Product Name	**Z-Wave Smart Gateway Router**
Product SKU	**GAOTek-Z-Wave-161**
Product URL	**https://gaotek.com/product/gaotek-z-wave-smart-gateway-router/**

Contact us: sales@gaotek.com

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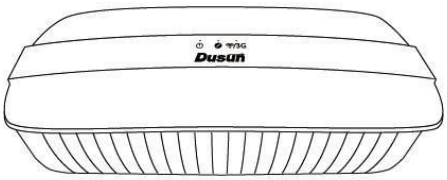
1.Introduction

a. Purpose and Description

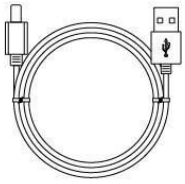
It is a smart Gateway with DC power supply. It can convert IoT wireless device data into a network protocol. It can be used in various scenarios flexibly. It can control BLE5.2 and zigbee3.0 device remotely, receives the data sent by the BLE5.2 and zigbee3.0 devices and sends it to servers. The Wi-Fi data rate can be up to 300Mbps and BLE data rate can be up to 2Mbps. It can also supports the 5V adapter power supply, It reserves the ZigBee3.0 function ,Z-WAVE, Sub-G,4G LTE function.

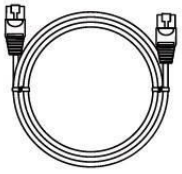
b. Product List

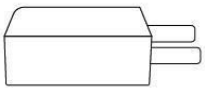
Product list	Number
Smart Gateway	1
Network Cable	1
USB Power Cable	1
USA Standard power adapter	1
UK Standard power adapter	1
EU Standard power adapter	1

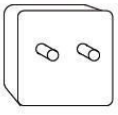


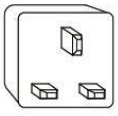
Smart Gateway


Usb Power Cable


Network Cable


USA Standard Power Adapter


EU Standard Power Adapter


UK Standard Power Adapter

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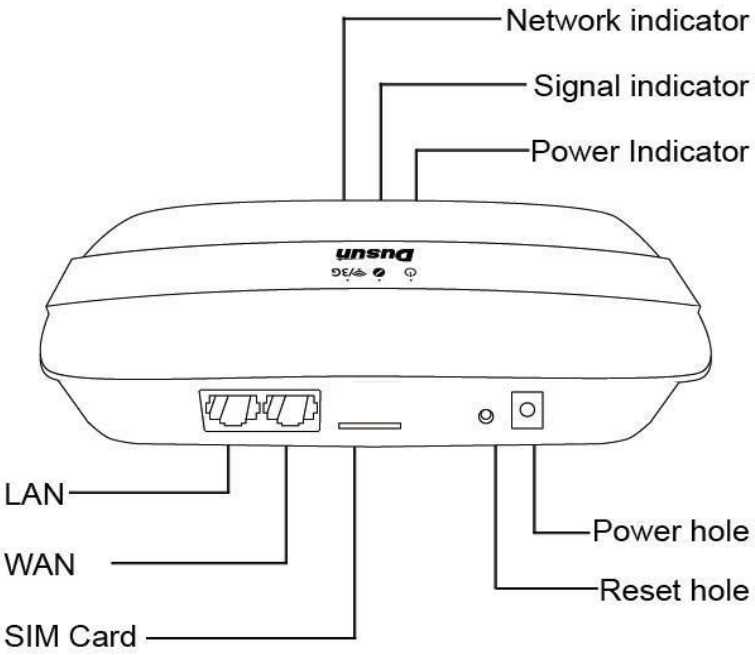
c. Appearance Description

Power indicator	Indicates whether the power supply is connected properly
Network indicator	Indicates whether the network is connected
Signal indicator	Indicate whether the signal is connected
LAN port	Connect computer and other network equipment.
WAN port	This port allows the router to connect to the LAN.
SIM card slot	Standard SIM card
Reset hole	Restore factory settings



2. How To Use

a. Position Your Gateway

With the gateway, you can access your network from anywhere within the wireless network coverage. However, the wireless signal strength and coverage varies depending on the actual environment where your gateway is in. Many obstacles may limit the range of the wireless signal, for example, concrete structures, thickness and number of walls.

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For your security and best Wi-Fi performance, please:

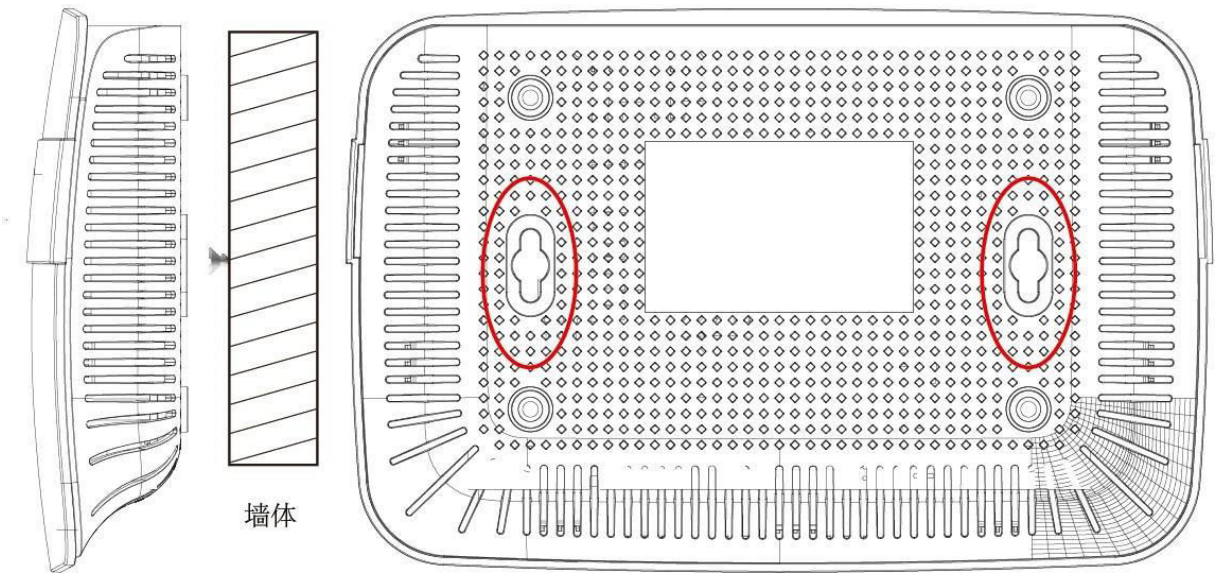
- Do not locate the gateway in the place where it will be exposed to moisture or excessive heat.
- Keep away from strong electromagnetic radiation source and electromagnetic-sensitive devices.
- Place the gateway in a location where it can be connected to the various devices as well as to a power source.
- Place the gateway in a location where it can receive a strong mobile internet signal.
- Make sure the cables and power cord are safely placed out of the way so they do not create a tripping hazard.

Tips: The gateway can be placed on a shelf or desktop.

b. Installation Method 1 (Wall Hanging)

Step 1. Fix the expansion tube in the wall with screws

Step 2. Hang the gateway on the screws to fix it



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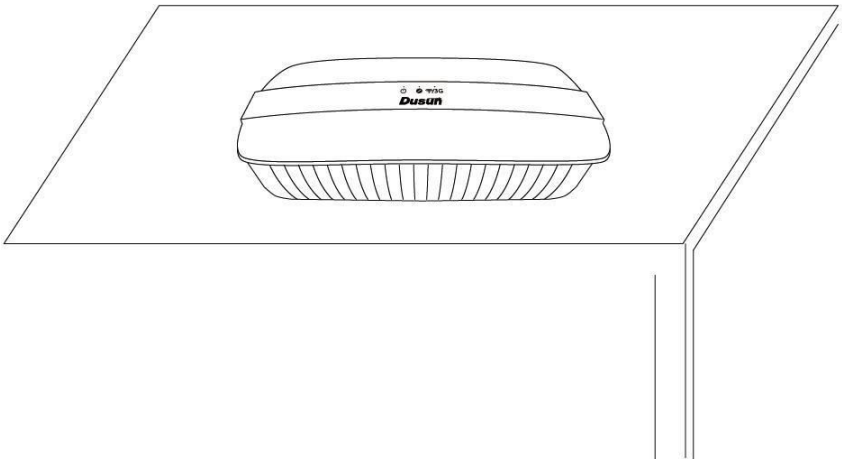
c. Installation Method 2 (Place)

You can place the gateway flat wherever you need it

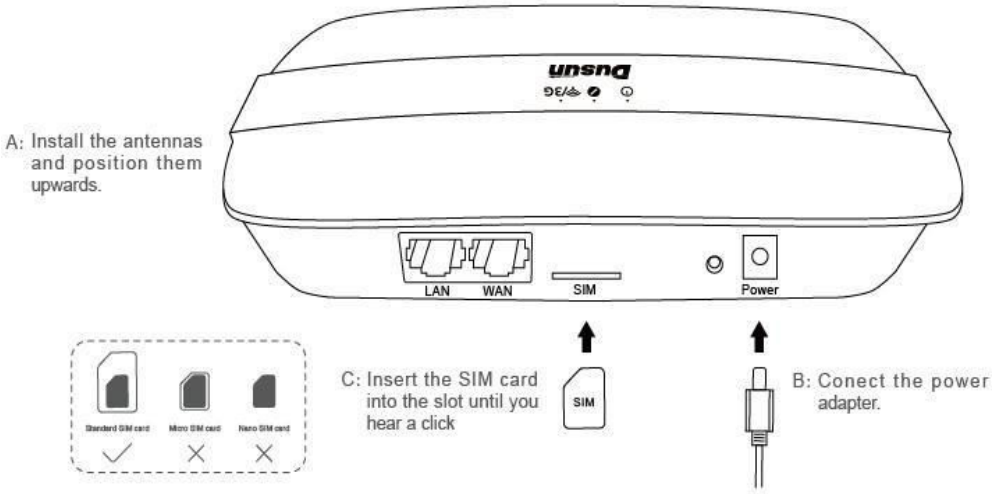


d. Connect Your Gateway

Follow the steps below to connect your router.

1. Insert the Standard SIM card into the slot until you hear a click.

2. Connect the power adapter to turn on the gateway. The power source shall be near the device and shall be easily accessible.



