A7C seq=46037 len=10 SNR=6 RSSIpkt=-37 BW=125 CR=4/5 SF=12
2020-02-01T11:46:52.540987> +++ rxlora[868100]. lorawan type=0x40 src=0x26041F24 seq=0 len=15 SNR=6 RSSIpkt=-49 BW=125 CR=4/5 SF=12
2020-02-01T11:46:39.671992> +++ rxlora[868100]. lorawan type=0x40 src=0x26041F24 seq=0 len=15 SNR=7 RSSIpkt=-48 BW=125 CR=4/5 SF=12
2020-02-01T11:46:18.848902> +++ rxlora[868100]. lorawan type=0x40 src=0x26041F24 seq=0 len=15 SNR=6 RSSIpkt=-37 BW=125 CR=4/5 SF=12
    
```

Non-LoRaWAN From src=6

LoRaWAN ABP From 0x26011721

LoRaWAN OTAA join-request

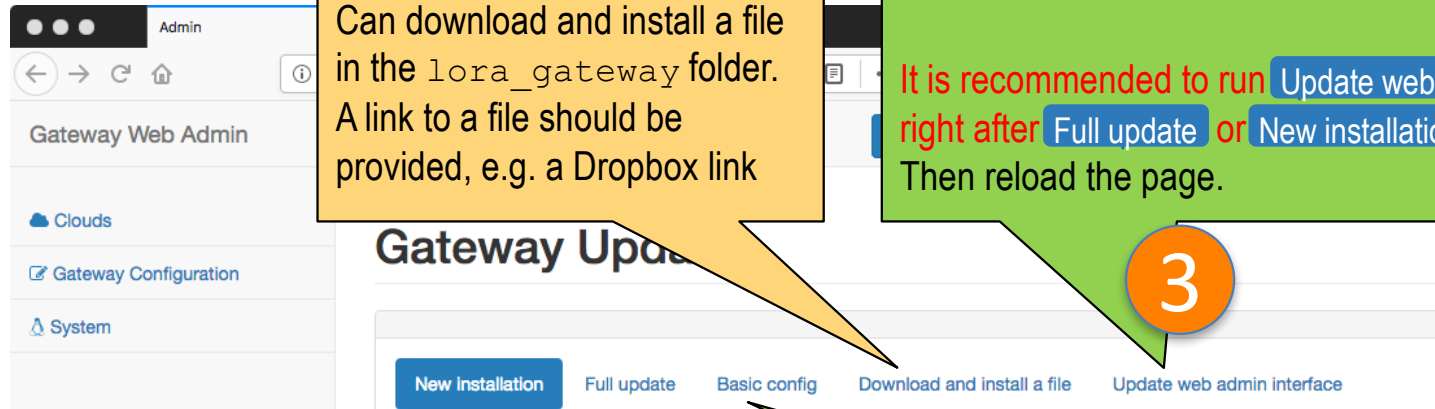
LoRaWAN ABP From 0x26041F24

Gateway update

- ④ The gateway will be updated to the latest version
- ④ Internet access for the gateway is necessary
- ④ The update procedure can easily be done with the web admin interface, connect to the gateway WiFi first
- ④ The update steps are
 - ① Full Update
 - ② Basic Config
 - ③ Update Web Interface

Gateway update page

Gateway update section



Can download and install a file in the `lora_gateway` folder. A link to a file should be provided, e.g. a Dropbox link

Update the web admin interface after an update of the distribution to install the last version of the web admin interface.
It is recommended to run **Update web admin** right after **Full update** or **New installation**. Then reload the page.

Install a new gateway by removing the existing `lora_gateway` folder, all existing configuration files will be overwritten.
If you install a new gateway with our SD card image, you can use this option.

1
Update with latest version on github, all your configuration files will be kept. This is the recommended option.

