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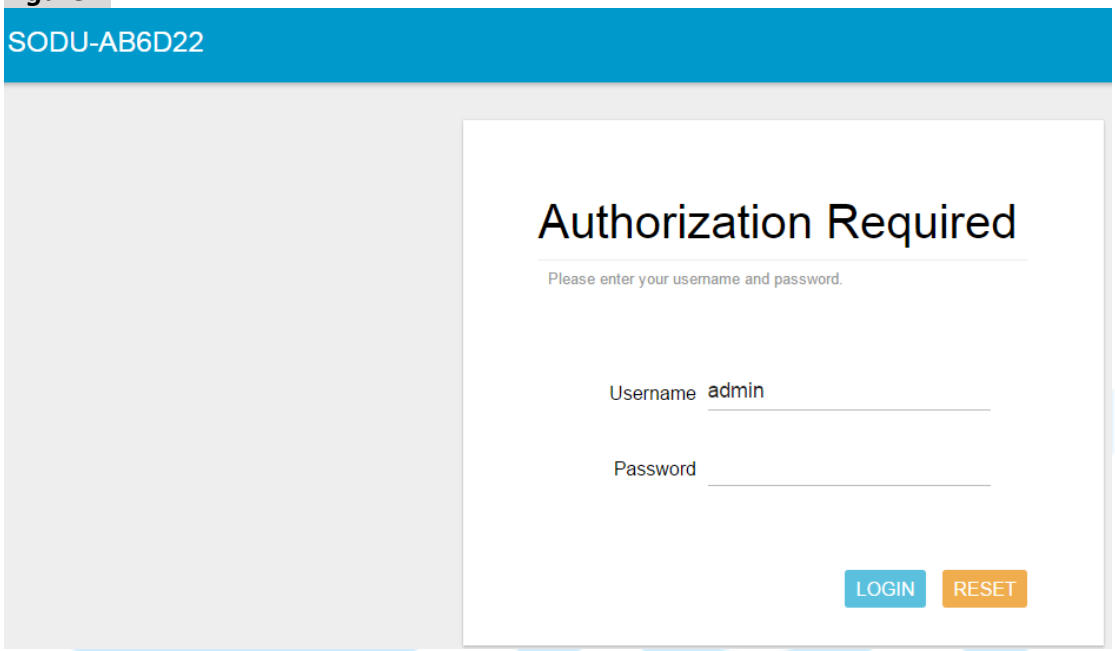
GIoT ODU-LBT
User Guide

This GIoT Semi-ODU User Guide will assist you in navigating the system with the following comprehensive guidelines.

1. Open Admin GUI

Access Semi-ODU WebUI via WAN IP address assigned by dhcp.
The WAN IP address will configure to 192.168.77.1 after enabling 3G/4G LTE.
Default username is “*admin*” and password is "*admin*“

Figure 1



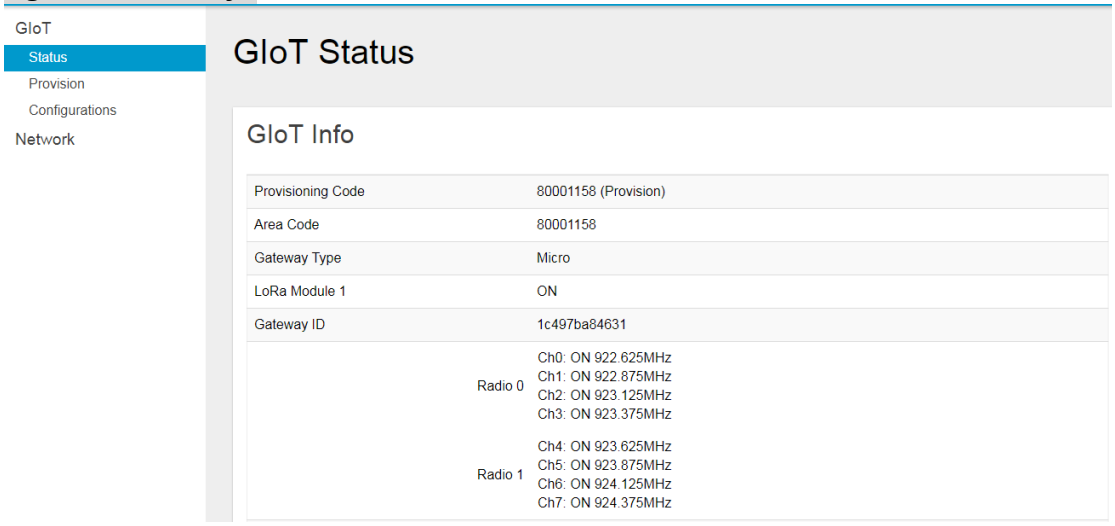
2. GIoT

The GIoT menu consists of the following categories: Status, Provision, Configuration and Network Server.

2.1 GIoT - Status

The purpose of this category is to view GIoT information as in its provision code, gateway type, gateway ID or LoRa modules, channels and spreading factor.

