Low-cost LoRa gateway: web admin interface

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Contents

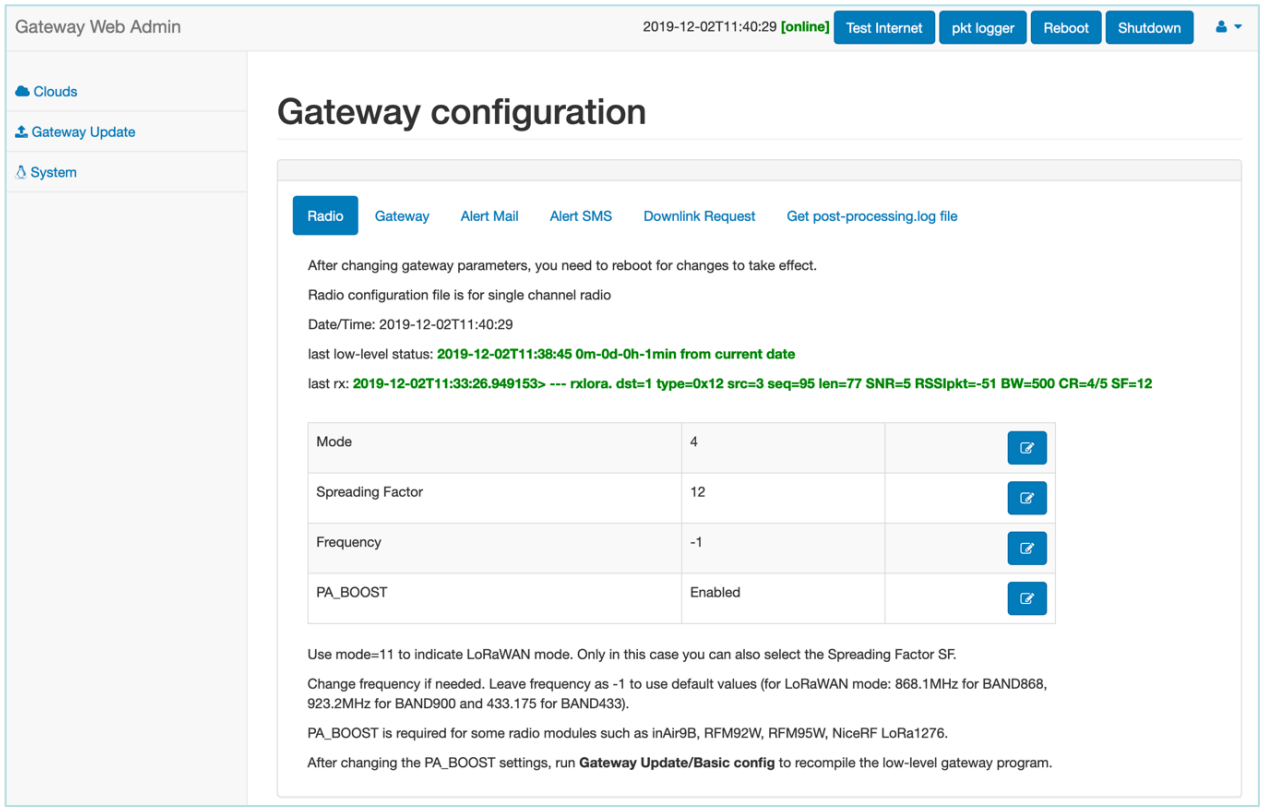
- This tutorial presents the web admin interface which is an add-on to the low-cost gateway
- Please read first the Low-cost LoRa gateway: a step-by-step tutorial to understand the gateway configuration and architecture
- Note that the SD card image has everything needed, including the web admin interface installed, so you may skip the installation procedure if you flashed the SD card image
- Let's get started…

Gateway web admin interface (1)

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

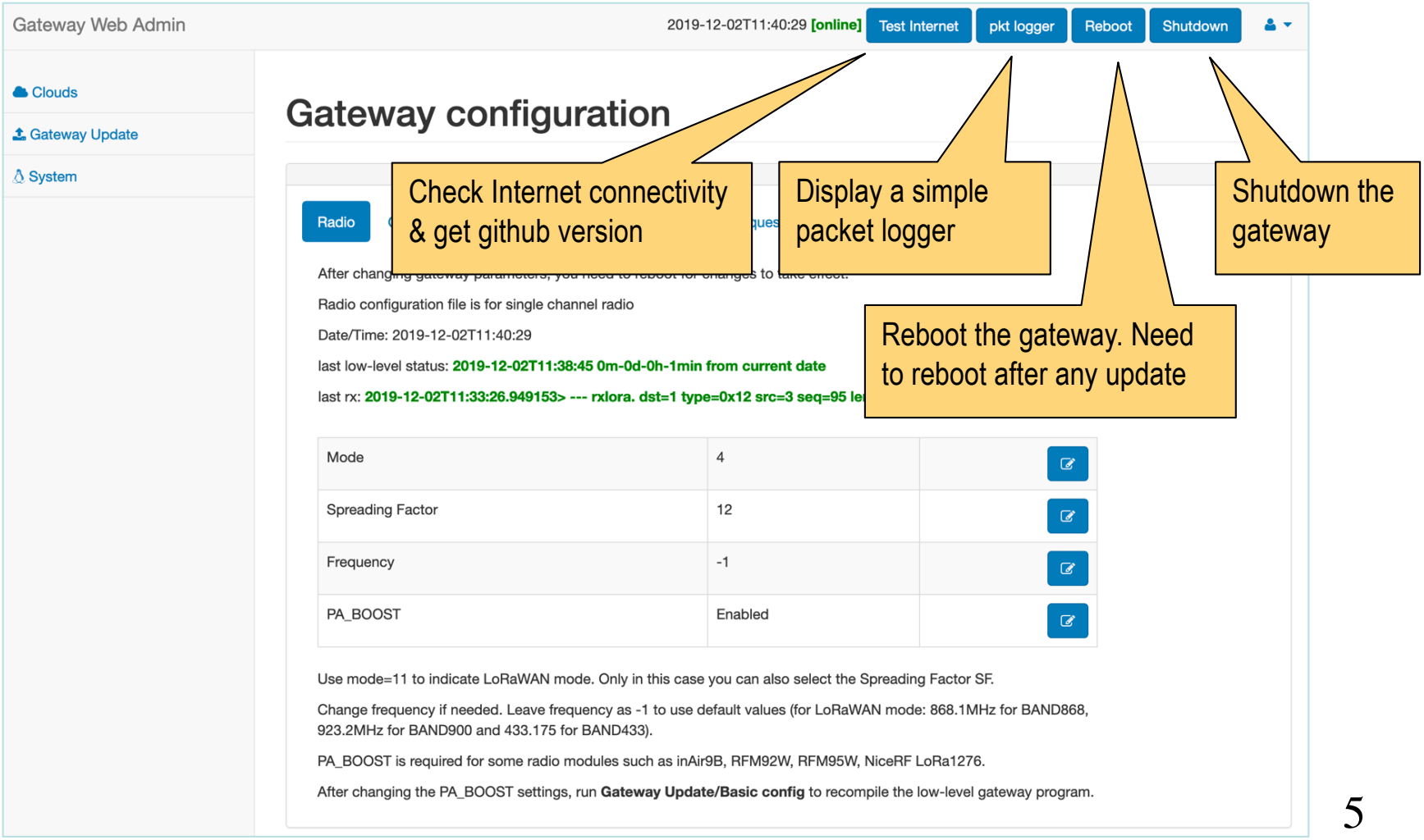
Gateway web admin interface (2)

- http://192.168.200.1/admin (with WiFi access)
  - Login: admin
  - Password: loragateway



