SenArch

Gateway configuration
manual v.1.0

SenArch Off-Grid
LoRaWAN Gateway

Configuration of the SenArch gateway is done using a user friendly menu system. Use SSH to access the menu system.

Connect using SSH

Network

SenArch gateways are shipped with the following wifi configured:

SSID	senarch
Passphrase	senarch123

It is suggested to create a hotspot on a smartphone with the same credentials before powering up the gateway.

When gateway has finished booting, its network address will be visible in the phone's hotspot status.
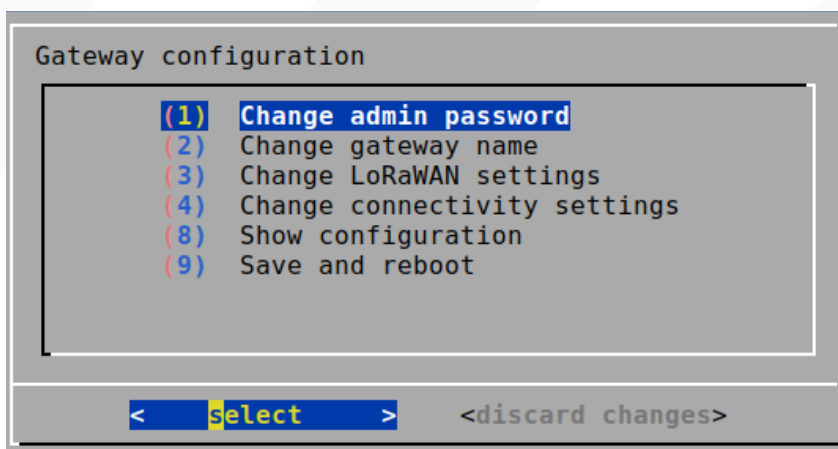
SSH

Next is to connect a laptop to the same wifi, and then use a SSH client to connect to the gateway. Linux and Mac users have SSH built in, Windows users can use putty, wsl or others.

When connecting, use the following login credentials:

User name	admin
Password	admin

Menu system

The menu system will look like the following. Use arrow keys or numbers to navigate to the desired item and then select it by pressing enter.
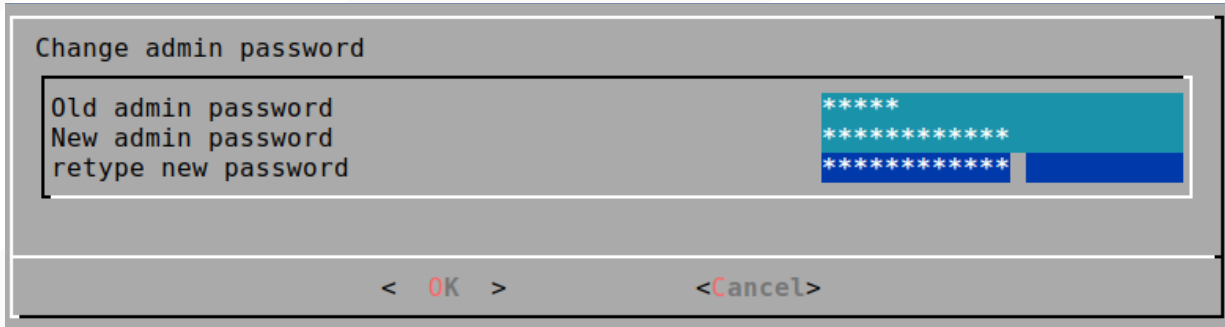
```
Gateway configuration

    (1)  Change admin password
    (2)  Change gateway name
    (3)  Change LoRaWAN settings
    (4)  Change connectivity settings
    (8)  Show configuration
    (9)  Save and reboot




    <    Select    >    <discard changes>
```

How to operate the menu system

All pages operate in a similar way. They present a number of options and two actions at the bottom. The left action moves you forward, the right action returns you to the previous menu and discards any changes made.

SENARCH

SenArch Off-Grid LoRAWAN Gateway
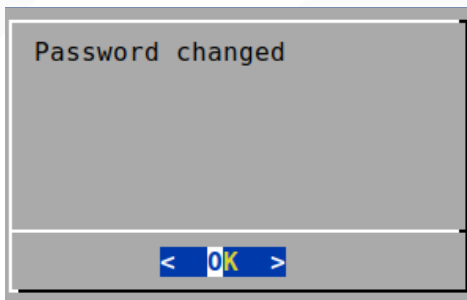
1 Change admin password

Select the first menu item to change the admin password.