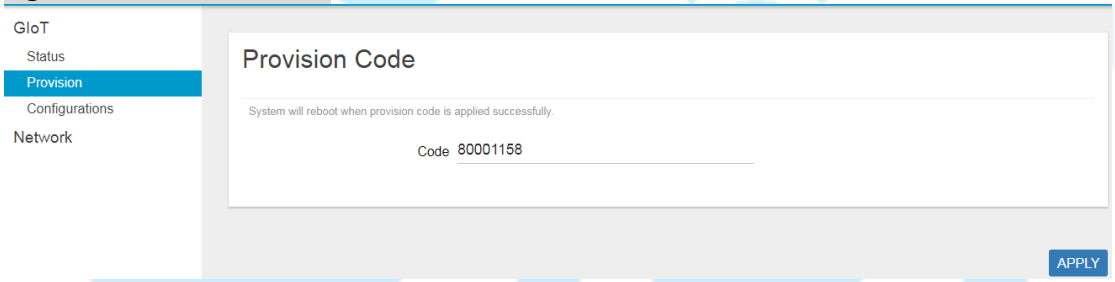
Figure 2 - GIoT Info



2.2 GIoT - Provision

GIoT provision code can be setup on this page.

Figure 3 - Provision Code

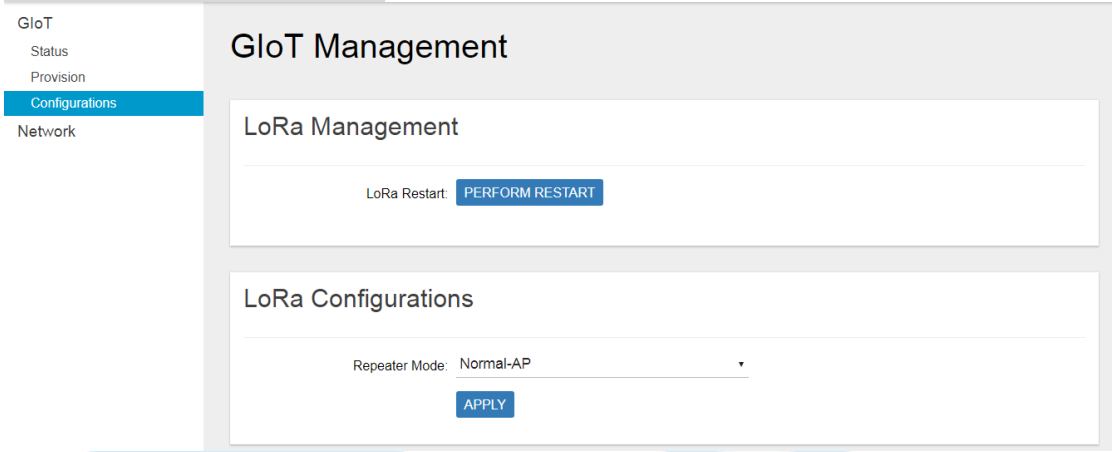


2.3 GIoT - Configuration

Click "*PERFORM RESTART*" button to restart LoRa server.

LoRa provides 3 modes: Normal AP, Repeater AP and Repeater. Users can set up the required mode in LoRa Configuration.

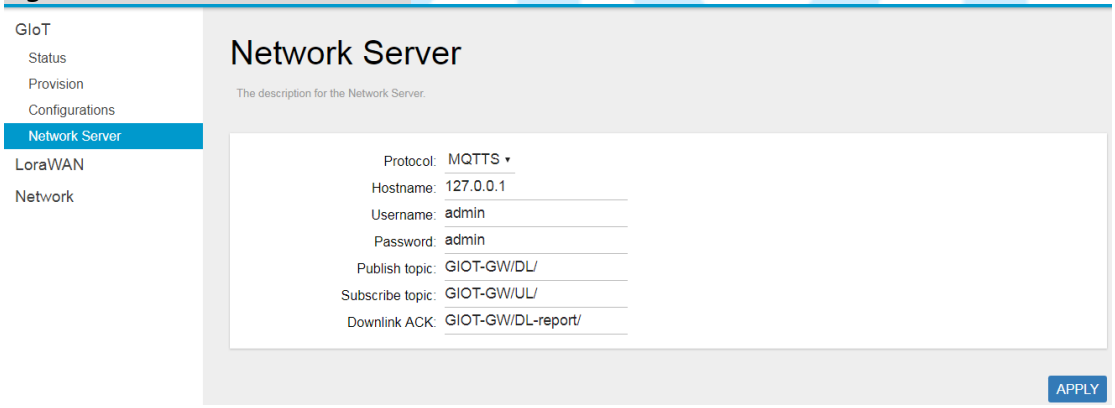
Figure 4 - GIoT Management



2.4 GIoT - Network Server

Users can configure ODU to connect to mqtt broker over the network server. The proper provision code has to be in place to reveal and access the network server features on the system menu. Please contact GIoT personnel if needed.