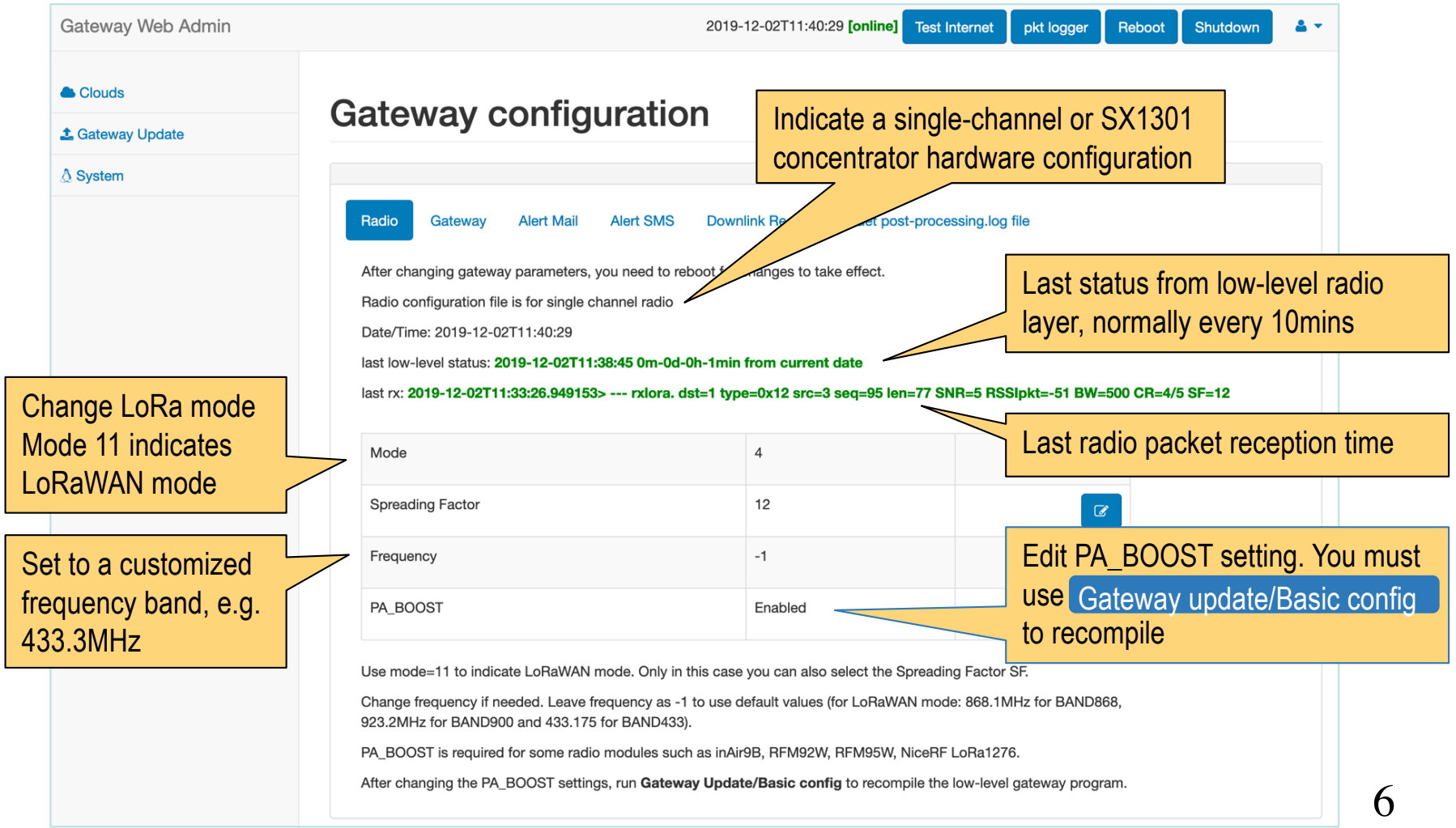
GATEWAY MAIN PAGE

- Gateway main page (configuration page)



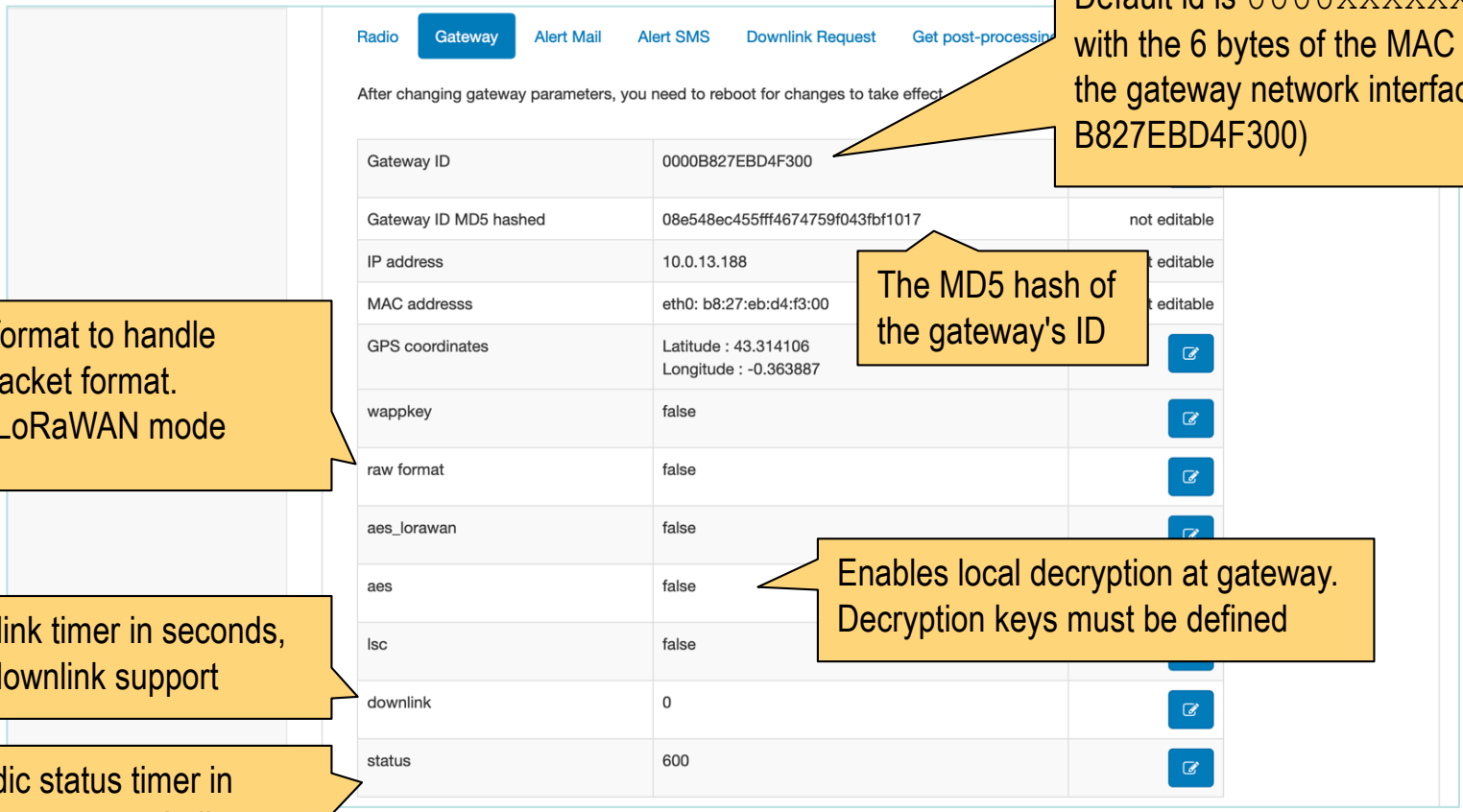
Main Gateway Configuration (1)

- radio configuration section



Main Gateway Configuration (2)