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3. Observe the indicator signal, whether the gateway is working

Power indicator	The green light is always on, the router is powered on, the green light is off, and the gateway power is off.
Network indicator	The yellow light flashes, that is the LAN and the WAN is communicating normally.
Signal indicator	The red light flashes, indicating that the network is communicating normally.

4. Reset hole: Long poke reset hole for more than 8s, the gateway enters the reset mode, after the completion, the factory settings will be restored, and all the pairing information in the gateway will be cleared.

3. Luci

Introduction

a. Purpose& Description

The DSGW-020/DSGW-010 is gateway product used in smart home, intelligent security industry, pension services. It's a central device, support LTE-M1 (EMTC), Wi-Fi, zigbee3.0, Bluetooth and Z-WAVE wireless protocol. User can connect the network through LTE-M1, Wi-Fi and Ethernet. In addition, smart sensors can be connected through zigbee3.0, Bluetooth and z-wave.

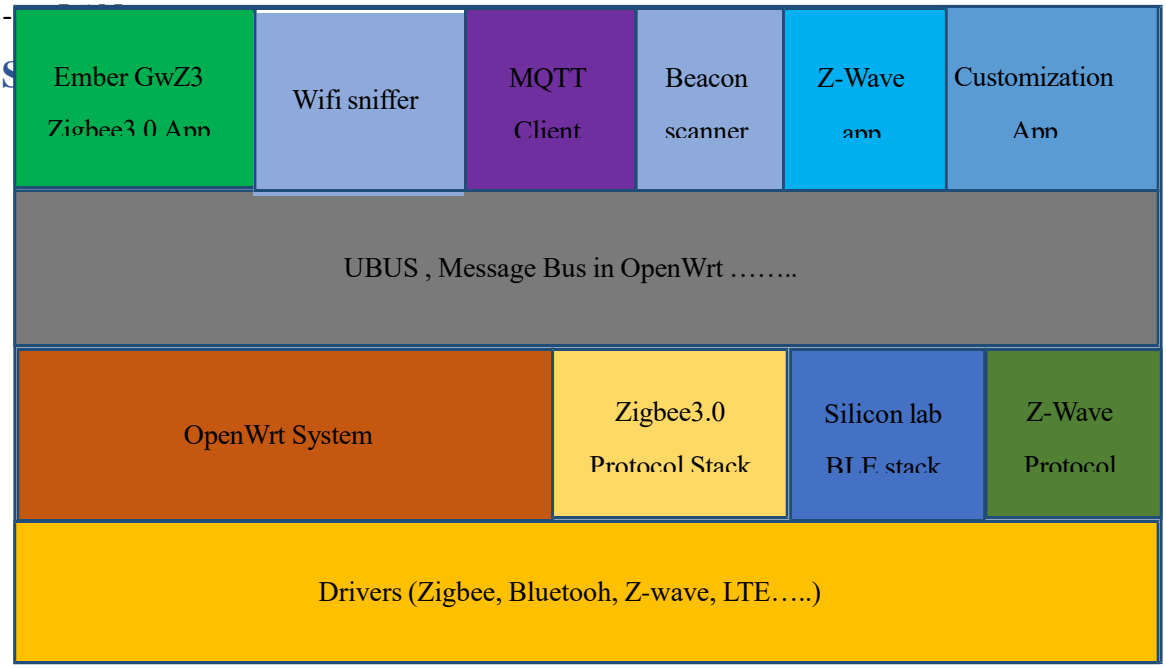
b. Product Feature Summary

- **System：**
- OS: Linux@ OpenWrt
- Processor:MTK7620A (MIPS24KEc(580MHZ)) / MTK7688 (MIPS24KEc(580MHZ))
- RAM: 128MB
- Flash: 16MB
- **Wireless protocol：**

- LTE-M1

- Wi-Fi
- Zigbee3.0
- Bluetooth
- Z-Wave
- **Ethernet**
- WLAN
-

c. S



d. Development Environment and Tool

Development Environment	Linux
Version	Open wrt Barrier Breaker

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Development tool	Toolchain

4. Reference Documentation

a. Standard Protocol Documentation

Specifications for zigbee3.0

- 07-5123-06-zigbee-cluster-library-specification

Specifications for BT

- bluetooth-api-reference

Specifications for MQTT

- MQTT API offered by Dusun

5. Configuration

a. Basic Configuration

a. Deploy the environment of configuration

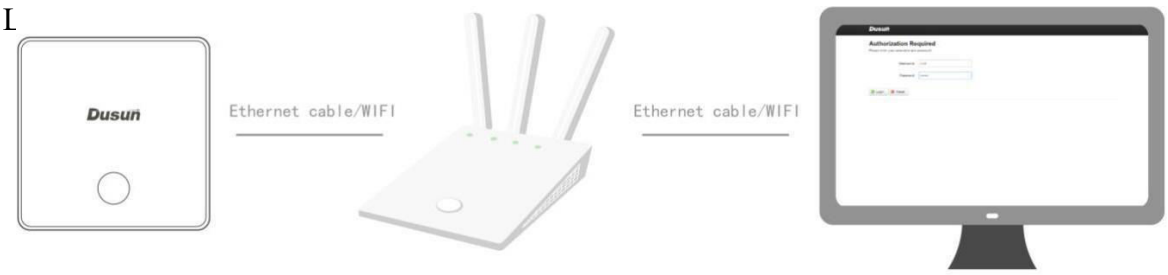
a) For DSGW-030 gateway

1) Connect the gateway with a router using WAN port

2) Connect a PC to the same router

3) Find out the IP address of the gateway in the router

4) I



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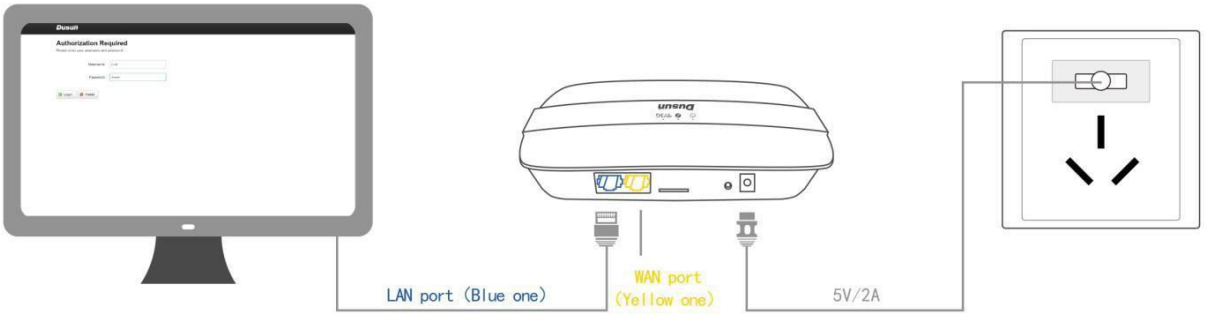
b) For DSGW-040 gateway

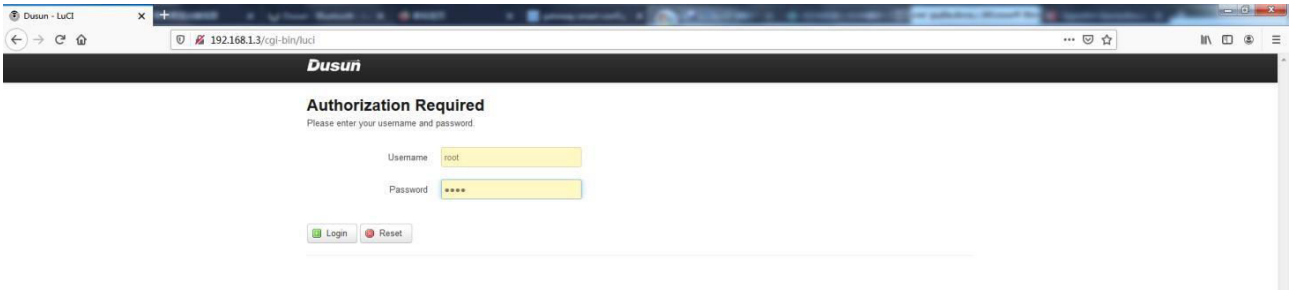
P[illegible] PC GATEWAY [illegible]y

w



b. Login Password of Configuration Page

Open the website, if connect the gateway using Lan port, Input Gateway IP Address:



Enter the username and Password

Username: root

Password: root

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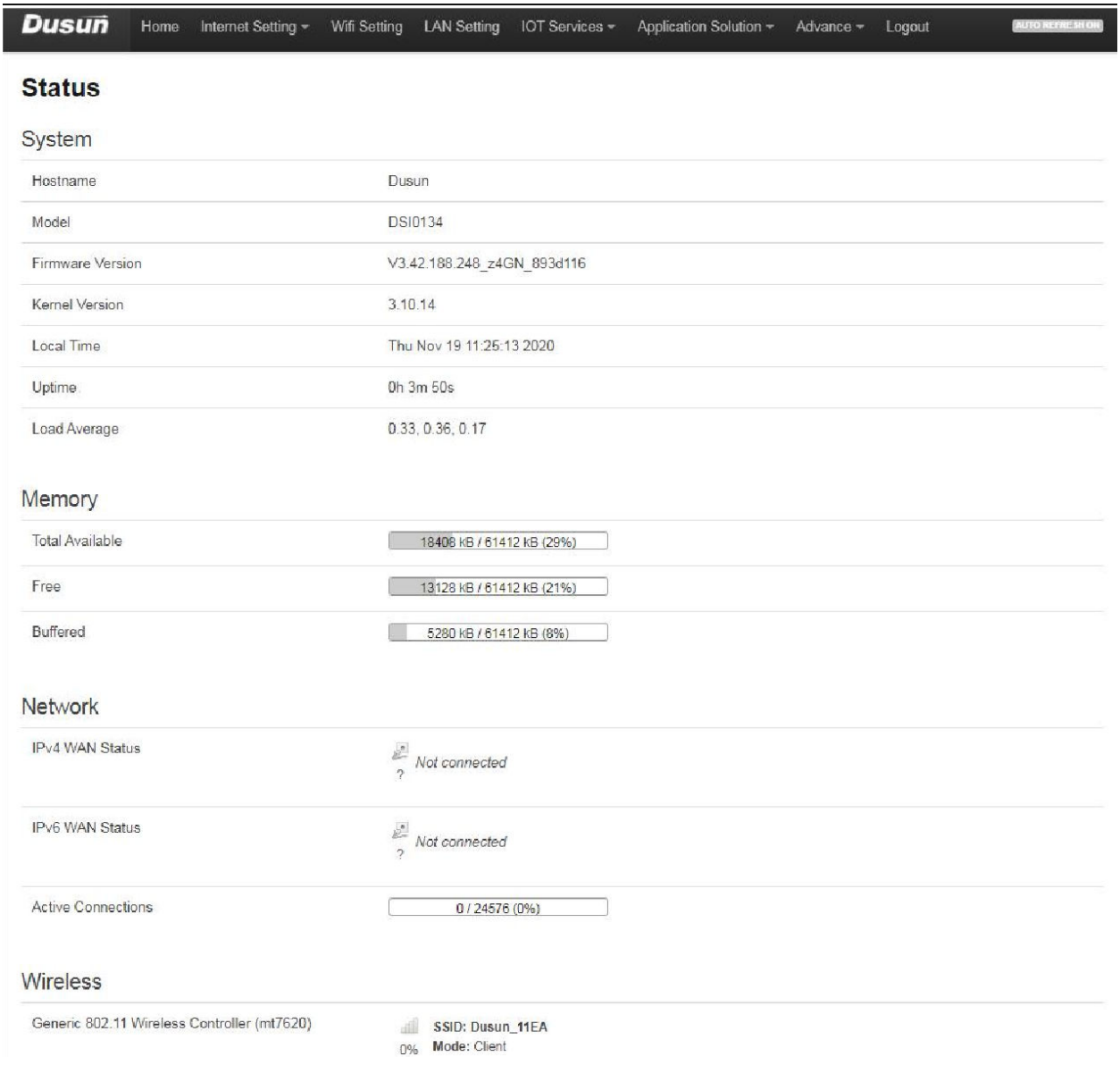

In this page, you can check the status of system, memory, Network. System Information: The host name, Model, Firmware Version, Kernel Version, Local Time. Memory Information: Total Available, Free, Buffered.

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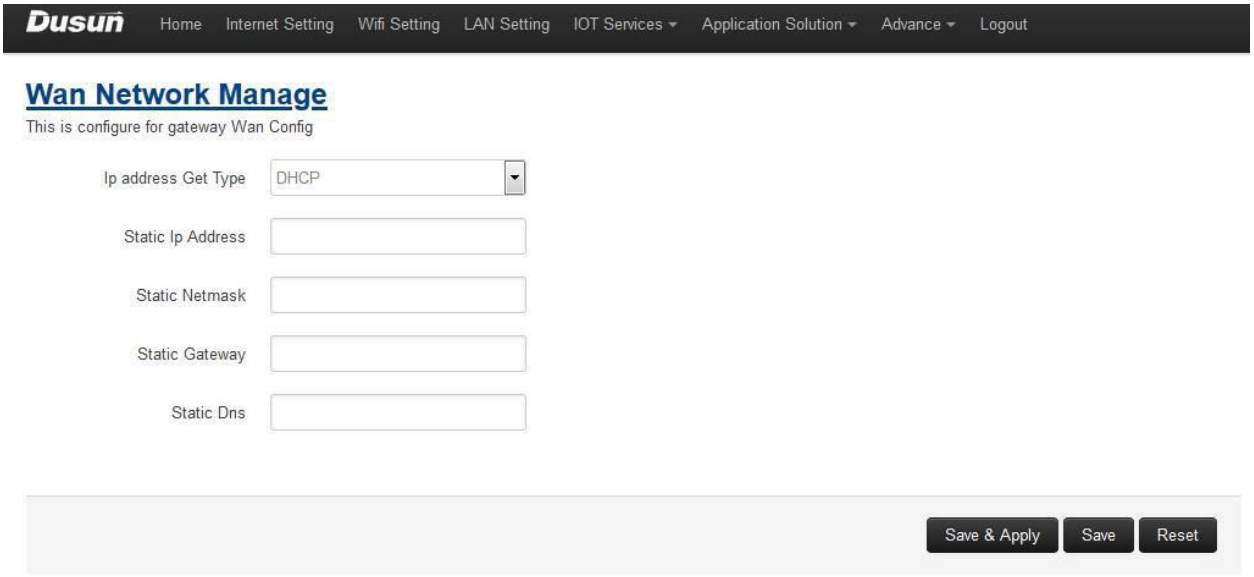
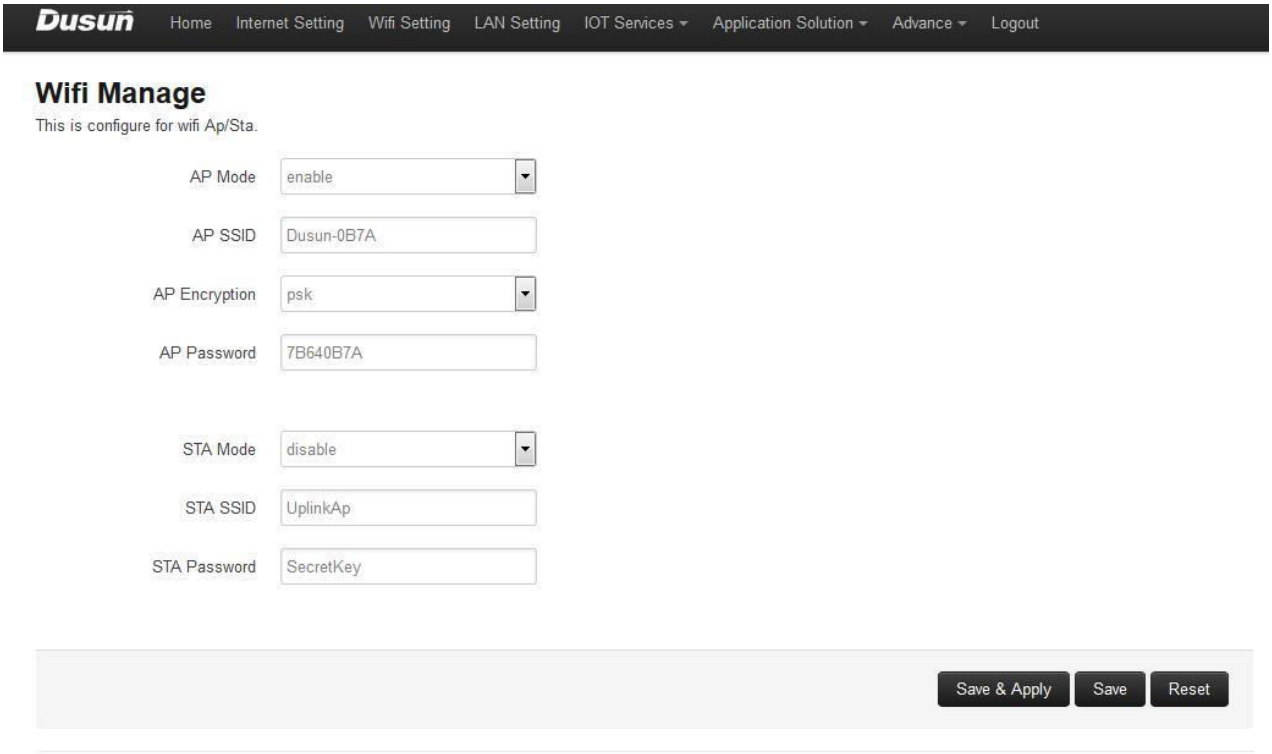
WAN Configuration

Switch to Internet Setting menu, set the address type of the wan port





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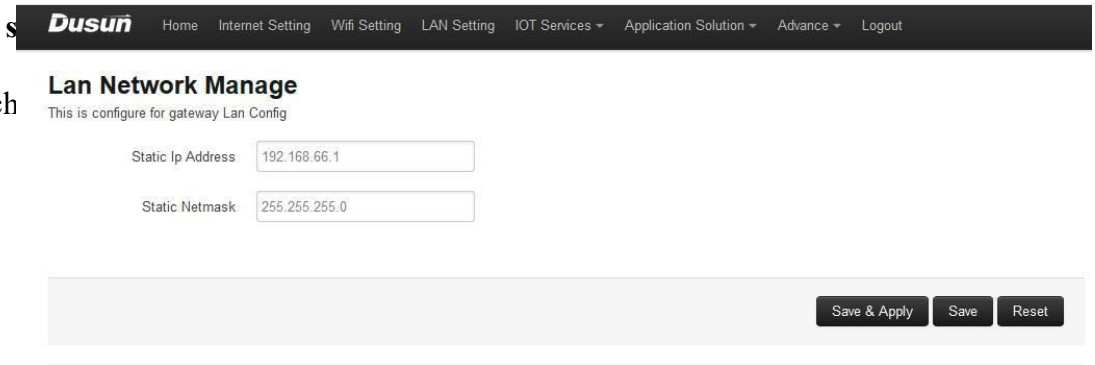
Wi-fi AP mode: In this mode, the gateway works as a router, user can connect to the SSID using the AP Password。 The AP SSID, AP Password and AP encryption mode are configurable Wifi STA mode: In this mode, the gateway functions as a access point and is able to connect to a router. User can fill in the SSID and Password of the router to let gateway connect to router.