2
Compile and configure the gateway (to set the gateway id & the WiFi access point SSID). This is also required if you install a new gateway using the provided SD card image. It is recommended to run **Basic config** right after **Full update** or **New installation**.


3

Software version number

Gateway Update

[New installation](#) [Full update](#) [Basic config](#) [Download and install a file](#) [Update web admin interface](#)

Run **Basic config** after any update and reboot for new version to be applied.

 Install latest version of gateway, **erasing** all existing configuration file.
Custom SSID will be preserved. May take minutes, wait for finish notification.

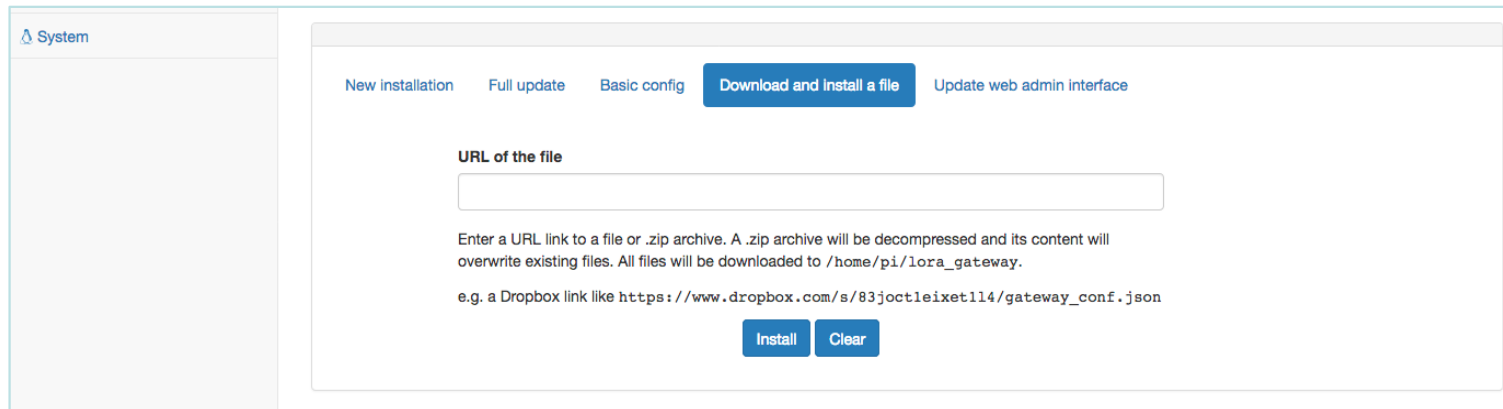
Git version: 476. Installed version: 476. Date of current distribution is 2020-01-07 15:50:37.937685972 +0100

- ⦿ The software version number on github and the installed version number are displayed
- ⦿ Click on [Test Internet](#) to obtain the latest software version number on github

Online. Got github version number. 2019-12-02T13:44:29 [\[online\]](#) [Test Internet](#) [pkt logger](#) [Reboot](#) [Shutdown](#) 

Download & install a file

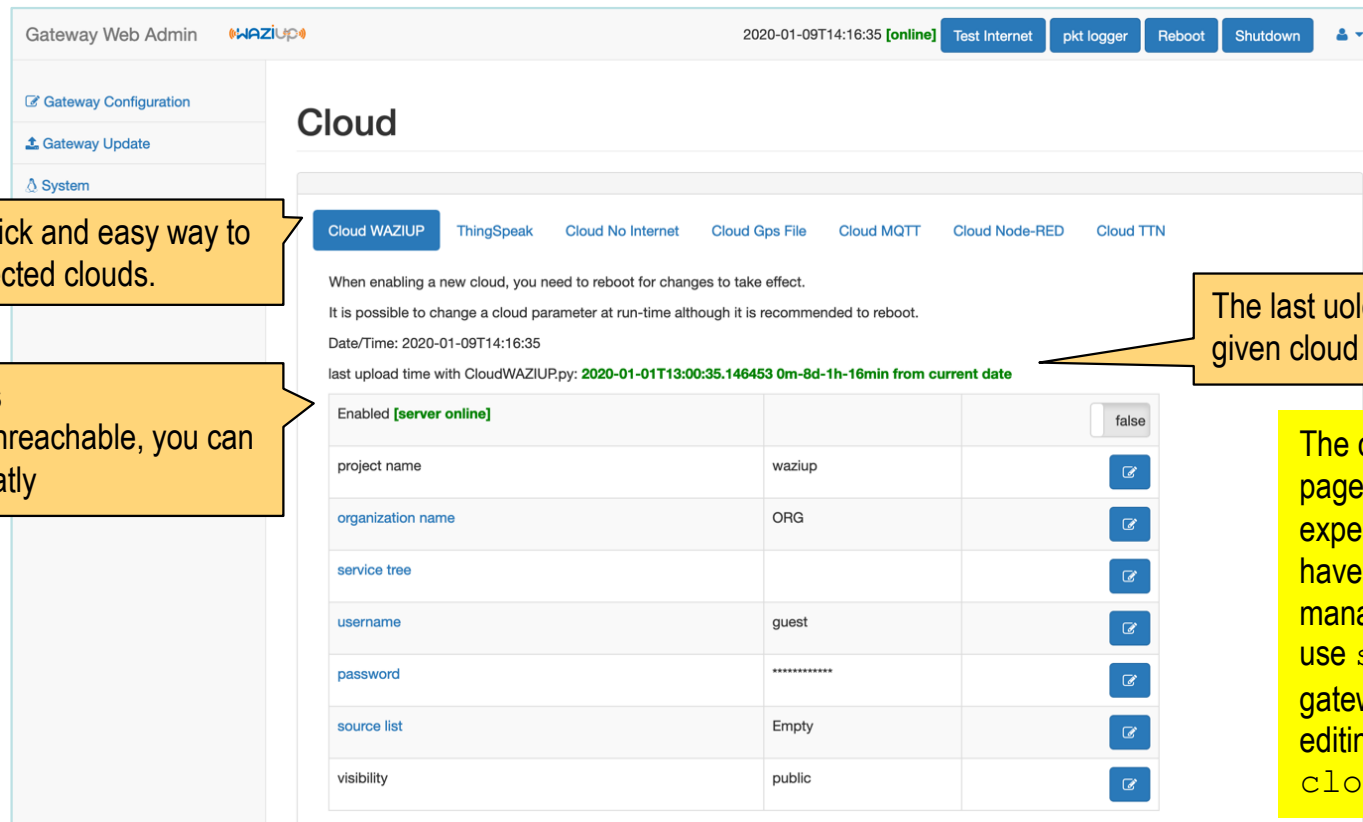
- ⦿ The **Download and install a file** option is a convenient way to install a configuration file
 - ⦿ For instance, a customized `radio.makefile` file can be edited by an experienced user, then put on Dropbox and the link provided to an end-user (mail, SMS,...)
 - ⦿ When providing a link to a `.zip` file, the archive content will be installed
 - ⦿ After installation, the end-user can use "Basic config" to recompile the gateway program and then reboot



The screenshot shows a web interface for system configuration. On the left is a sidebar with a 'System' menu. The main content area has a navigation bar with options: 'New installation', 'Full update', 'Basic config', 'Download and Install a file' (highlighted in blue), and 'Update web admin interface'. Below this is a form titled 'URL of the file' with an empty text input field. A note below the field states: 'Enter a URL link to a file or .zip archive. A .zip archive will be decompressed and its content will overwrite existing files. All files will be downloaded to /home/pi/lora_gateway. e.g. a Dropbox link like https://www.dropbox.com/s/83joc1eixet114/gateway_conf.json'. At the bottom of the form are two buttons: 'Install' and 'Clear'.