- Gateway configuration section



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

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

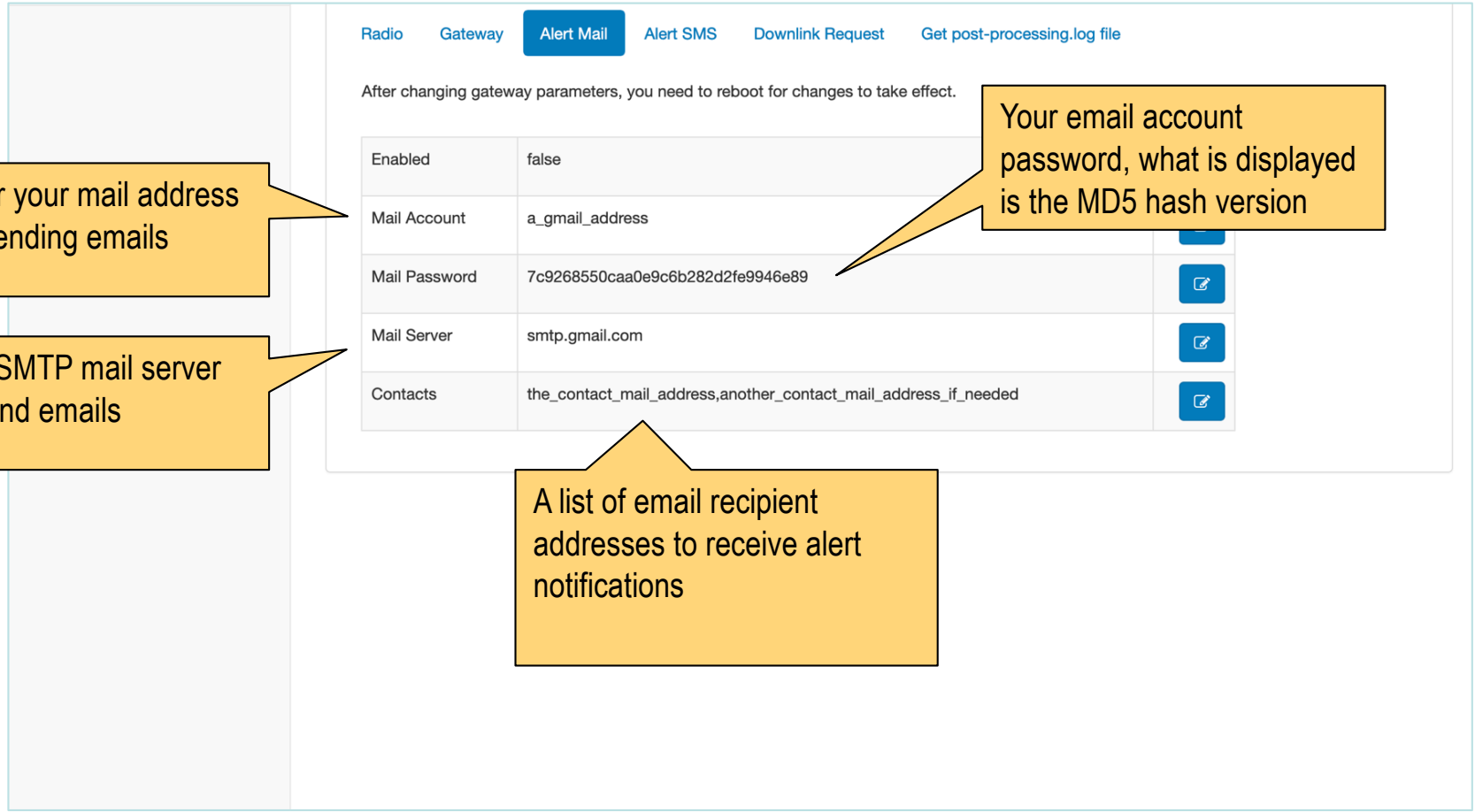
Enables local decryption at gateway. Decryption keys must be defined

Set the downlink timer in seconds, 0 means no downlink support

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

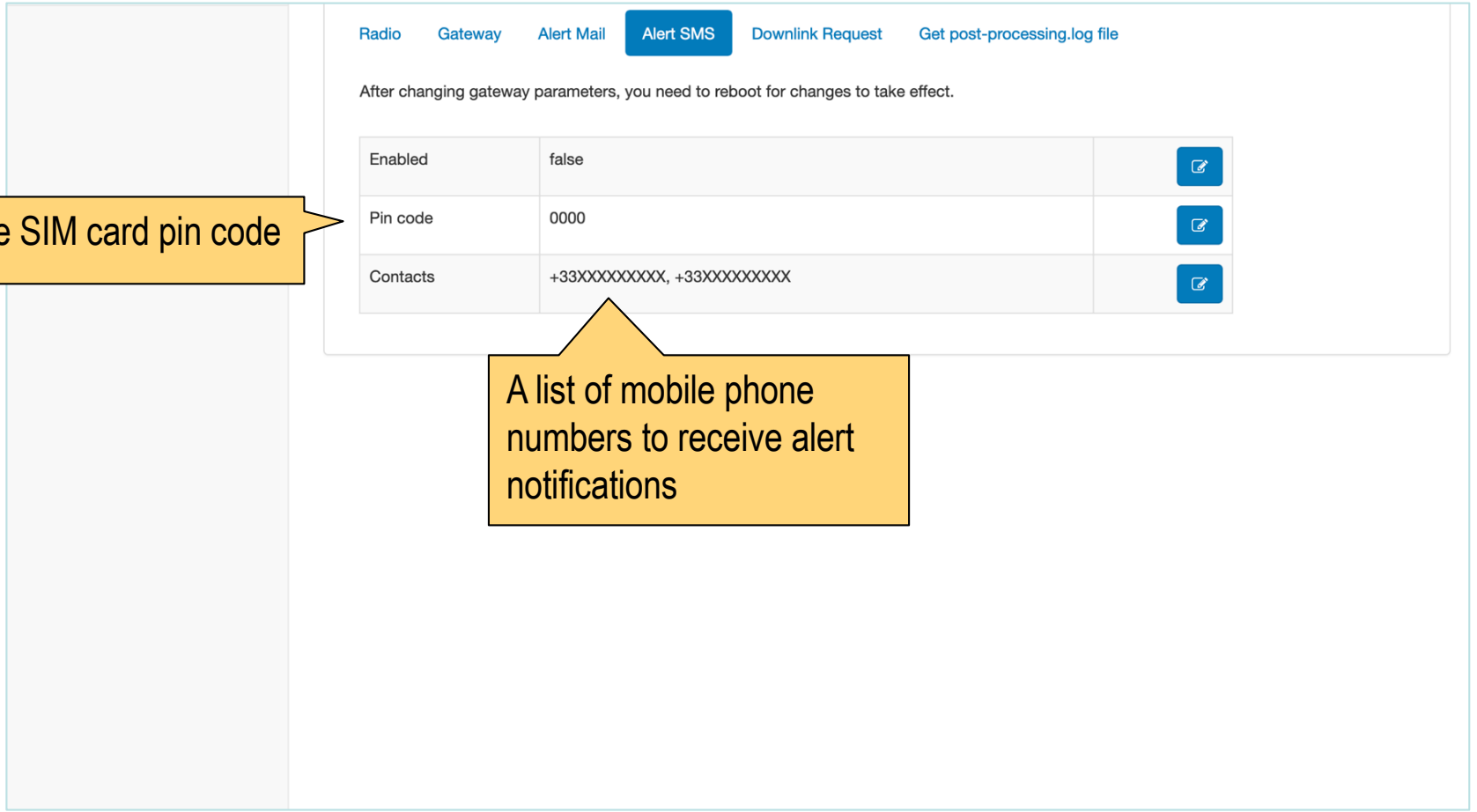
Main Gateway Configuration (3)

- Gateway email alerting section



Main Gateway Configuration (4)

- Gateway SMS alerting section (needs 2G/3G)