LAN s



Switch

Configure the LAN IP and Netmask of the gateway

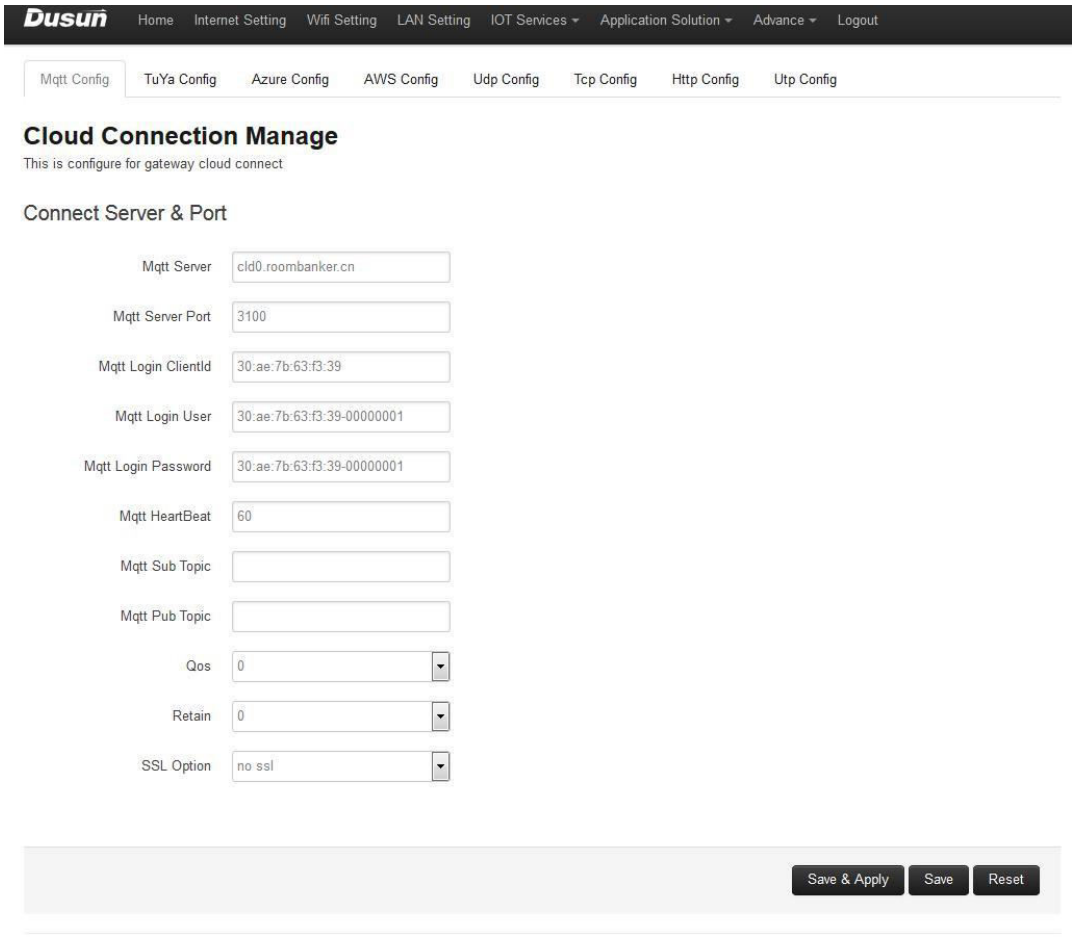
b. IOT Service

Switch to IOT Service menu,

Cloud Config

MQTT config

Configure the parameter in this page to connect to a mqtt broker. Filled in the right value offered by the MQTT broker.



TuYa config

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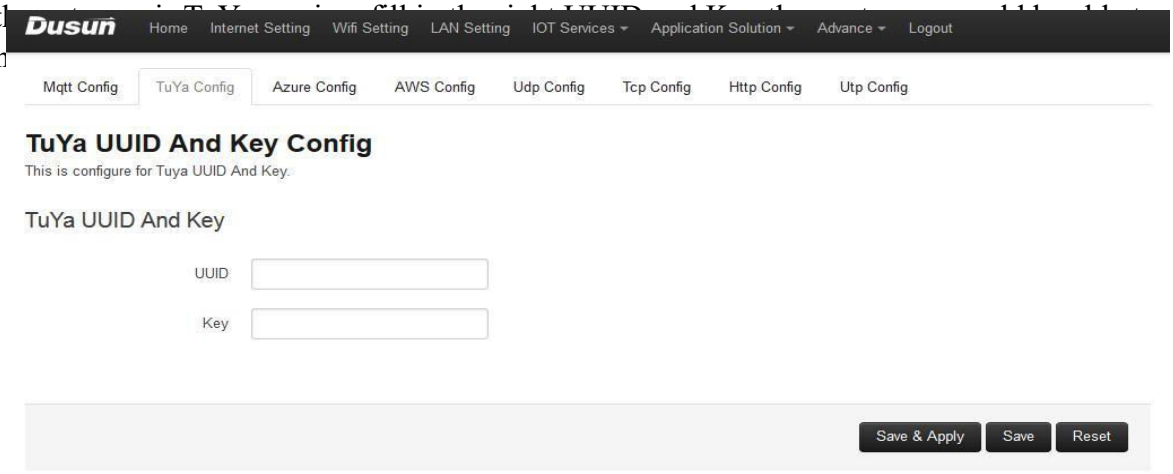

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Azure Config

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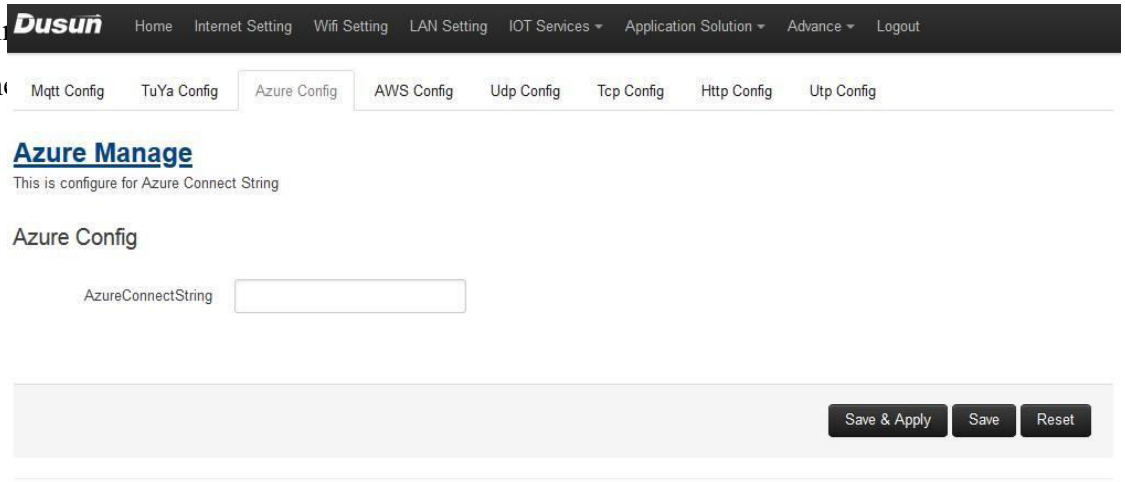
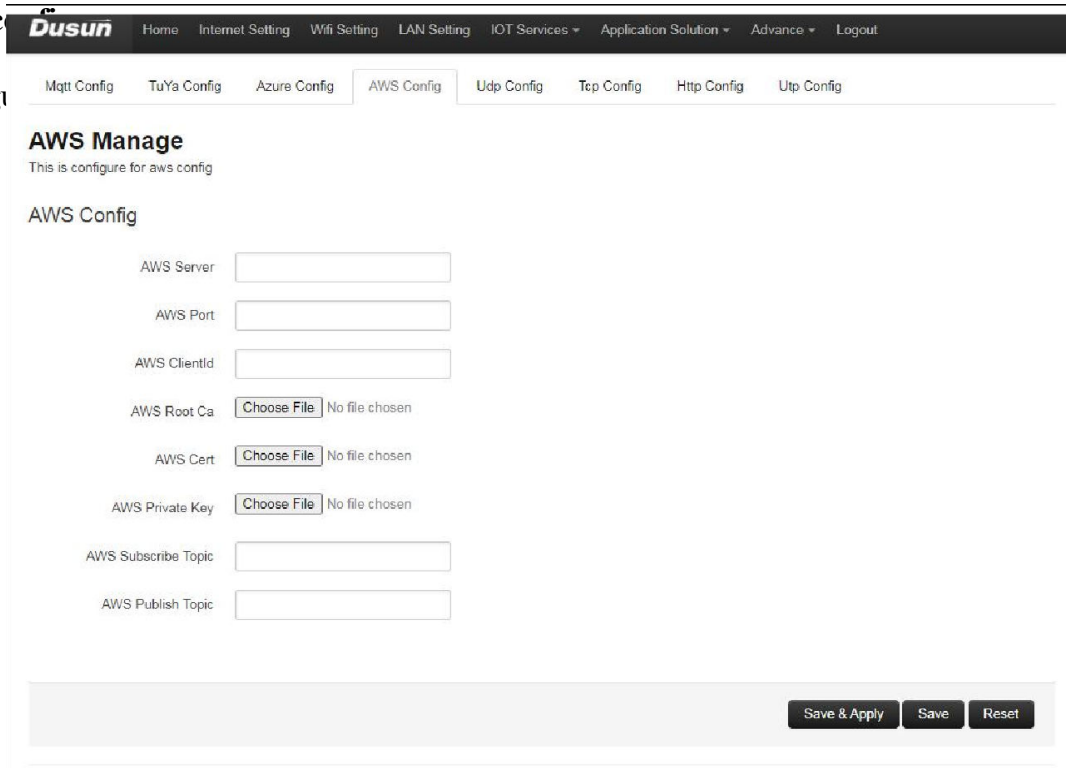
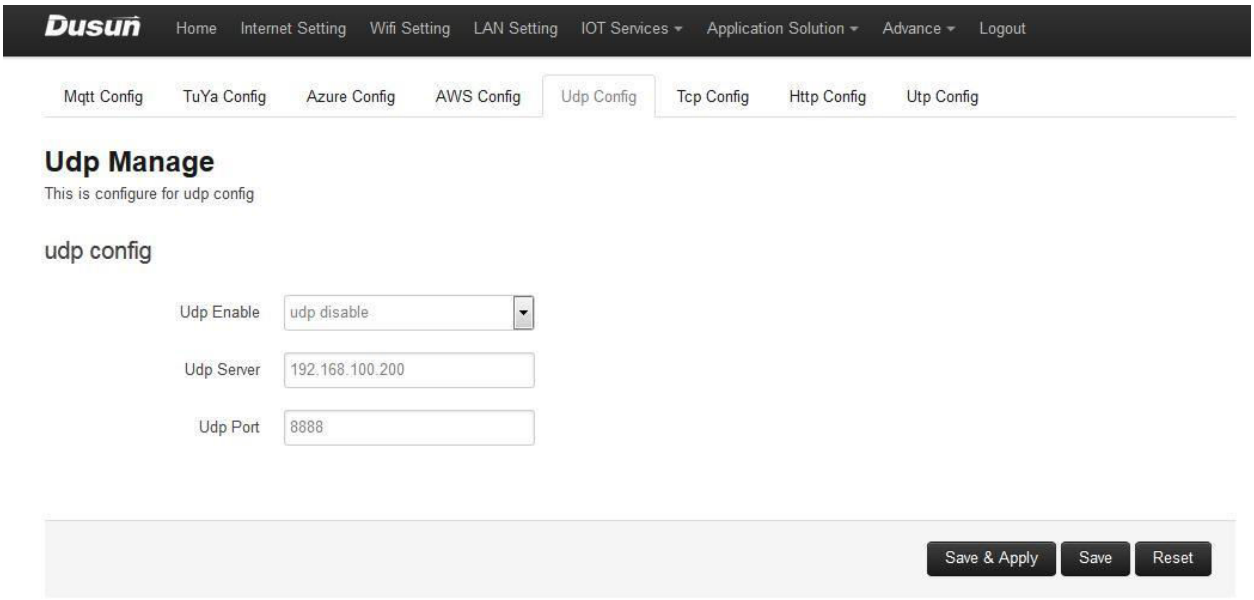
conn