Gateway cloud pages

Gateway cloud configuration section



Gateway Web Admin 2020-01-09T14:16:35 [online] Test Internet pkt logger Reboot Shutdown

Cloud

Cloud WAZIUP ThingSpeak Cloud No Internet Cloud Gps File Cloud MQTT Cloud Node-RED Cloud TTN

When enabling a new cloud, you need to reboot for changes to take effect.
It is possible to change a cloud parameter at run-time although it is recommended to reboot.
Date/Time: 2020-01-09T14:16:35
last upload time with CloudWAZIUP.py: 2020-01-01T13:00:35.146453 0m-8d-1h-16min from current date

Enabled [server online]		<input type="checkbox"/> false
project name	waziup	<input type="text"/>
organization name	ORG	<input type="text"/>
service tree		<input type="text"/>
username	guest	<input type="text"/>
password	*****	<input type="text"/>
source list	Empty	<input type="text"/>
visibility	public	<input type="text"/>

Provides a quick and easy way to configure selected clouds.

If the server is unavailable/unreachable, you can see it immediately

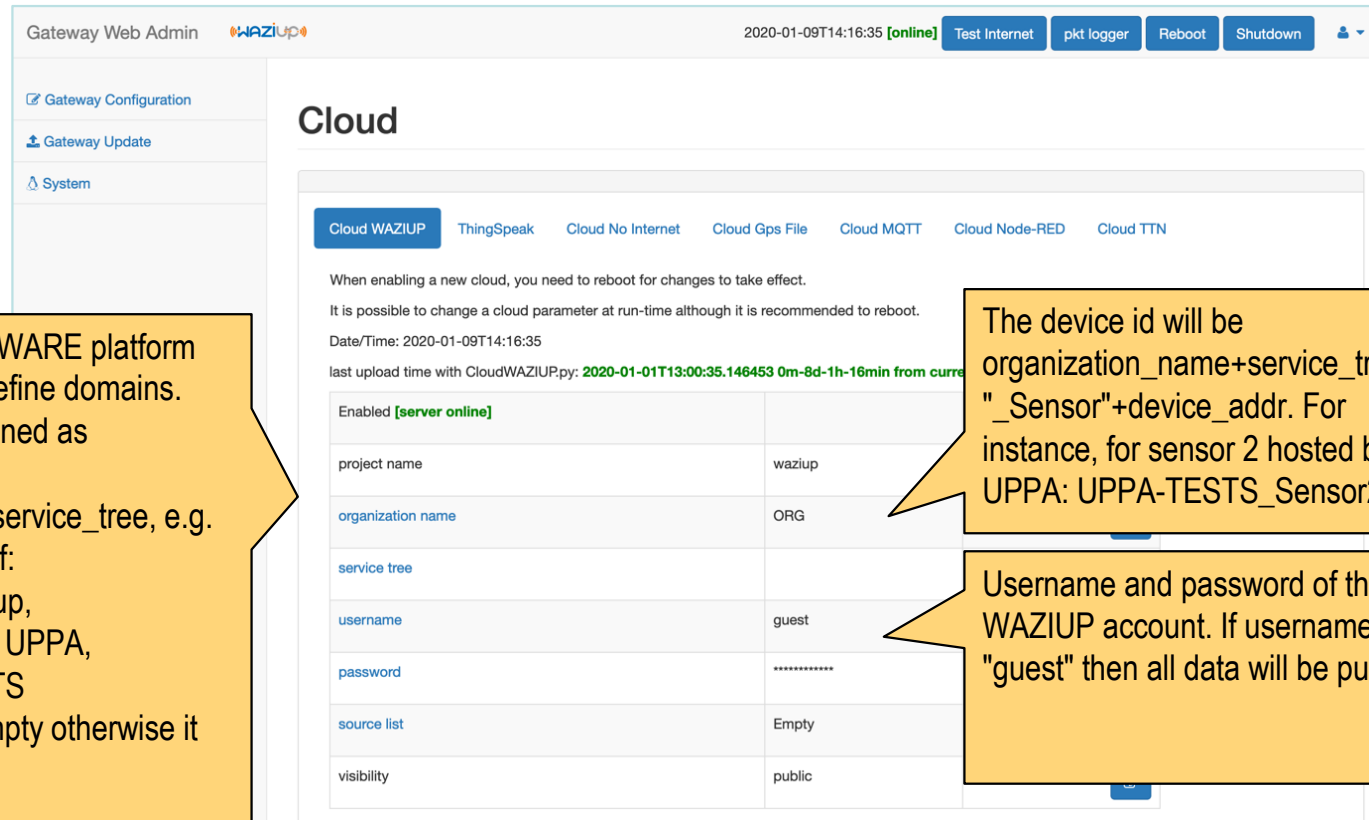
The last upload with a given cloud is indicated

The cloud configuration page is very basic. It is expected that if you want to have more advanced cloud management, you have to use `ssh` to connect to the gateway and configure it by editing the `clouds.json` file.