Figure 5 - GIoT Network Server



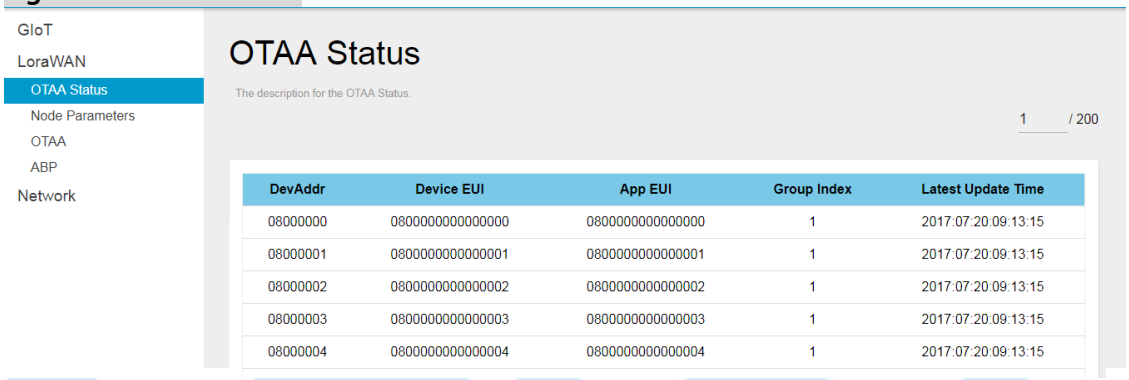
3. LoRaWan

The LoRaWan menu consists of the following categories: OTAA Status, Node Parameters, OTAA and ABP. The proper provision code has to be in place to reveal and access the LoRaWan features on the system menu. Please contact GIoT personnel if needed.

3.1 LoRaWan - OTAA Status

The purpose of this category is to view the process status of a node joining Network Server via OTAA, which includes DevAddr, Device EUI, App EUI, OTAA Group Index and Latest Update Time.

Figure 6 - OTAA Status



Click "**REFRESH**"to renew OTAA information.
When there are over 20 OTAA Status entries on the page, users can click on the page number on the upper-right corner to move on to the next page.

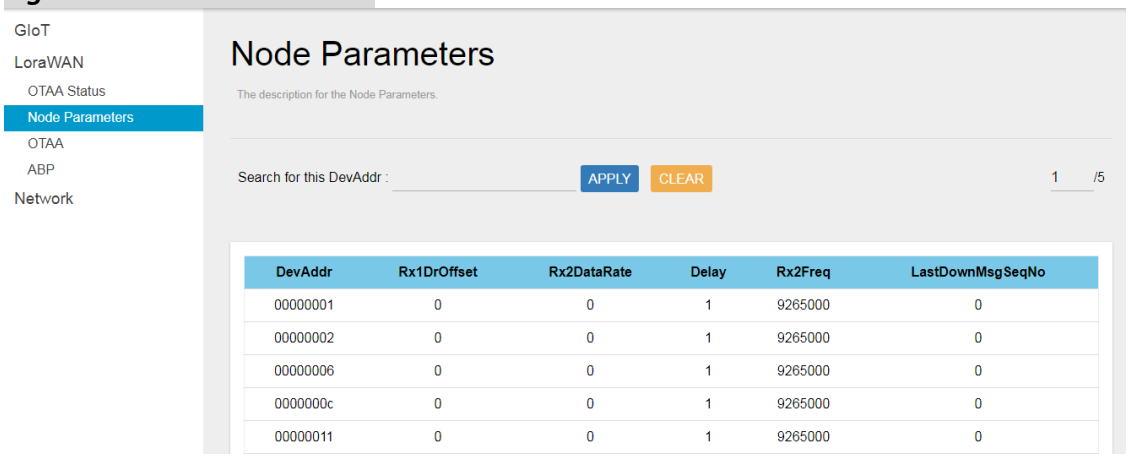
Definition of OTAA Status Fields:

DevAddr: The device address of node assigned by network server
Device EUI: The unique device EUI of node.
App EUI: The unique app EUI of node.
OTAA Group Index: The unique index of OTAA EUID group.
Latest Update Time: The last time an uplink data was sent (sync per hour)

3.2 LoRaWan - Node Parameters

The purpose of this category is to view node parameters, which includes DevAddr, Rx1DrOffset, Rx2DataRate, Delay, Rx2Freq and LastDownMsgSeqNo.

Figure 7 - Node Parameters



User can input a device address in the blank field and click "**APPLY**" to filter, click "**CLEAR**" to cancel filter.
Click "**REFRESH**"to renew Node Parameter information.
When there are over 20 Node Parameters entries on the page, users can click on the page number on the upper-right corner to move on to the next page.

Definition of Node Parameters Fields:

DevAddr: The unique device address of node.
Rx1DrOffset: The downlink data rate offset of Rx1.
Rx2DataRate: The downlink data rate of Rx2.
Delay: The delay between TX and RX.
Rx2Freq: The downlink frequency of RX2.
LastDownMsgSeqNo: The number of downlink data sent.

3.3 LoRaWan - OTAA

The purpose of this category is to view and configure OTAA rules.