AWS c

Configu





TCP config

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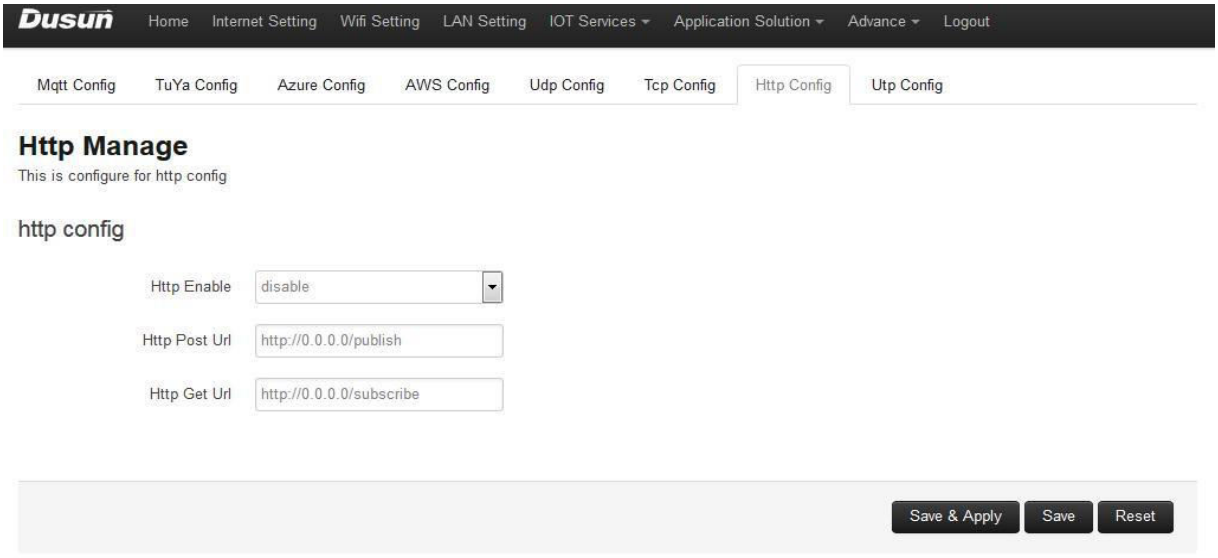
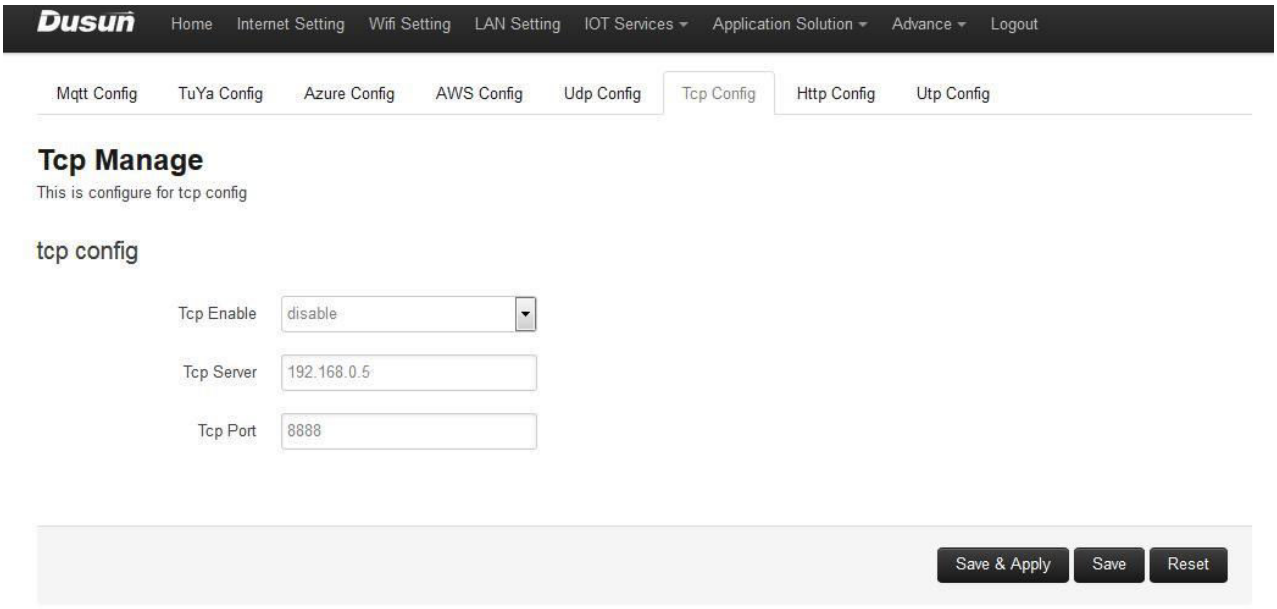
Config the TCP parameters to establish the TCP connection





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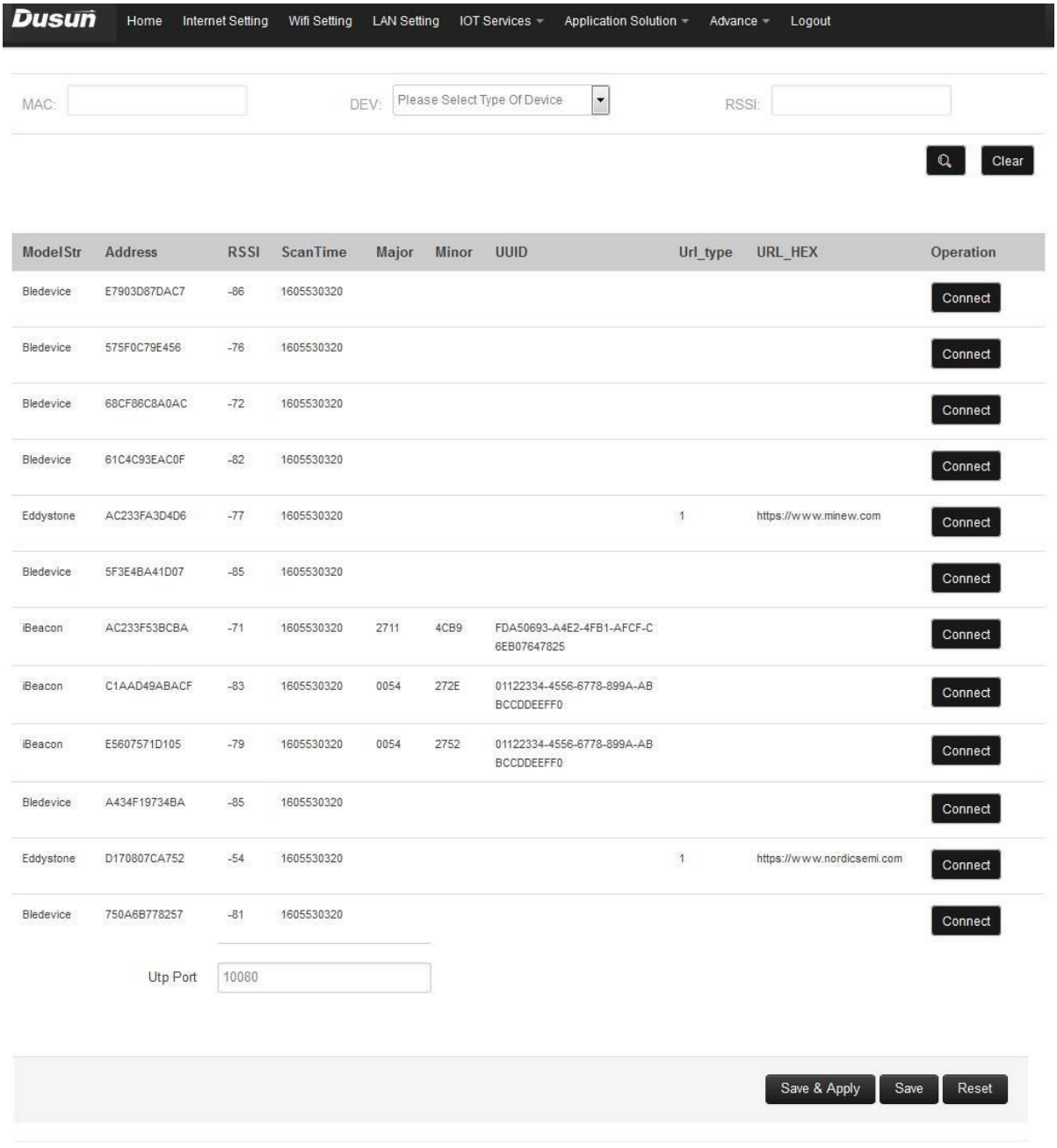
UTP config