Gateway WAZIUP cloud

Configuring WAZIUP cloud

The WAZIUP cloud tab is only available when key_WAZIUP.py is found



Enabled	[server online]
project name	waziup
organization name	ORG
service tree	
username	guest
password	*****
source list	Empty
visibility	public

WAZIUP cloud uses FIWARE platform with the possibility to define domains. The domain will be defined as project_name+'-'+organization_name+service_tree, e.g. waziup-UPPA-TESTS if:

- project_name is waziup,
- organization_name is UPPA,
- service_tree is -TESTS

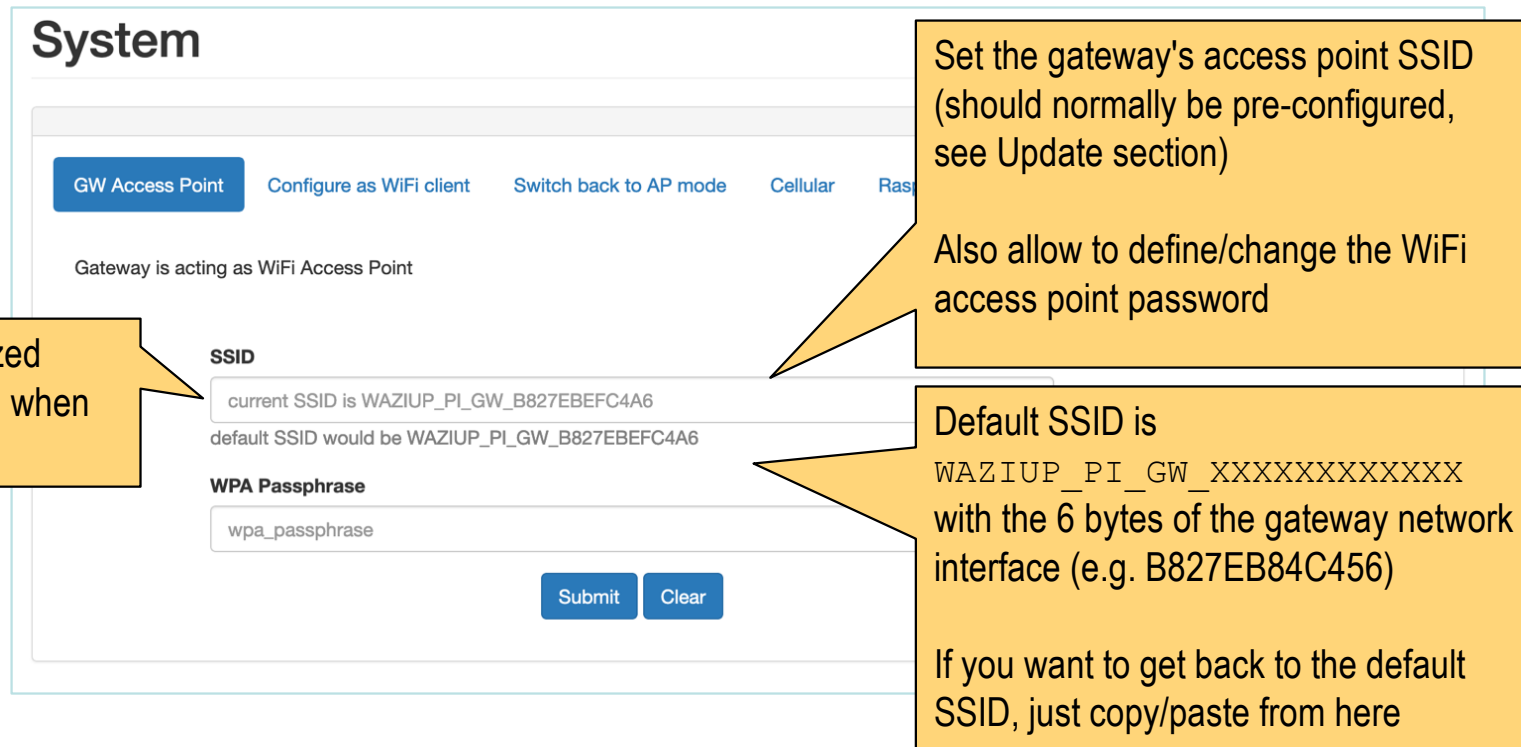
service_tree can be empty otherwise it must begin with a '-'.

The device id will be organization_name+service_tree+"_Sensor"+device_addr. For instance, for sensor 2 hosted by UPPA: UPPA-TESTS_Sensor2.

Username and password of the WAZIUP account. If username is "guest" then all data will be public

Gateway system configuration (1)

Gateway WiFi access point



System

GW Access Point | Configure as WiFi client | Switch back to AP mode | Cellular | Ras

Gateway is acting as WiFi Access Point

SSID

current SSID is WAZIUP_PI_GW_B827EBEFC4A6
default SSID would be WAZIUP_PI_GW_B827EBEFC4A6

WPA Passphrase

wpa_passphrase

Submit Clear

Set the gateway's access point SSID (should normally be pre-configured, see Update section)

Also allow to define/change the WiFi access point password

Default SSID is WAZIUP_PI_GW_XXXXXXXXXXXX with the 6 bytes of the gateway network interface (e.g. B827EB84C456)

If you want to get back to the default SSID, just copy/paste from here

If you indicate a customized SSID, it will be preserved when the gateway is updated.

Gateway system configuration (2)

Configure as WiFi client

System

GW Access Point **Configure as WiFi client** Switch back to settings

Gateway is acting as WiFi Access Point

SSID

Warning: if a valid WiFi network is not configured you will not be able to connect through the gateway's access point anymore. If that happens, use wired Ethernet to switch back to access point mode. You MUST reboot after submitting the command.