Click "**ADD**" button to enter OTAA add page and input Group Index, AppEUI Start, AppEUI Counts , DevEUI Start , DevEUI Counts , Devaddr Start, Devaddr Counts, Appkey and Aging Out Time, then click "**SAVE**" to create an OTAA rule.
User will leave OTAA add page after clicking "**CANCEL**".

Following information on the OTAA:

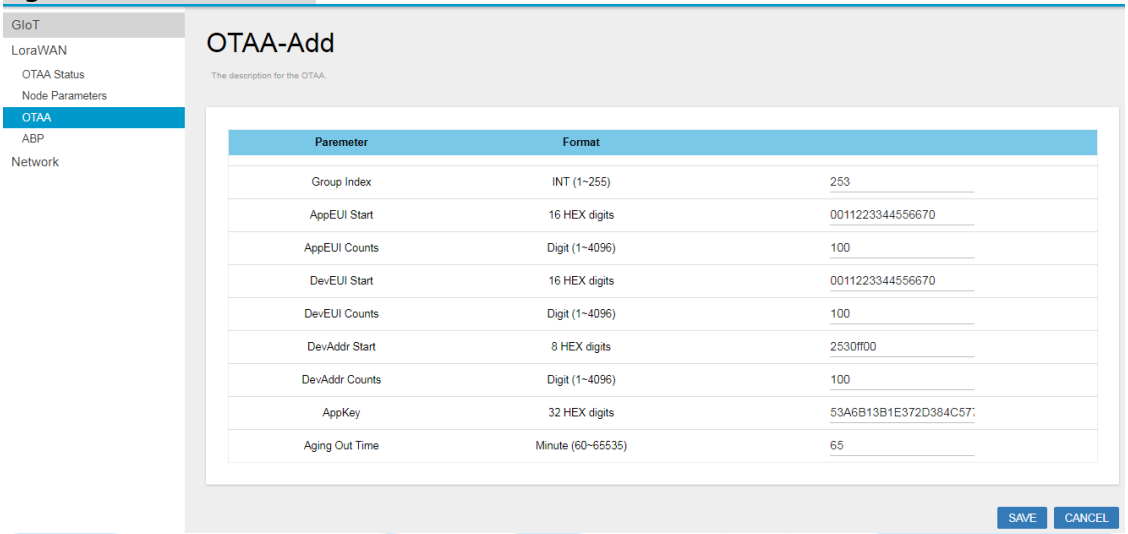
Group Index: The unique index of OTAA EUID group.
AppEUI Start: The start number of AppEUI.
App Counts: The number of AppEUI in this Group.
DevEUI Start: The start number of DevEUI.
DevEUI Counts: The number of DevEUI in this Group.

DevAddr Start: The start number of DevAddr.

DevAddr Counts: The number of DevAddr in this Group.
AppKey: Appkey for OTAA join request.
Aging Out Time(Minutes): If the Node hasn't sent uplink within the aging out time limit, the allocated OTAA DevAddr will be expired and released.

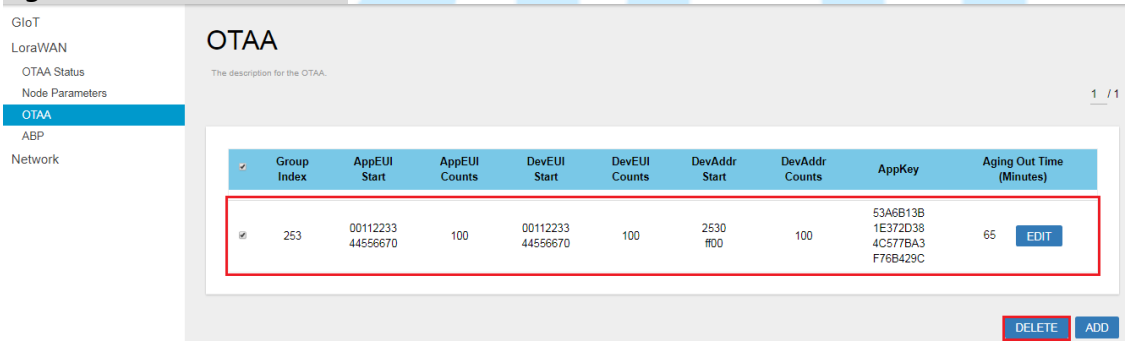
Note: The Aging Out Time must be at least 60 minutes.