Fill in the UTP parameters to enable UTP connection



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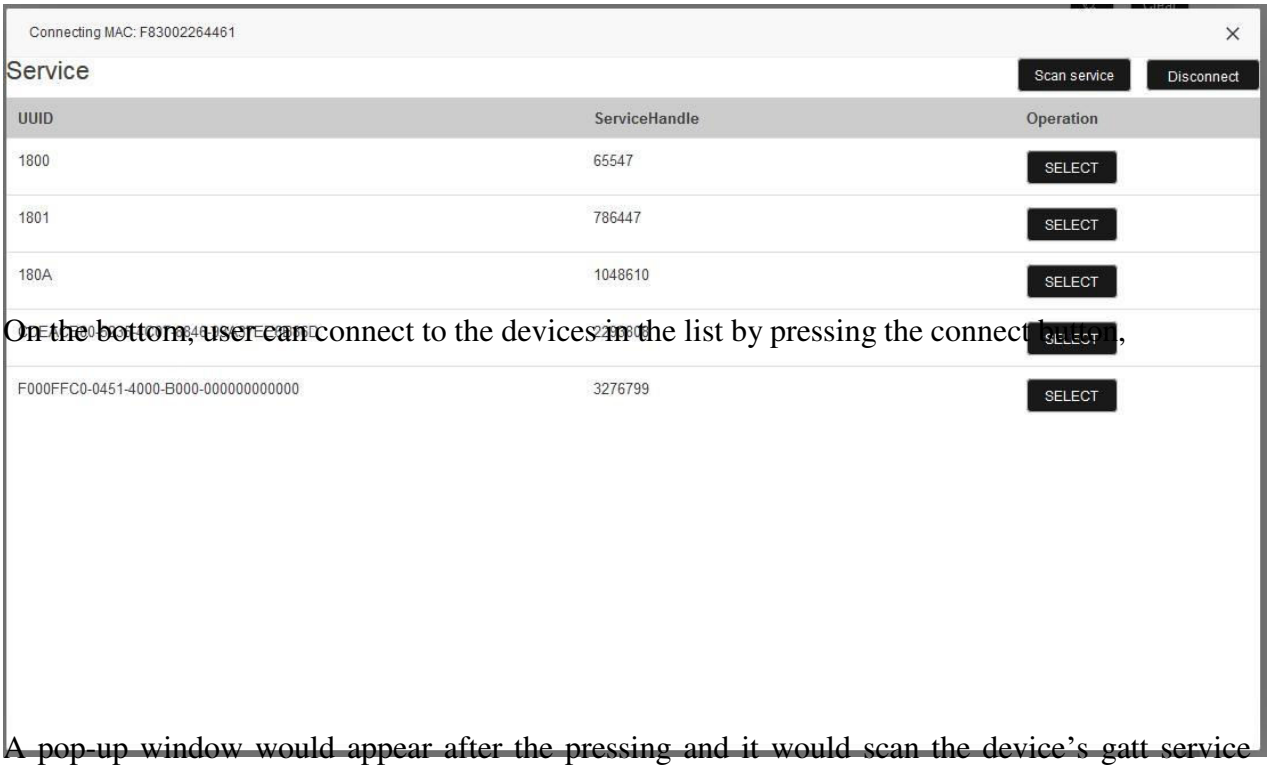
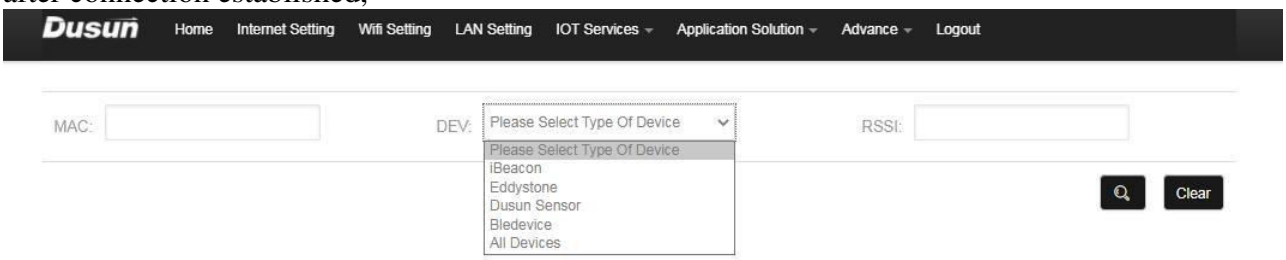
The filter options on the top can be used to filter the specific devices you want, from left to right is MAC, DEV type and RSSI



On the bottom, user can connect to the devices in the list by pressing the connect button,

A pop-up window would appear after the pressing and it would scan the device's gatt service after connection established,



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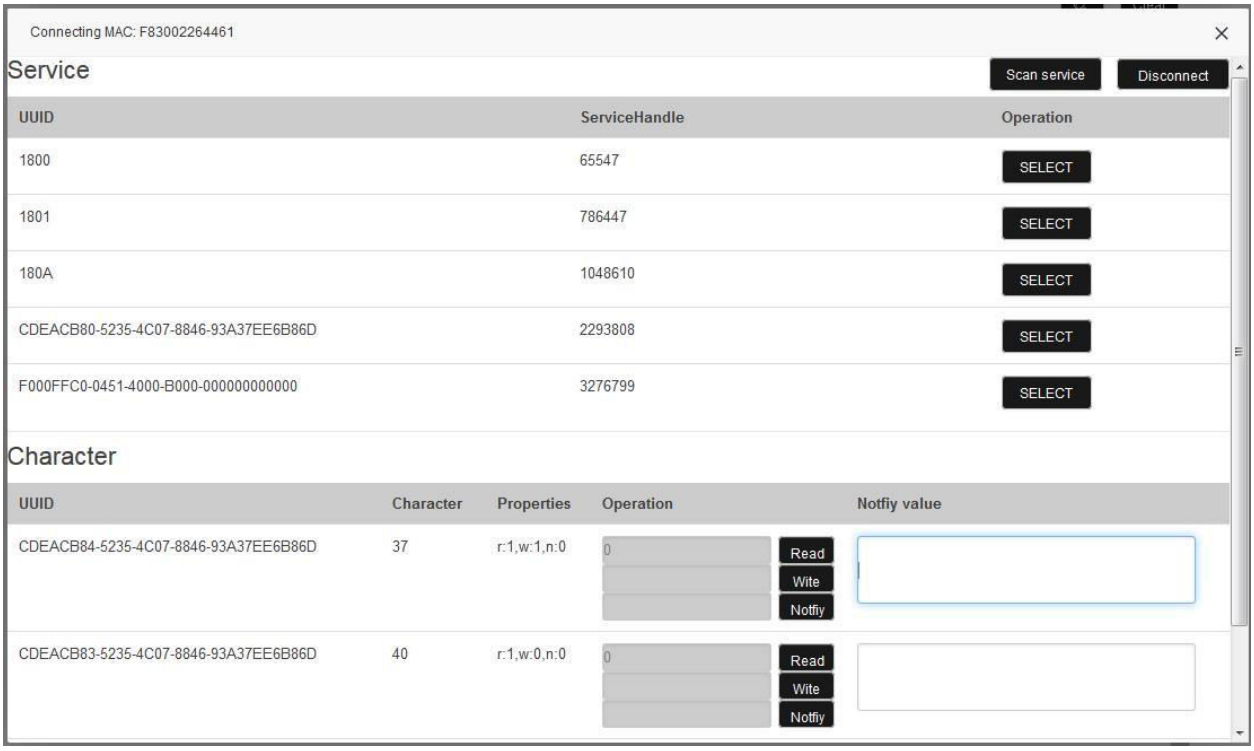