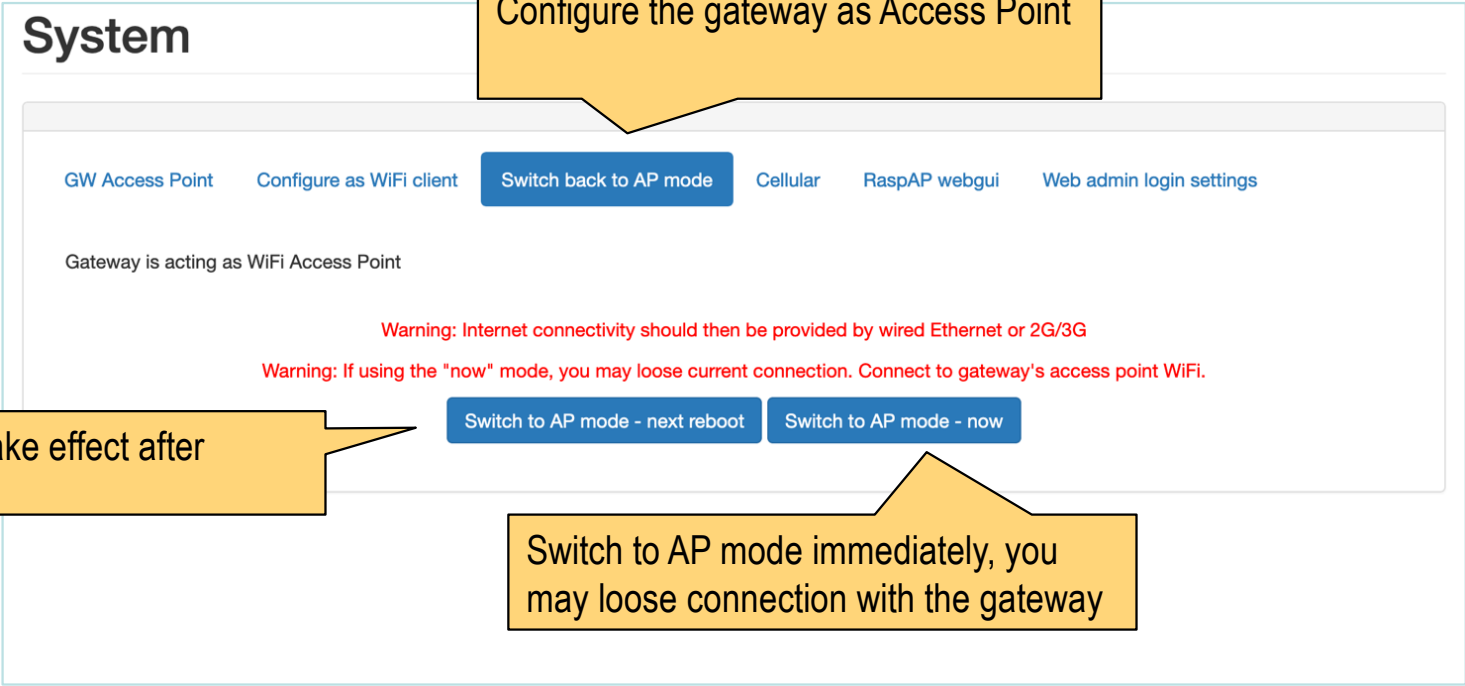
WPA Passphrase

Configure the gateway as WiFi client to connect to an existing WiFi network. Changes will take effect after reboot.

Warning: if a valid WiFi network is not configured you will not be able to connect through the gateway's access point anymore. If that happens, use wired Ethernet to switch back to access point mode.

Gateway system configuration (3)

Configure as WiFi Access Point



The screenshot shows a web interface titled "System" with a navigation menu: "GW Access Point", "Configure as WiFi client", "Switch back to AP mode", "Cellular", "RaspAP webgui", and "Web admin login settings". The main content area displays "Gateway is acting as WiFi Access Point" and two red warning messages: "Warning: Internet connectivity should then be provided by wired Ethernet or 2G/3G" and "Warning: If using the 'now' mode, you may lose current connection. Connect to gateway's access point WiFi." At the bottom, there are two buttons: "Switch to AP mode - next reboot" and "Switch to AP mode - now".

Configure the gateway as Access Point

System

GW Access Point Configure as WiFi client Switch back to AP mode Cellular RaspAP webgui Web admin login settings

Gateway is acting as WiFi Access Point

Warning: Internet connectivity should then be provided by wired Ethernet or 2G/3G

Warning: If using the "now" mode, you may lose current connection. Connect to gateway's access point WiFi.