Figure 8.A - OTAA - Add



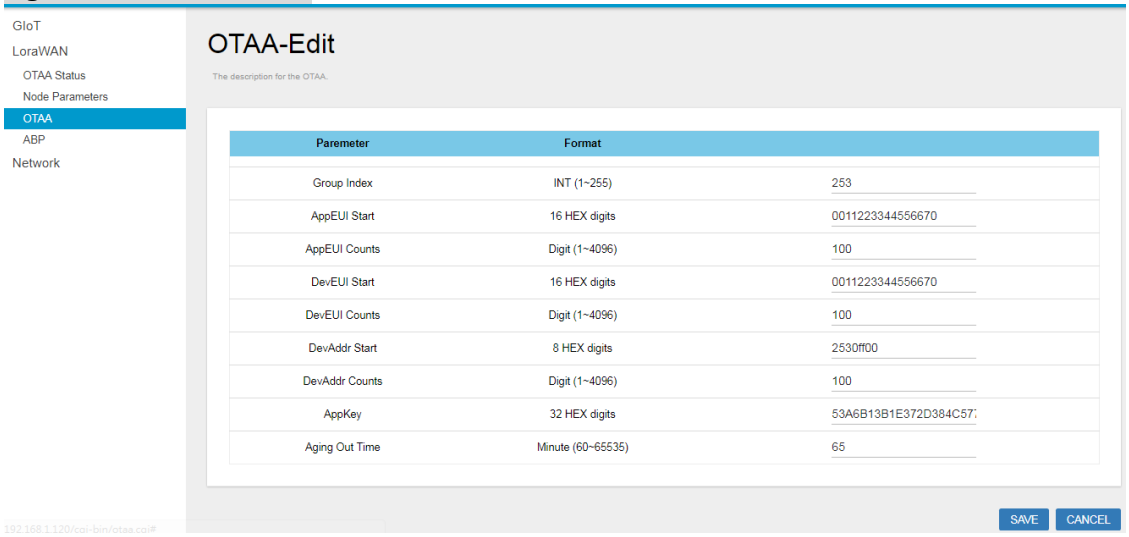
To delete entries, select one or more OTAA rule entries and click "**DELETE**" button.

Figure 8.B - OTAA - Delete



To edit an entry, select a rule entry and click "**EDIT**" button to proceed. Edit AppEUI Start, AppEUI Counts , DevEUI Start , DevEUI Counts , Devaddr Start, Devaddr Counts, Appkey and Aging Out Time, then click "**SAVE**" to edit the OTAA rule.
User will leave OTAA edit page after clicking "**CANCEL**".

Figure 8.C - OTAA - Edit



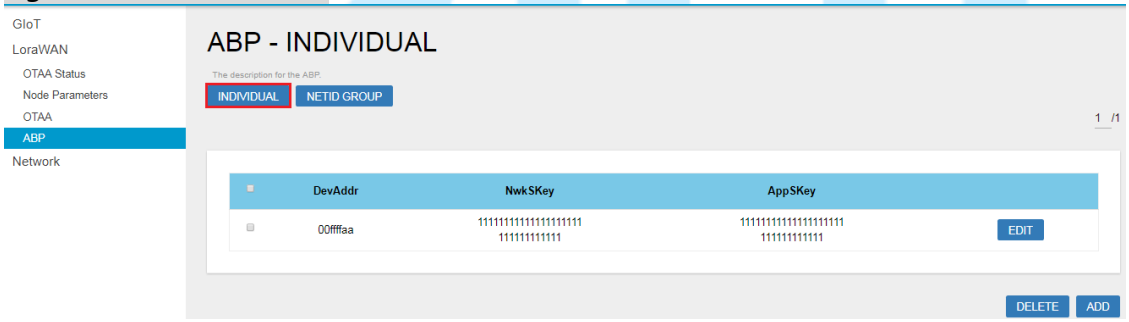
3.4 LoRaWan - ABP

The main function of this feature is to add/delete/edit ABP rule entries on this page. The ABP menu consists of the following categories: INDIVIDUAL and NETID GROUP.

3.4.1 INDIVIDUAL

Click "**INDIVIDUAL**" button to enter the INDIVIDUAL function page.

Figure 9.A – INDIVIDUAL

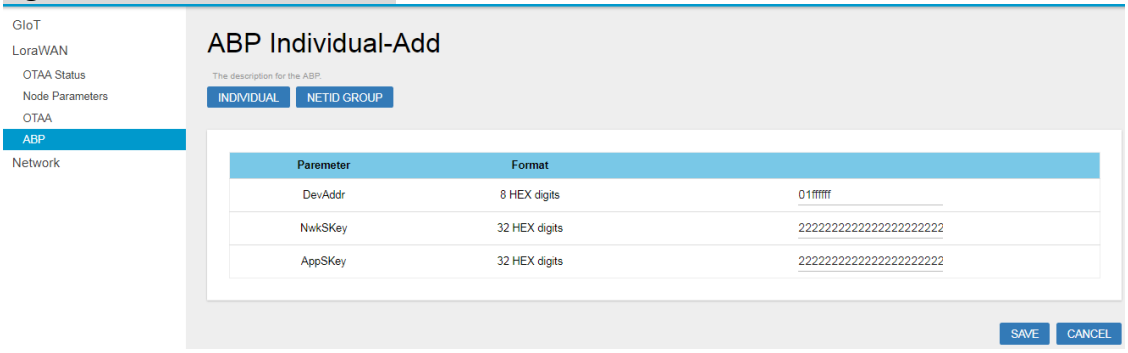


Click "**ADD**" button to enter ABP add page and input DevAddr, NwkSKey and AppSKey then click "**SAVE**" to create an ABP (INDIVIDUAL) rule.
User will leave ABP add page after clicking "**CANCEL**".