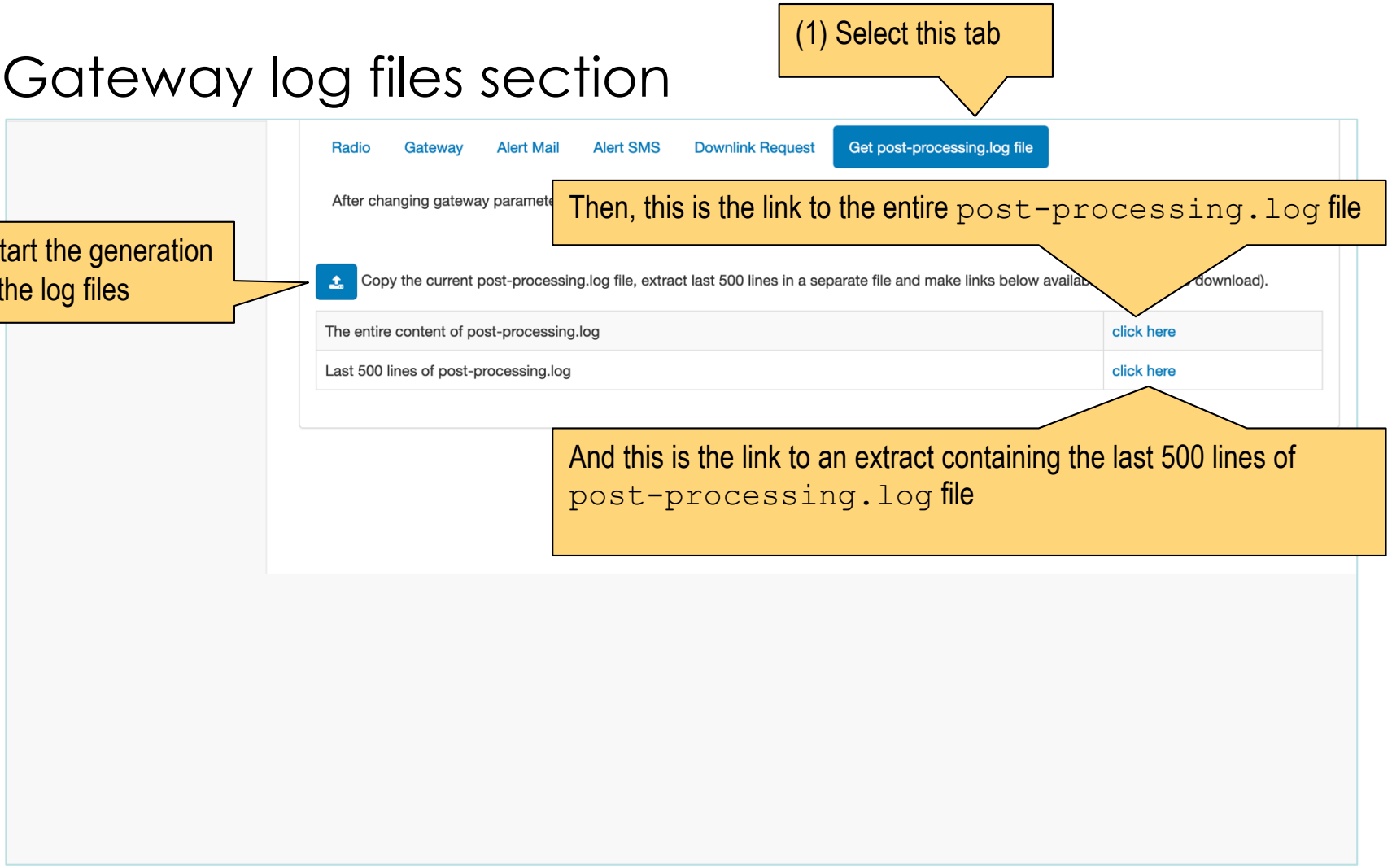


Main Gateway Configuration (5)

- Gateway generating downlink messages

Main Gateway Configuration (6)

- Gateway log files section

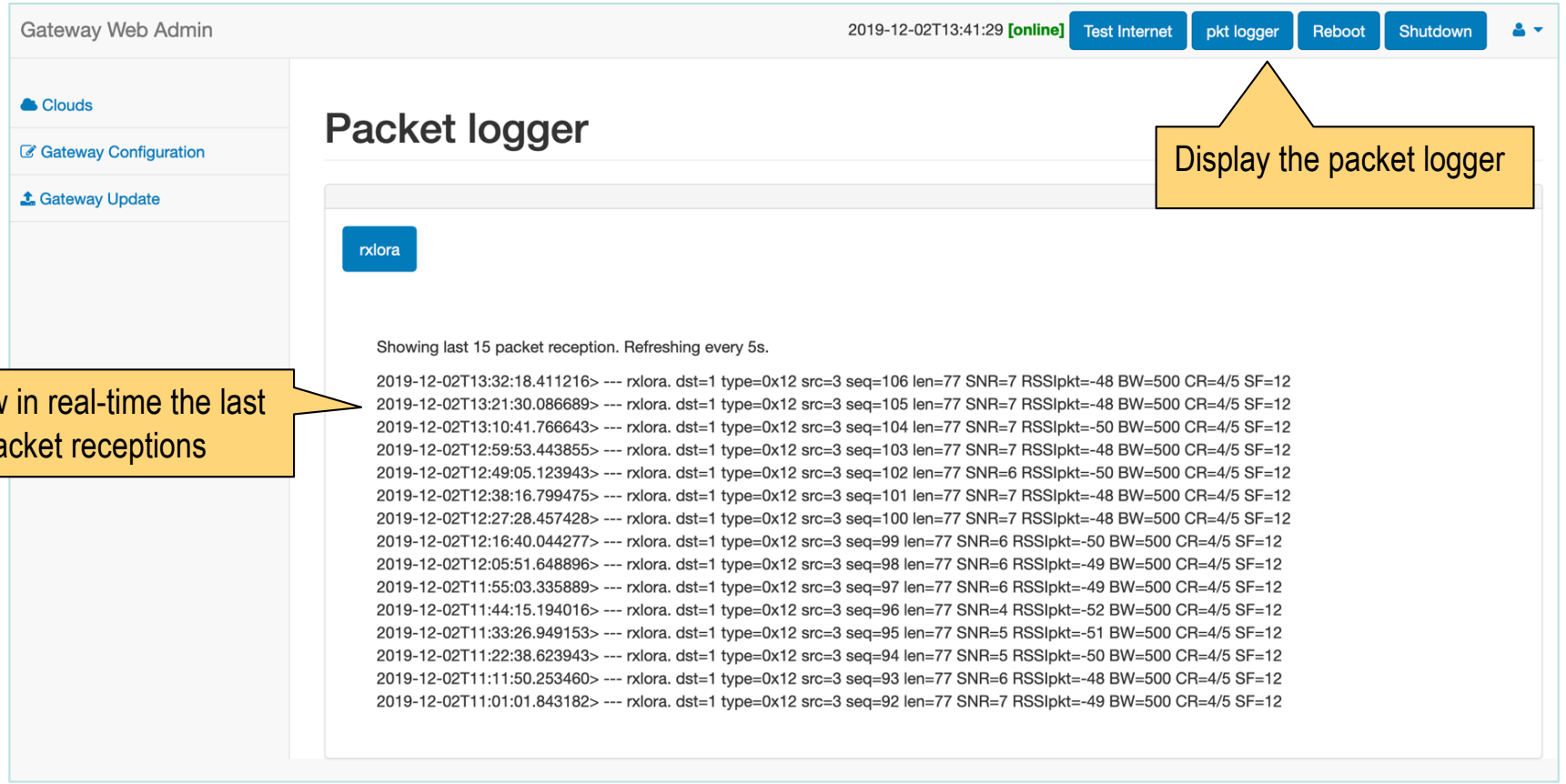


Get gateway log files

- The Get post-processing.log file option is a convenient way for an end-user to obtain the log file that can be sent (mail) 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