Switch to AP mode - next reboot Switch to AP mode - now

Changes will take effect after reboot

Switch to AP mode immediately, you may lose connection with the gateway

Gateway system configuration (4)

Configure cellular for Internet access

System

Configure cellular settings

GW Access Point Configure as WiFi client Switch back to AP mode **Cellular** RaspAP webgui Web admin login settings

Gateway is acting as WiFi Access Point

Dongle on boot	<input type="checkbox"/>	false
Loranga on boot	<input type="checkbox"/>	false
Loranga 3G/2G	<input checked="" type="radio"/>	2G

Cellular is through a USB dongle

Cellular is through the Loranga board LoRa+cellular

Select 2G or 3G version



Run the RaspAP module

Run the RaspAP web module from <https://github.com/billz/raspap-webgui>
Default login is `admin` and default password is `secret`

The screenshot shows the RaspAP web interface in a browser. The main content area displays the following information:

- Interface Information:**

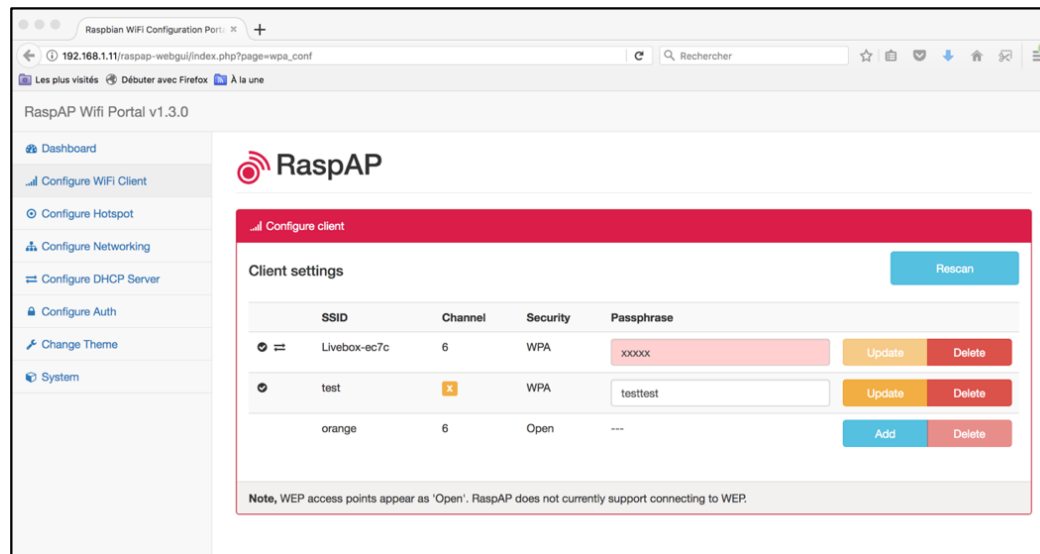
Interface Name	wlan0
IP Address	192.168.1.11
Subnet Mask	255.255.255.0
Mac Address	b827:ebd1:91:03
- Wireless Information:**

Connected To	Not connected
AP Mac Address	00:19:70:6F:04:10
Bitrate	39 Mb/s
Signal Level	-61 dBm
Transmit Power	31 dBm
Frequency	2.437 GHz
Link Quality	49%

Buttons for "Stop wlan0" and "Refresh" are visible at the bottom of the interface. A notification banner at the top indicates "Interface is up".

Gateway system configuration (6)

- ⦿ RaspAP can configure some networking functions. It can be useful for dynamically select WiFi networks



- ⦿ However, it is recommended to use our web admin interface to control WiFi client <-> Access Mode feature

Gateway system configuration (7)

- Configure auth for web admin interface

System

GW Access Point Configure as WiFi client Switch back to AP mode Cellular RaspAP webgui **Web admin login settings**

Gateway is acting as WiFi Access Point

Current Username

New Username

Current Password

New Password

Change both the login and password to access the web admin interface. Default login is `admin` and default password is `loragateway`