Definition of ABP (INDIVIDUAL) Fields:

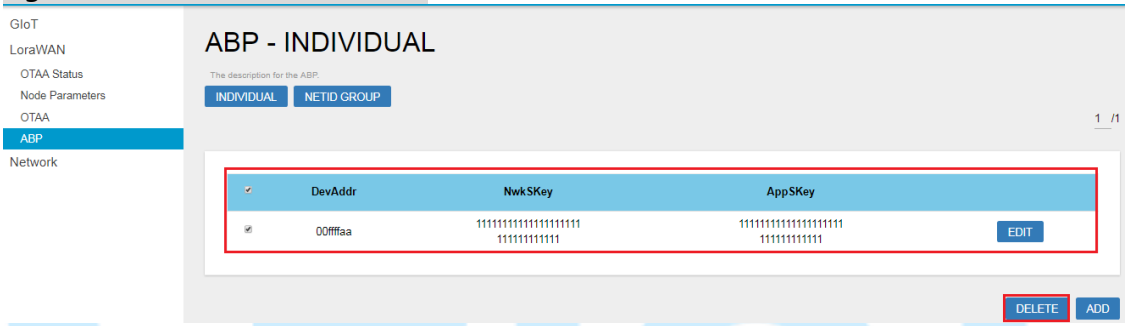
DevAddr: The unique device address of node.
NwkSKey: The network session key.
AppSKey: The app session key.

Figure 9.B – INDIVIDUAL–Add



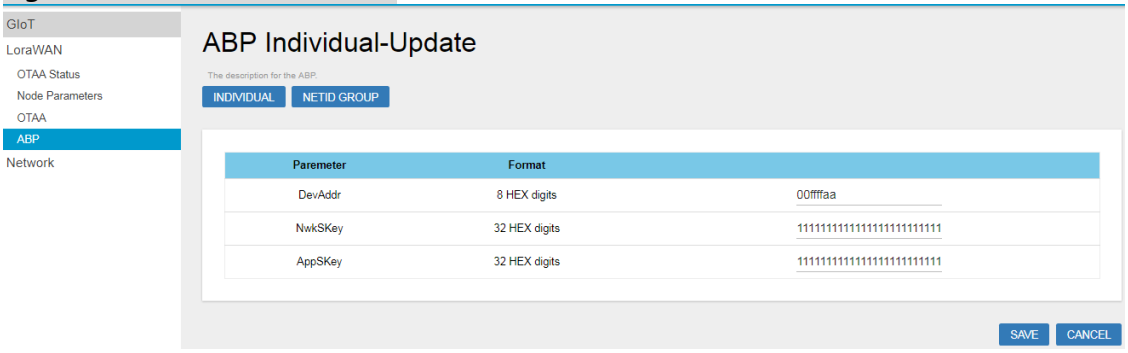
To delete entries, select one or more ABP (INDIVIDUAL) rule entries and click "**DELETE**" button.

Figure 9.C – INDIVIDUAL–Delete



To edit an entry, select a rule entry and click "**EDIT**" button to proceed. Edit NwkSKey and AppSKey then click "**SAVE**" to edit the ABP (INDIVIDUAL).
User will leave ABP edit page after clicking "**CANCEL**".

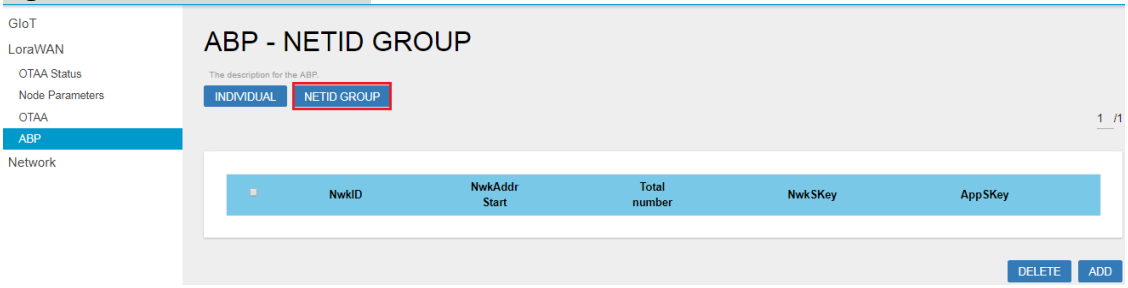
Figure 9.D – INDIVIDUAL–Edit



3.4.2 NETID GROUP

Click **"NETID GROUP"** button to enter NETID GROUP function page.