SIMPLE PACKET LOGGER

- Real-time packet logger

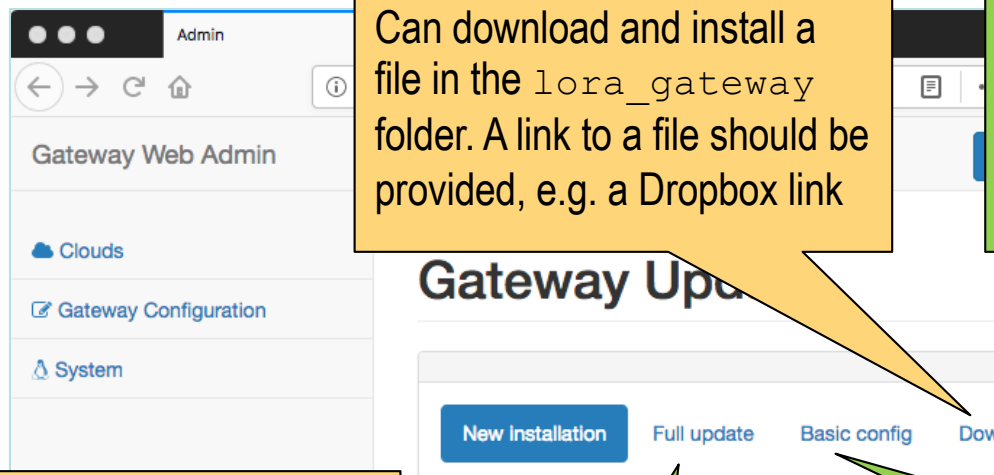


Gateway update

- Your gateway will be updated to the latest version
- Internet access for the gateway is necessary
- The update procedure can easily be done with the web admin interface, connect to the gateway WiFi first
- 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.

3

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.