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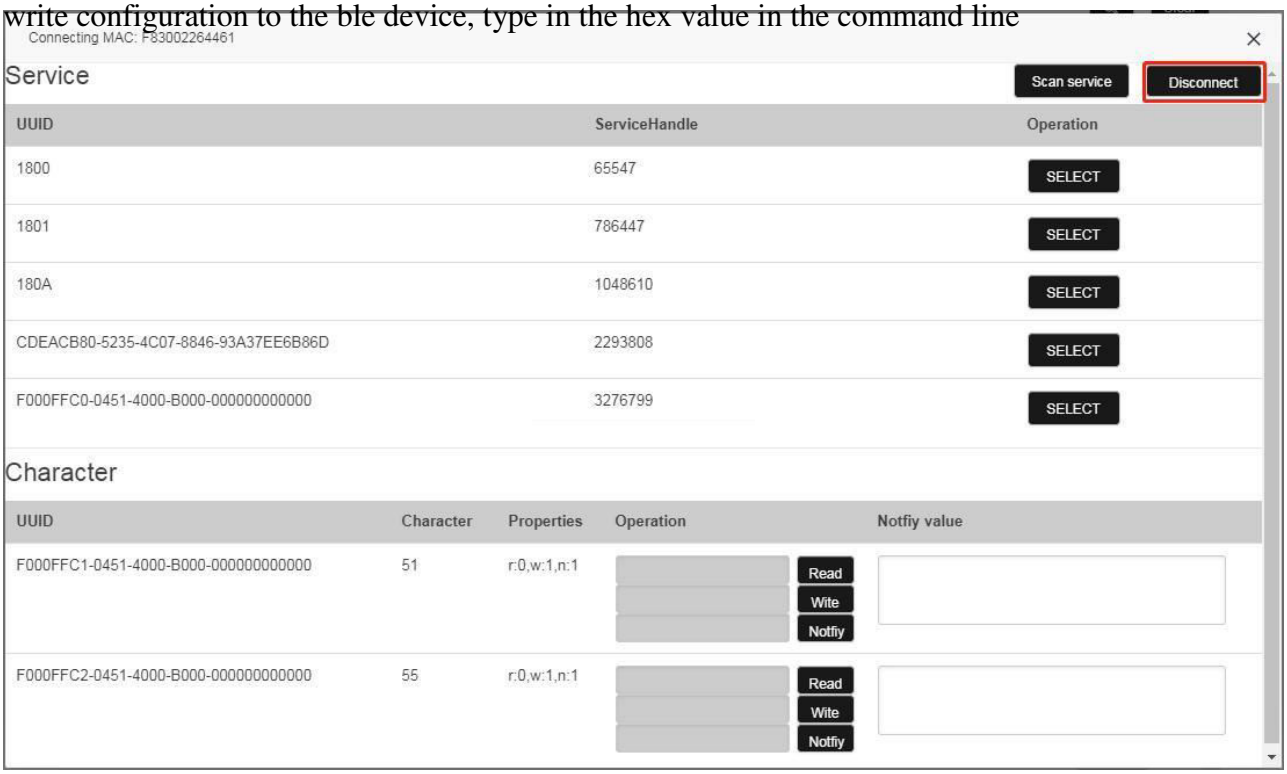
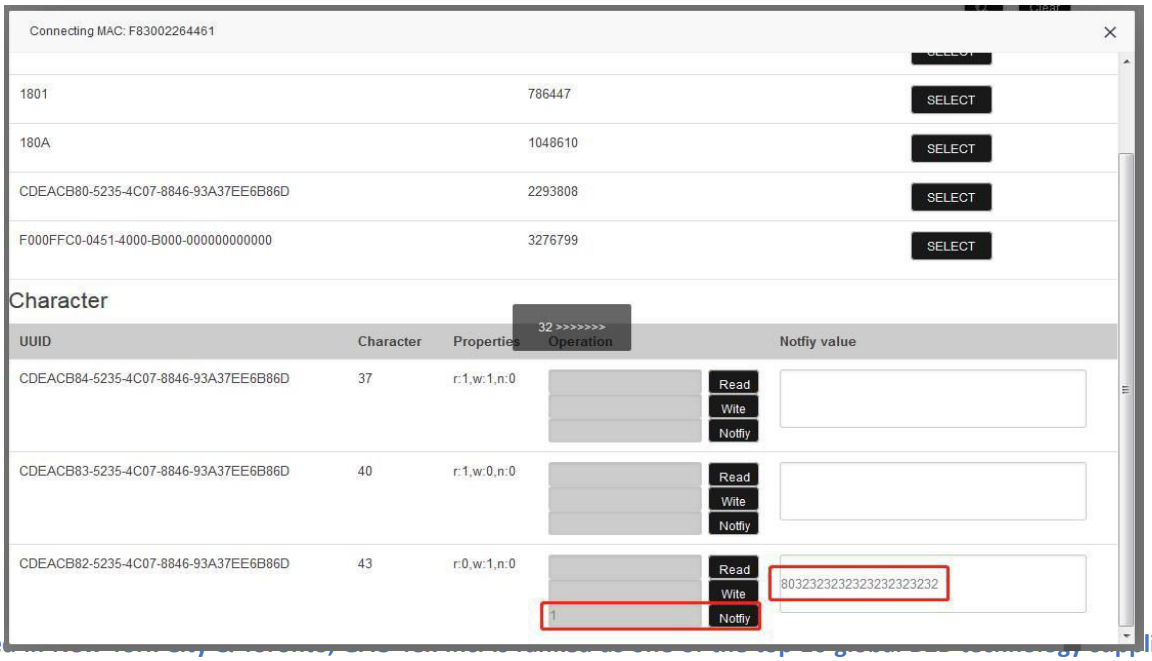
The data related to every characteristics can be found out by read or notify, if user want to notify the value, type in 1 in the command window. If user want to write configuration to the ble device, type in the hex value in the command line



Press disconnect to finish the operation,



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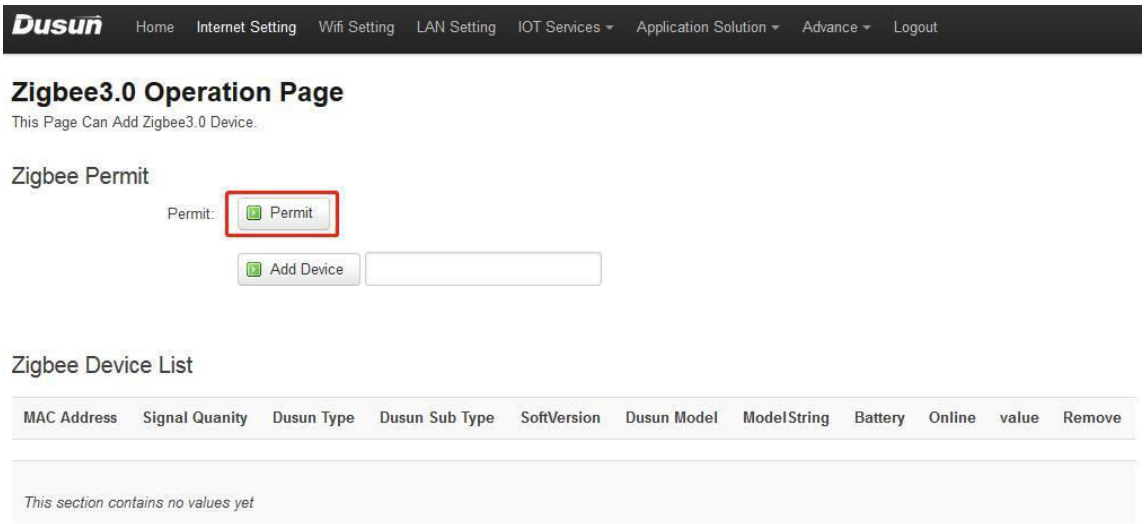
Zigee management

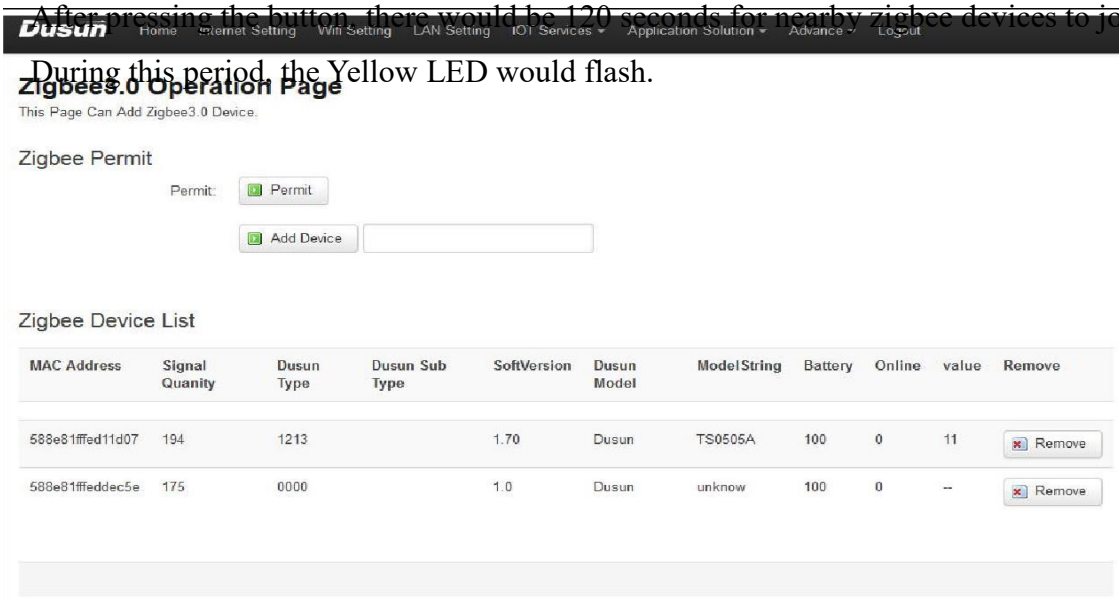
This page is used for zigbee management



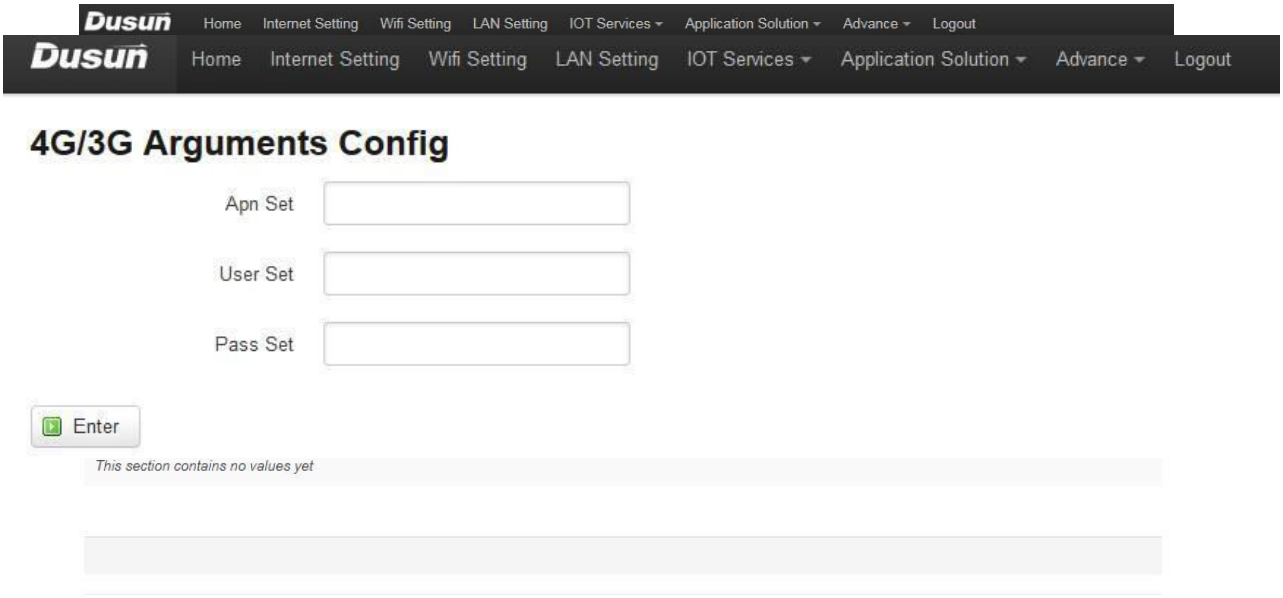
Ther n,

the

a) User can press the Permit button to let the nearby zigbee devices to join the network. After pressing the button, there would be 120 seconds for nearby zigbee devices to join. During this period, the Yellow LED would flash.



b) User can press the Add Device button and fill in the corresponding MAC address to let a specific zigbee device to join the network.