Figure 10.A – NETID GROUP

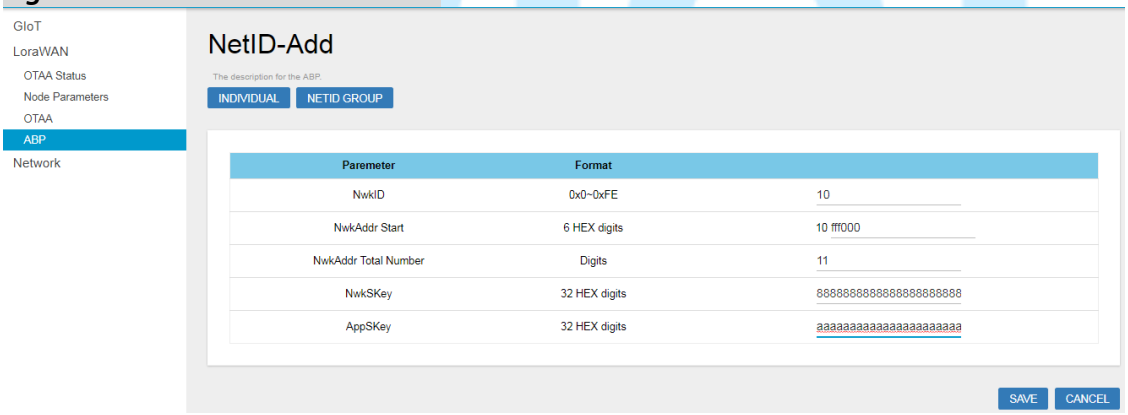


Click "**ADD**" button to enter ABP add page and input NwkID, NwkAddr Start, NwkAddr Total Number ,NwkSKey and AppSKey then click "**SAVE**" to create an ABP (NETID GROUP) rule.
User will leave ABP add page after clicking "**CANCEL**".

Definition of ABP (NETID GROUP) Fields:

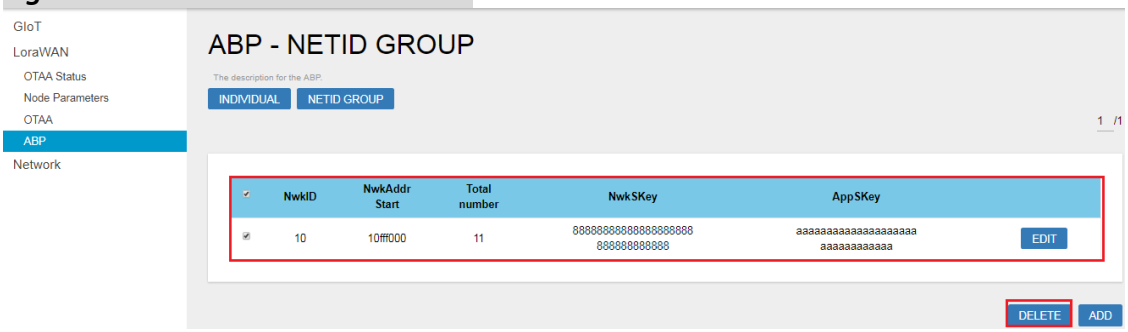
NwkID: The unique NETID of ABP group.
NwkAddr Start: The start number of ABP device address in the Group.
NwkAddr Total Number: The number of ABP device address in this Group.
NwkSKey: The network session key in the Group.
AppSKey: The app session key in the Group.

Figure 10.B - NETID GROUP - Add



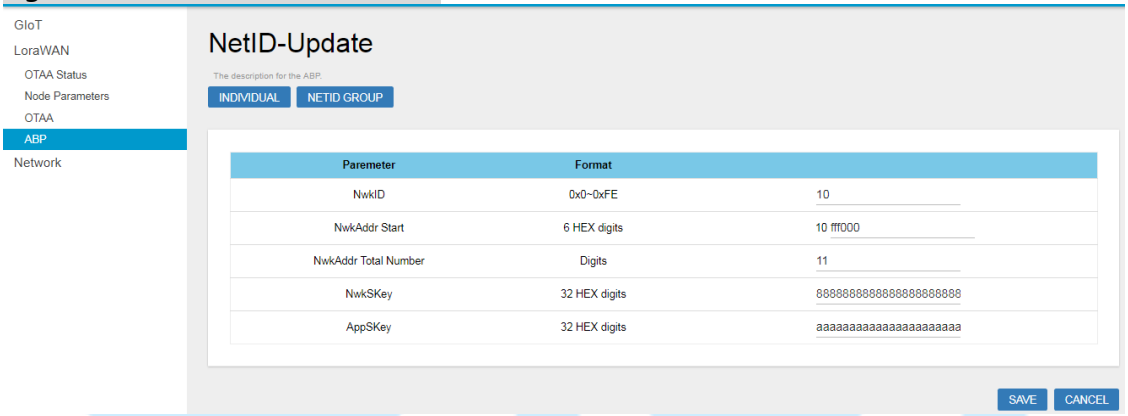
To delete entries, select one or more ABP (NETID GROUP) rule entries and click "**DELETE**" button.

Figure 10.C - NETID GROUP - Delete



To edit an entry, select a rule entry and click "**EDIT**" button to proceed. Edit NwkAddr Start, NwkAddr ,NwkSKey and AppSKey then click "**SAVE**" to edit the ABP (NETID GROUP).
User will leave ABP edit page after clicking "**CANCEL**".