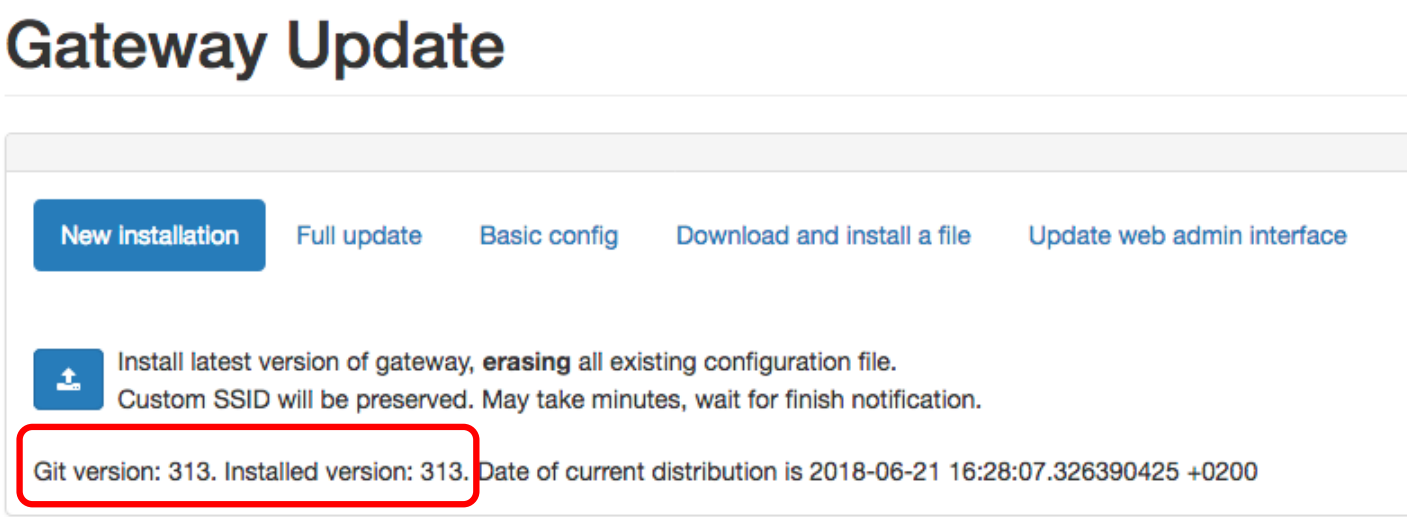
1

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

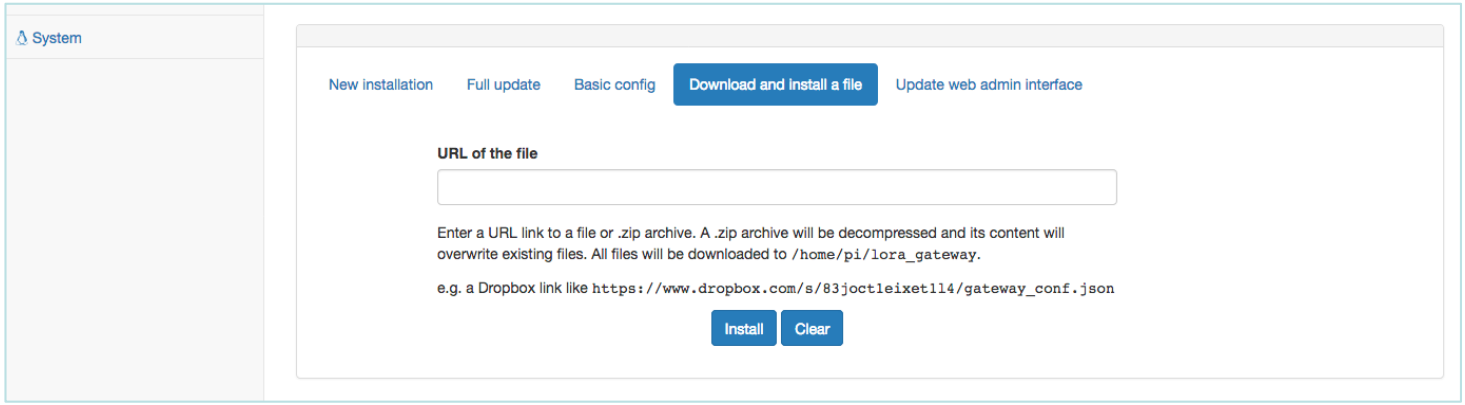
Software version number



- 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

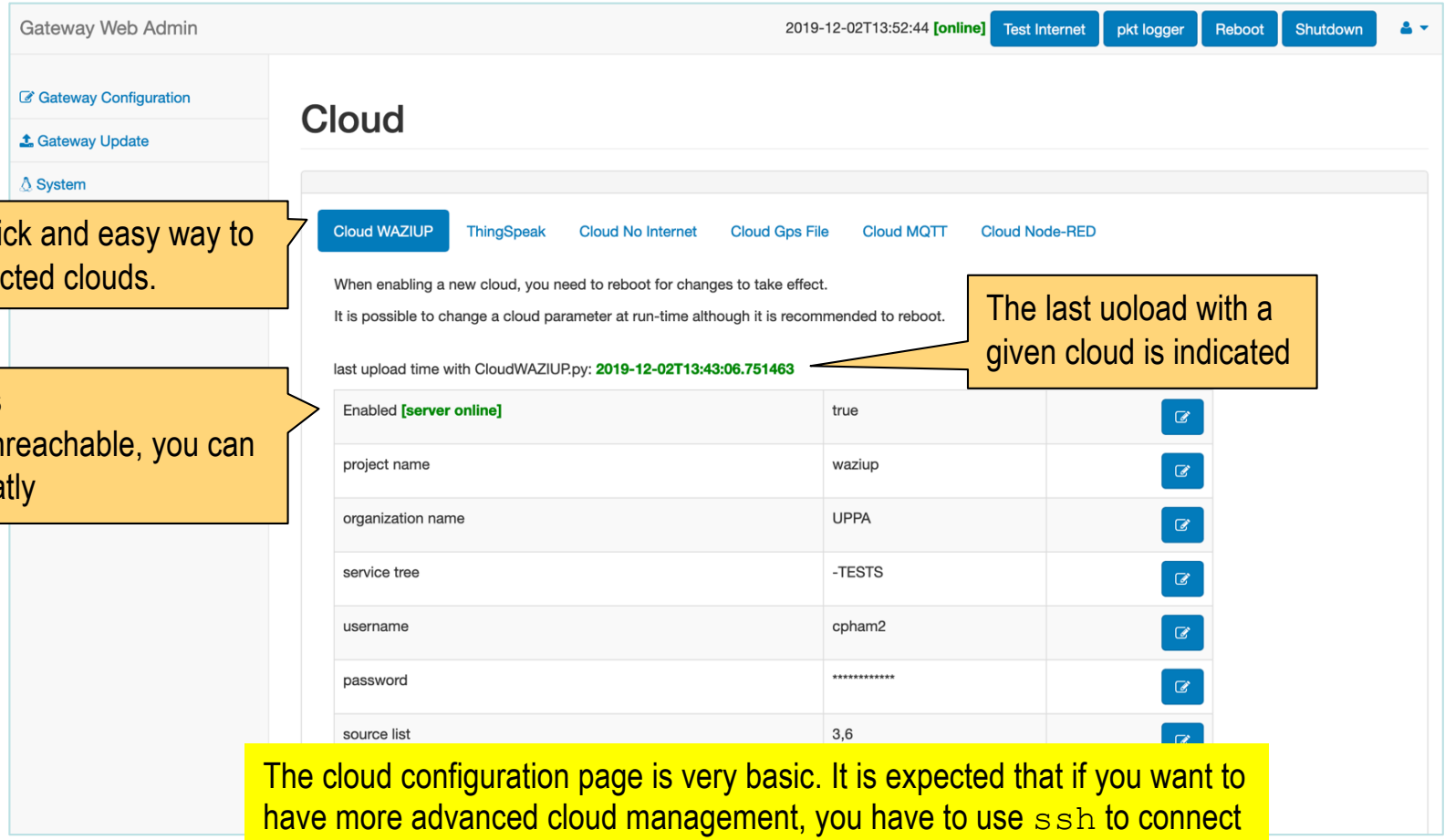
DOWNLOAD & INSTALL A FILE

- 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,…)
  - After installation, the end-user can use "Basic config" to recompile the gateway program and then reboot



GATEWAY CLOUD PAGES

- Gateway cloud configuration section



Provides a quick and easy way to configure selected clouds.

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

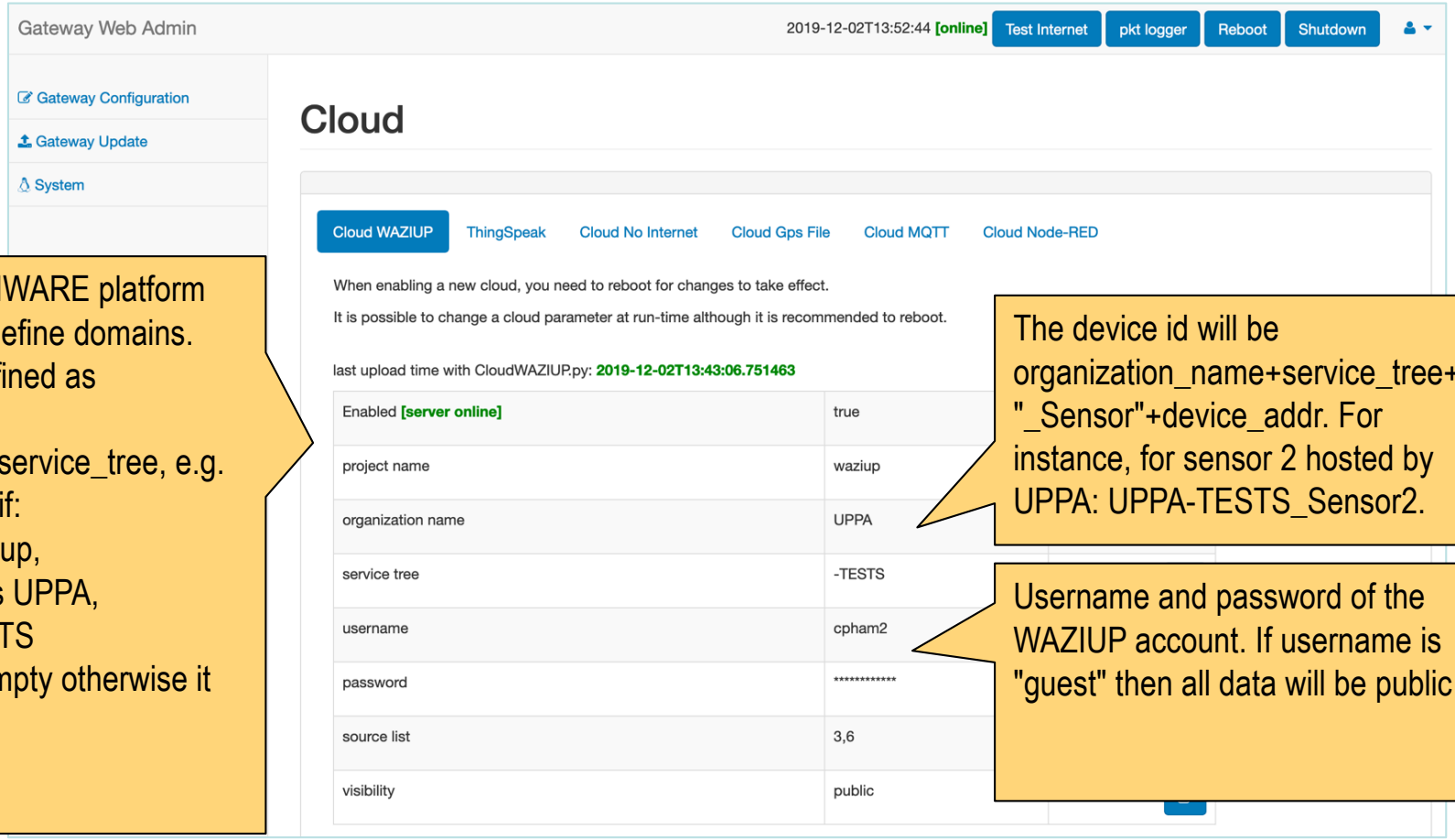
The last uoload with a given cloud is indicated

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

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

Configuring WAZIUP cloud



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

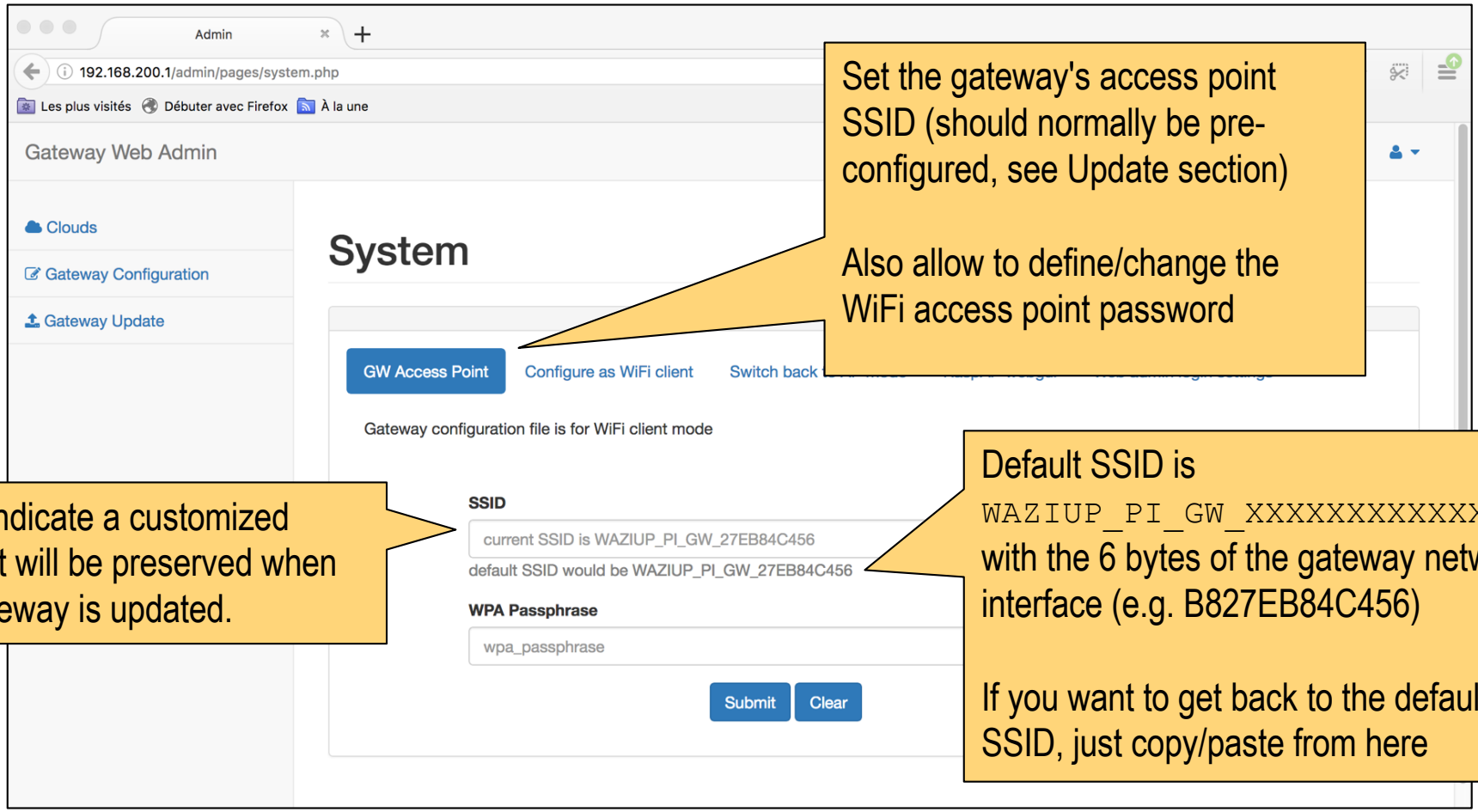
service_tree can be empty otherwise it must begin with a '-'.