Be aware that for security reasons everything typed here will be shown as asterisks.

```
Change admin password

Old admin password                                    *****
New admin password                                    ************
retype new password                                   ************


               <  OK  >                    <Cancel>
```

Finish by selecting OK and the gateway will respond with the following:
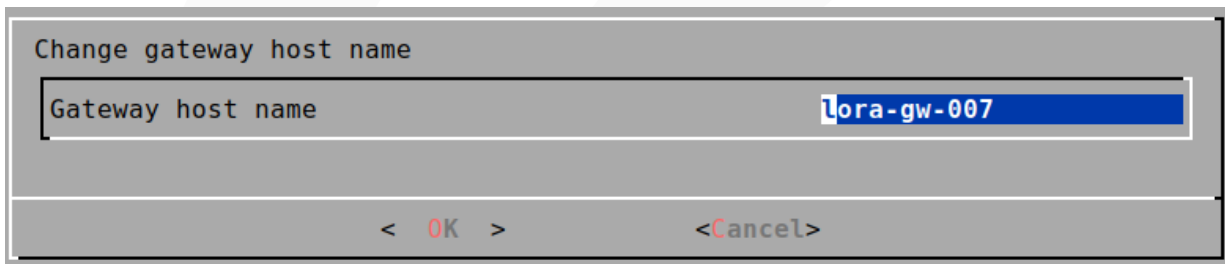
```
Password changed




        <  OK  >
```

2 Change gateway name

Sometimes it can be practical to change a gateway's name. This can be done in the second menu item.

Edit the field to change the gateway name.

```
Change gateway host name

Gateway host name                                     lora-gw-007


               <  OK  >                    <Cancel>
```

Select OK to save the name and return to main menu.

SENARCH

3 Change LoRaWAN settings

In the third menu various LoRaWAN parameters can be changed.

```
LoRaWAN network server

LoRaWAN network server name or IP  eu1.cloud.thethings.network
LoRaWAN network server port up      1700
LoRaWAN network server port down    1700
Statistics interval                 300
Keep alive interval                 300
Latitude                            56.105169
Longitude                           9.68505
Altitude (in meters)                147.0
Region (EU868 | US915 | CN490)      EU868
Gateway EUI                         0016c001f1040c45


            <  OK  >              <Cancel>
```

The three **LoRaWAN network server** parameters define the address and port of the network server. This is where the Semtech packet forwarder connects.

Statistics and Keep alive intervals defines how often the gateway communicates with the network server if no traffic is present. Times are in seconds, and the default value of 300 equals to 5 minutes which often is a good value.

Next are the 3 fields, **Latitude, Longitude and Altitude**. They specify the location of the gateway. The example given is the highest point of Denmark.

The **Region** field is used to define which set of regional settings to use on the gateway.
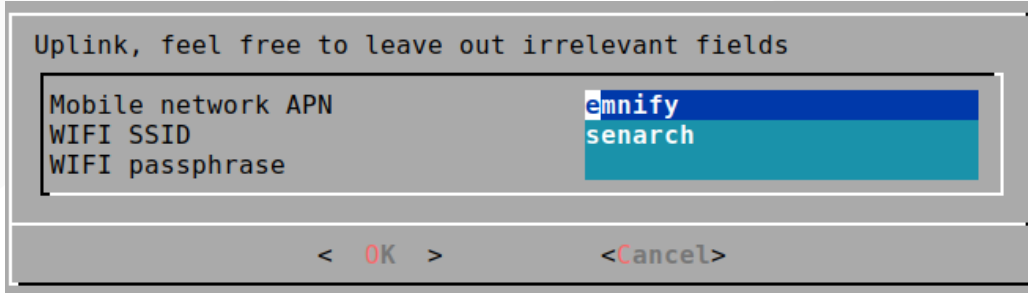
Select:

EU868	Europe
US915	America
CN490	China

Lastly the **gateways EUI** can be changed. The default value is the EUI defined in the hardware. In most use cases this is set correctly.

SENARCH

4 Change connectivity settings

Items in this menu define how the gateway will connect to its backhaul network.

```
Uplink, feel free to leave out irrelevant fields

 Mobile network APN          emnify
 WIFI SSID                   senarch
 WIFI passphrase


      <  OK  >              <Cancel>
```

First item is the **APN** which must reflect the one used by the cellular operator. SenArch gateways usualy ship with Emnify SIM cards, and the APN used by Emnify is called "emnify".

The latter two options are for changing the WIFI configuration. As with the passwords earlier on, be aware that for security reasons the passphrase shows as asterisks.

8 Show configuration

Use this to preview what have been configured so far. At this point things are not yet saved to persistent memory.

```
Basics:
    Gateway serial: gs007
    Gateway Name: lora-gw-007

LoRaWAN configuration
    Gateway EUI: 0016c001f1040c45
    LoRaWAN network server (LNS): eu1.cloud.thethings.network
    Uplink port: 1700
    Downlink port: 1700
    Latitude: 56.105169
    Longitude: 9.68505
    Altitude: 147.0
    Region: EU868
    Statistics interval: 300
    Keepalive interval: 300

Connectivity
    LTE APN: emnify
    WIFI SSID: senarch

Press Enter to continue...
```

9 Save and reboot

The last menu item saves the changes made and restarts the gateway to have the changes take effect.

Expect gateway to be operational again withing 5 minutes.

SENARCH