Figure 10.D - NETID GROUP - Edit



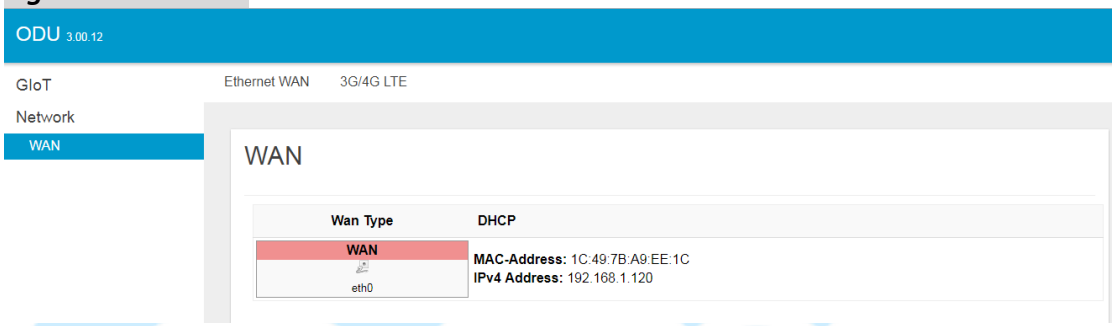
4. Network

The System menu consists of the following categories: WAN. Introduction and input procedures for each category are described in the following paragraphs.

4.1 Network - WAN

The purpose of this category is to view current WAN settings.
This category is further divided into three sectors: Ethernet Wan and 3G/4G LTE.
These individual options are lodged and labeled above the main content panel.

Figure 11.A - WAN



4.1.1 Ethernet WAN

This page is to setup the connection type in terms of Static IP and DHCP client. The three different options can be selected in the drop-down menu in "WAN Type". Please fill in the respective fields exhibited under each selection. Please make sure the Ethernet cable is connected to a WAN port.

Figure 11.A - WAN: Static IP

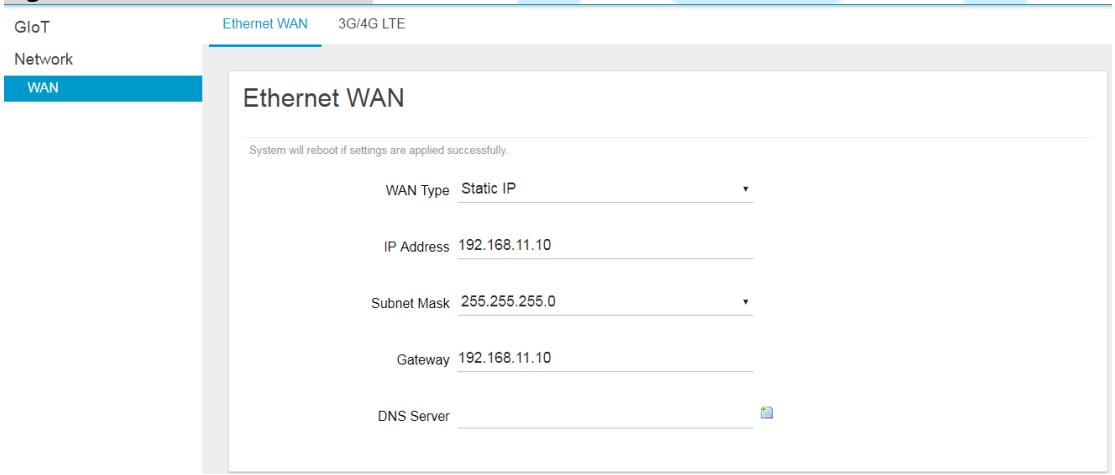
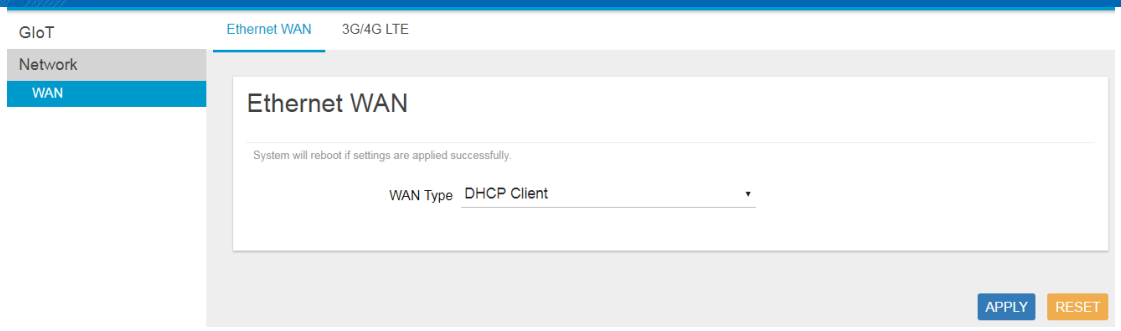


Figure 11.B - WAN: DHCP Client



4.1.2 3G/4G LTE

This page is to setup required information for 3G/4G LTE.

Note: Make sure the SIM card is installed.

Figure 12 - WAN: 3G/4G LTE