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

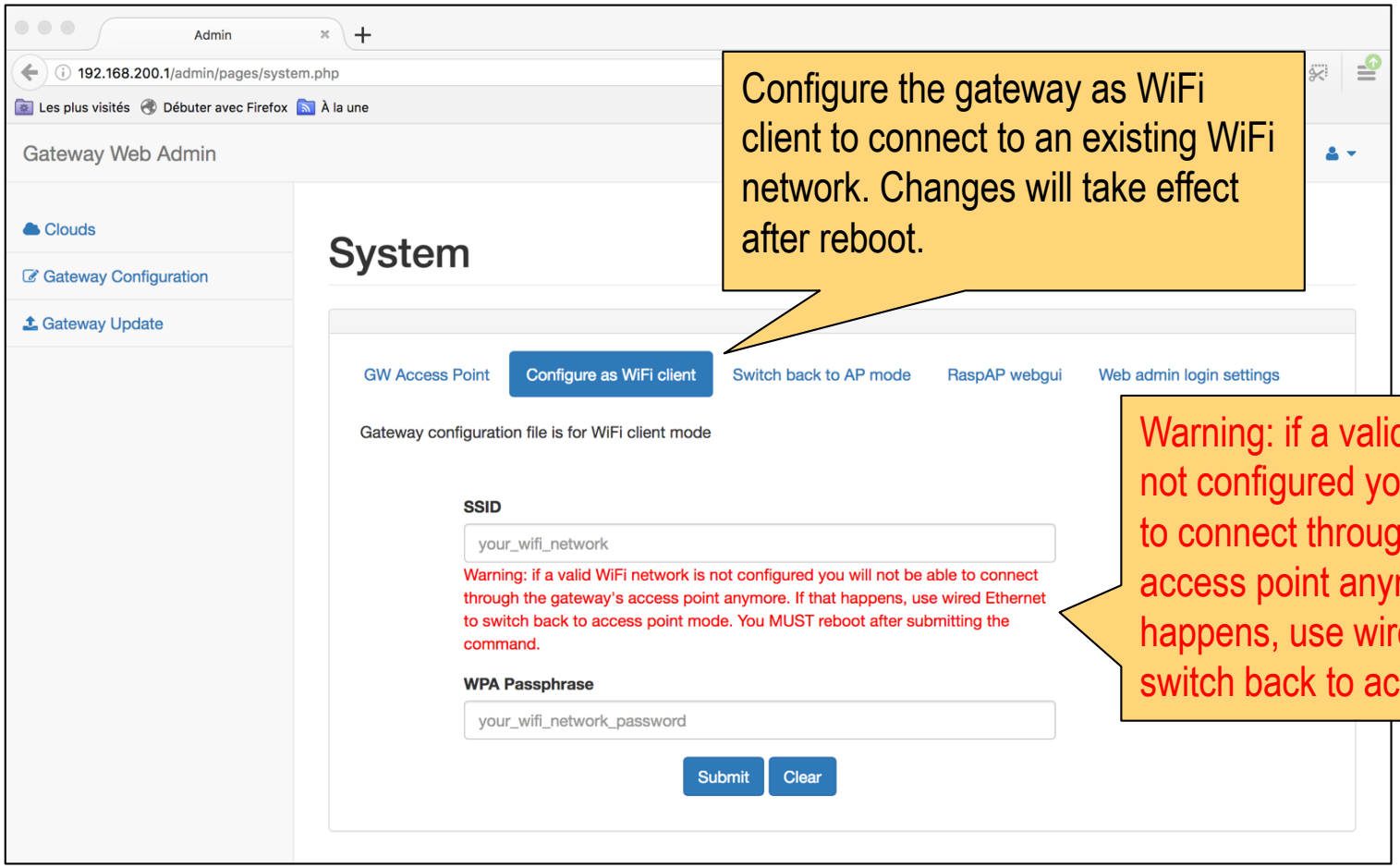
Gateway system configuration (1)

- Gateway WiFi access point



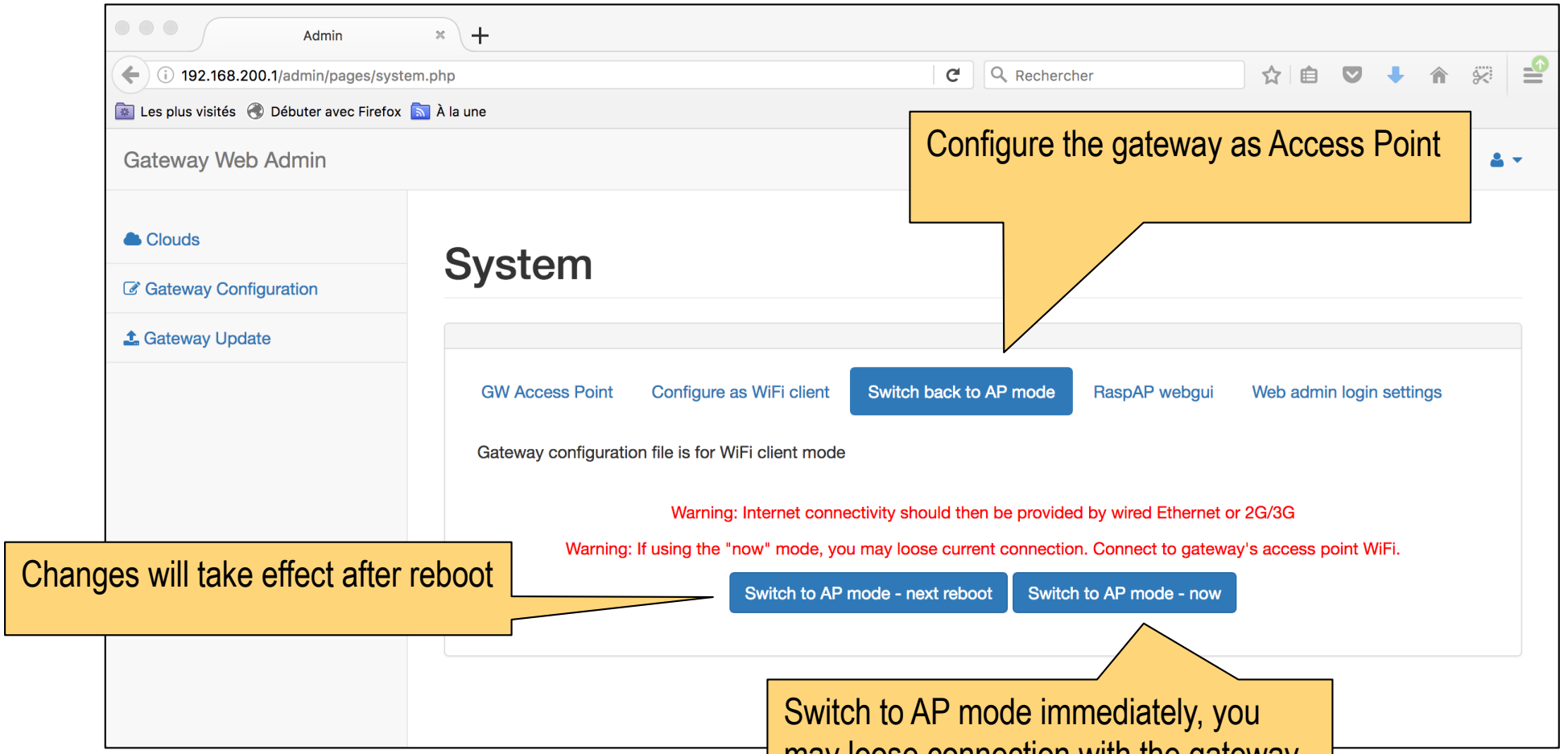
Gateway system configuration (2)

- Configure as WiFi client



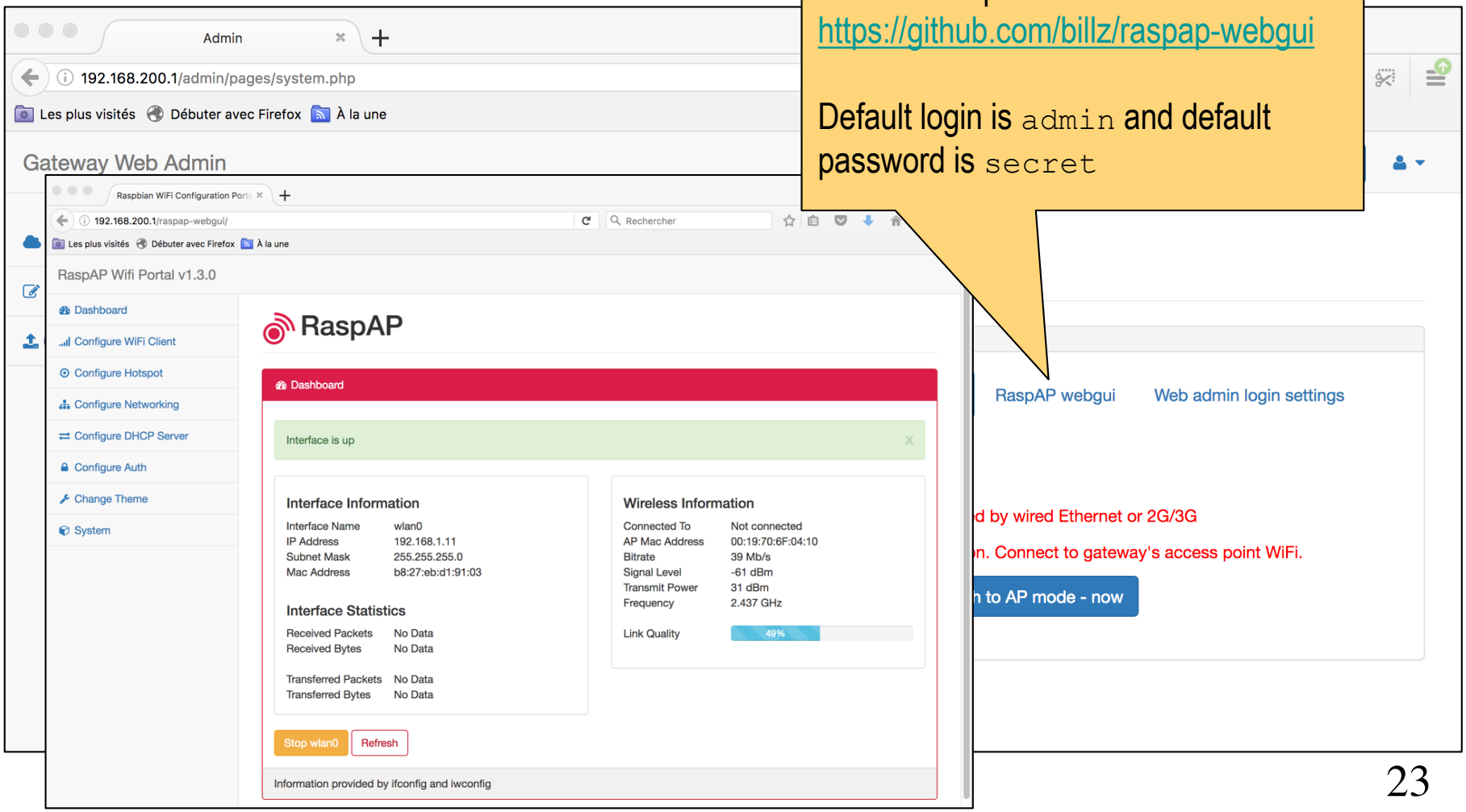
Gateway system configuration (3)

- Configure as WiFi Access Point



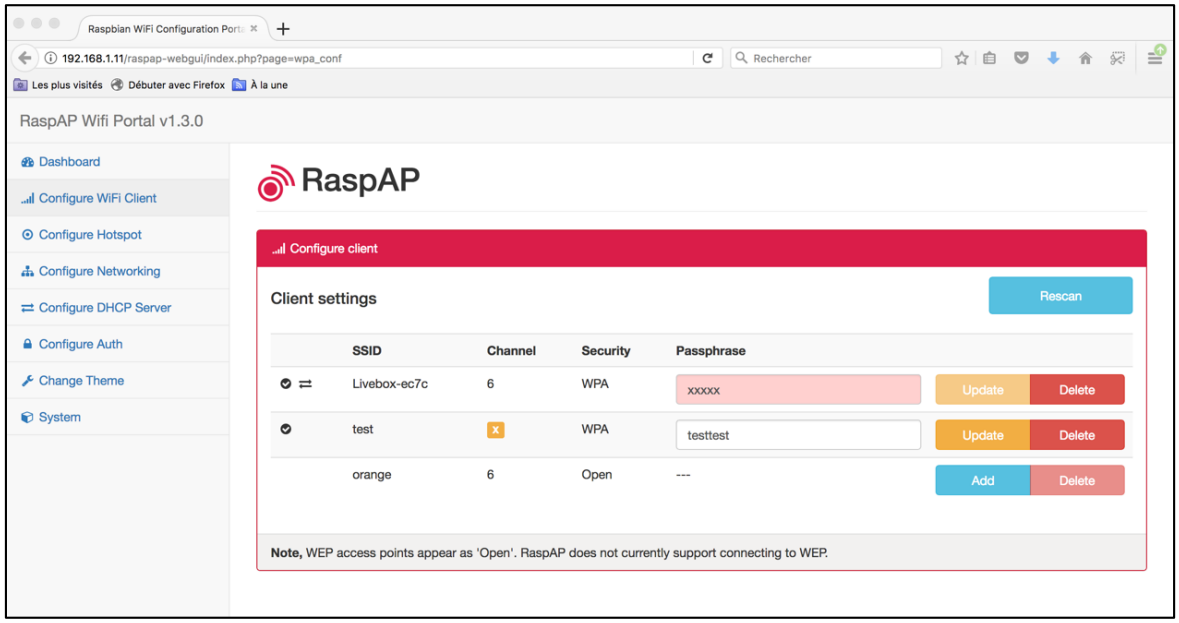
Gateway system configuration (4)

- Run the RaspAP module



Gateway system configuration (5)

- 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 (6)

- Configure auth for web admin interface