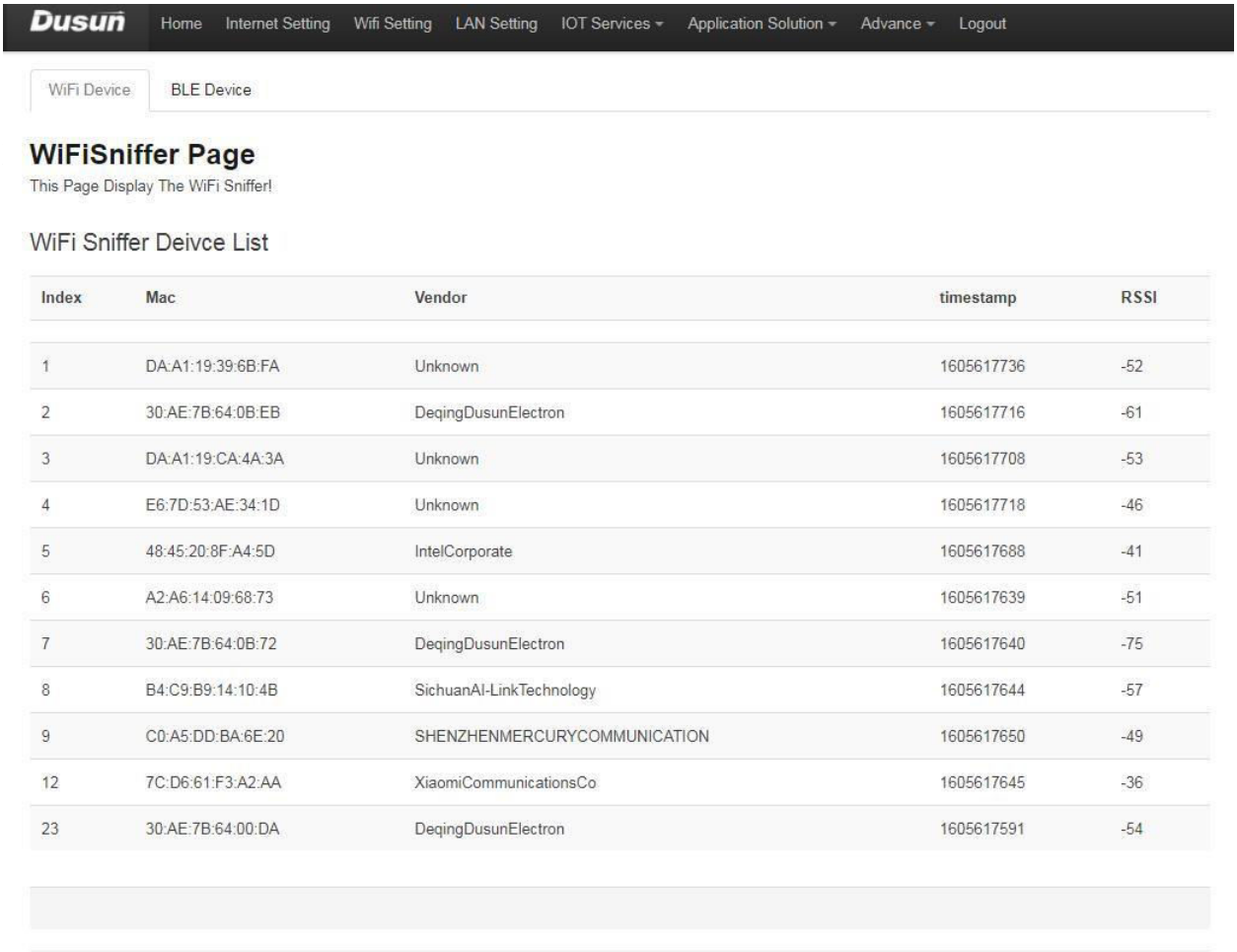


LTE

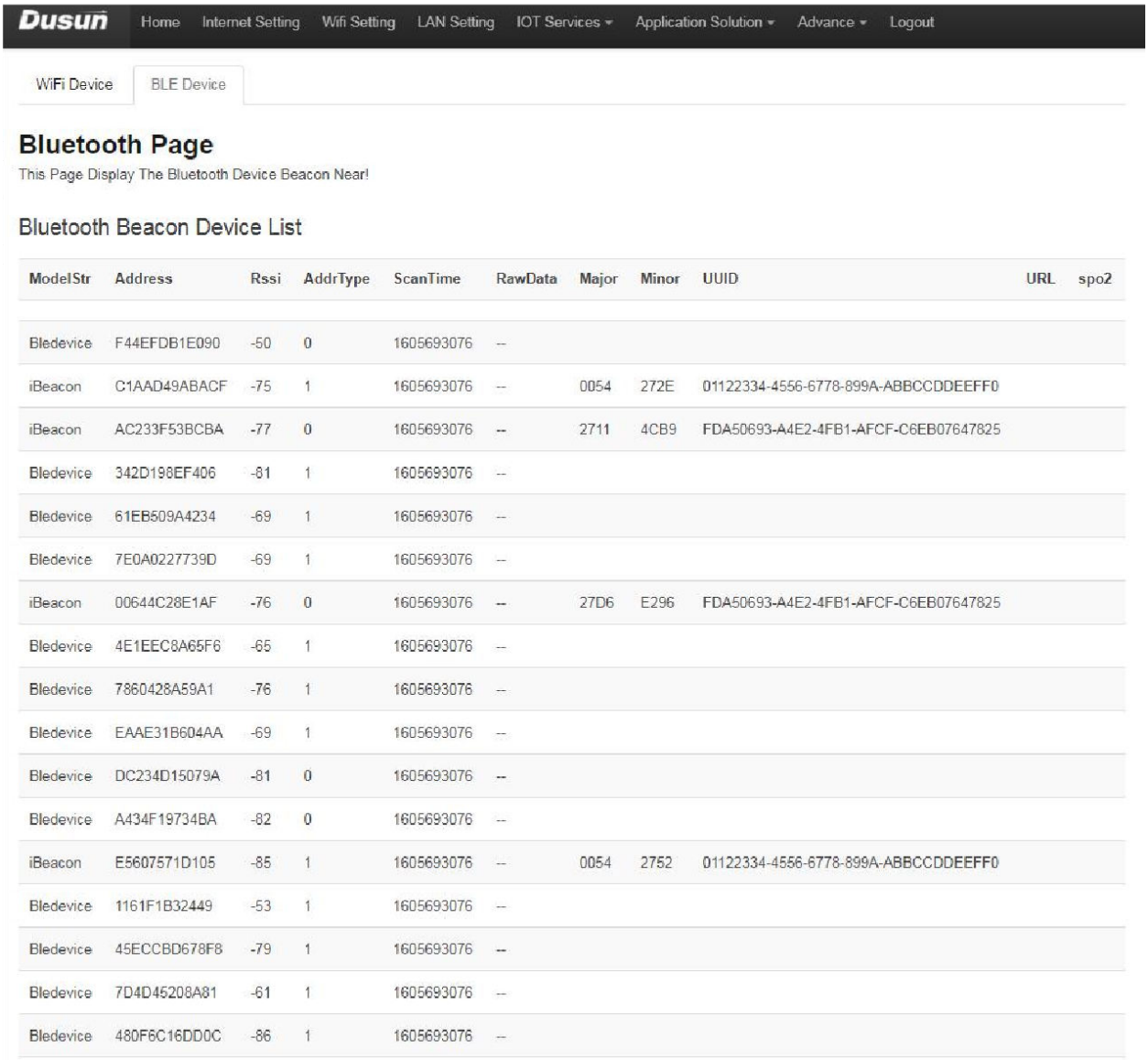
Switch to LTE section, fill in the APN, user name and password to enable LTE function, these info can be obtained from the carrier,

Switch to Application solution menu, this page includes the real use case for gateway implementation,

Scanner



Index	Mac	Vendor	timestamp	RSSI
1	DA:A1:19:39:6B:FA	Unknown	1605617736	-52
2	30:AE:7B:64:0B:EB	DeqingDusunElectron	1605617716	-61
3	DA:A1:19:CA:4A:3A	Unknown	1605617708	-53
4	E6:7D:53:AE:34:1D	Unknown	1605617718	-46
5	48:45:20:8F:A4:5D	IntelCorporate	1605617688	-41
6	A2:A6:14:09:68:73	Unknown	1605617639	-51
7	30:AE:7B:64:0B:72	DeqingDusunElectron	1605617640	-75
8	B4:C9:B9:14:10:4B	SichuanAI-LinkTechnology	1605617644	-57
9	C0:A5:DD:BA:6E:20	SHENZHENMERCURYCOMMUNICATION	1605617650	-49
12	7C:D6:61:F3:A2:AA	XiaomiCommunicationsCo	1605617645	-36
23	30:AE:7B:64:00:DA	DeqingDusunElectron	1605617591	-54



ModelStr	Address	Rssi	AddrType	ScanTime	RawData	Major	Minor	UUID	URL	spo2
Bledevice	F44EFDB1E090	-50	0	1605693076	--					
iBeacon	C1AAD49ABACF	-75	1	1605693076	--	0054	272E	01122334-4556-6778-899A-ABBCCDDEEFF0		
iBeacon	AC233F53BCBA	-77	0	1605693076	--	2711	4CB9	FDA50693-A4E2-4FB1-AFCF-C6EB07647825		
Bledevice	342D198EF406	-81	1	1605693076	--					
Bledevice	61EB509A4234	-69	1	1605693076	--					
Bledevice	7E0A0227739D	-69	1	1605693076	--					
iBeacon	00644C28E1AF	-76	0	1605693076	--	27D6	E296	FDA50693-A4E2-4FB1-AFCF-C6EB07647825		
Bledevice	4E1EEC8A65F6	-65	1	1605693076	--					
Bledevice	7860428A59A1	-76	1	1605693076	--					
Bledevice	EAAE31B604AA	-69	1	1605693076	--					
Bledevice	DC234D15079A	-81	0	1605693076	--					
Bledevice	A434F19734BA	-82	0	1605693076	--					
iBeacon	E5607571D105	-85	1	1605693076	--	0054	2752	01122334-4556-6778-899A-ABBCCDDEEFF0		
Bledevice	1161F1B32449	-53	1	1605693076	--					
Bledevice	45ECCBD678F8	-79	1	1605693076	--					
Bledevice	7D4D45208A81	-61	1	1605693076	--					
Bledevice	480F6C16DD0C	-86	1	1605693076	--					

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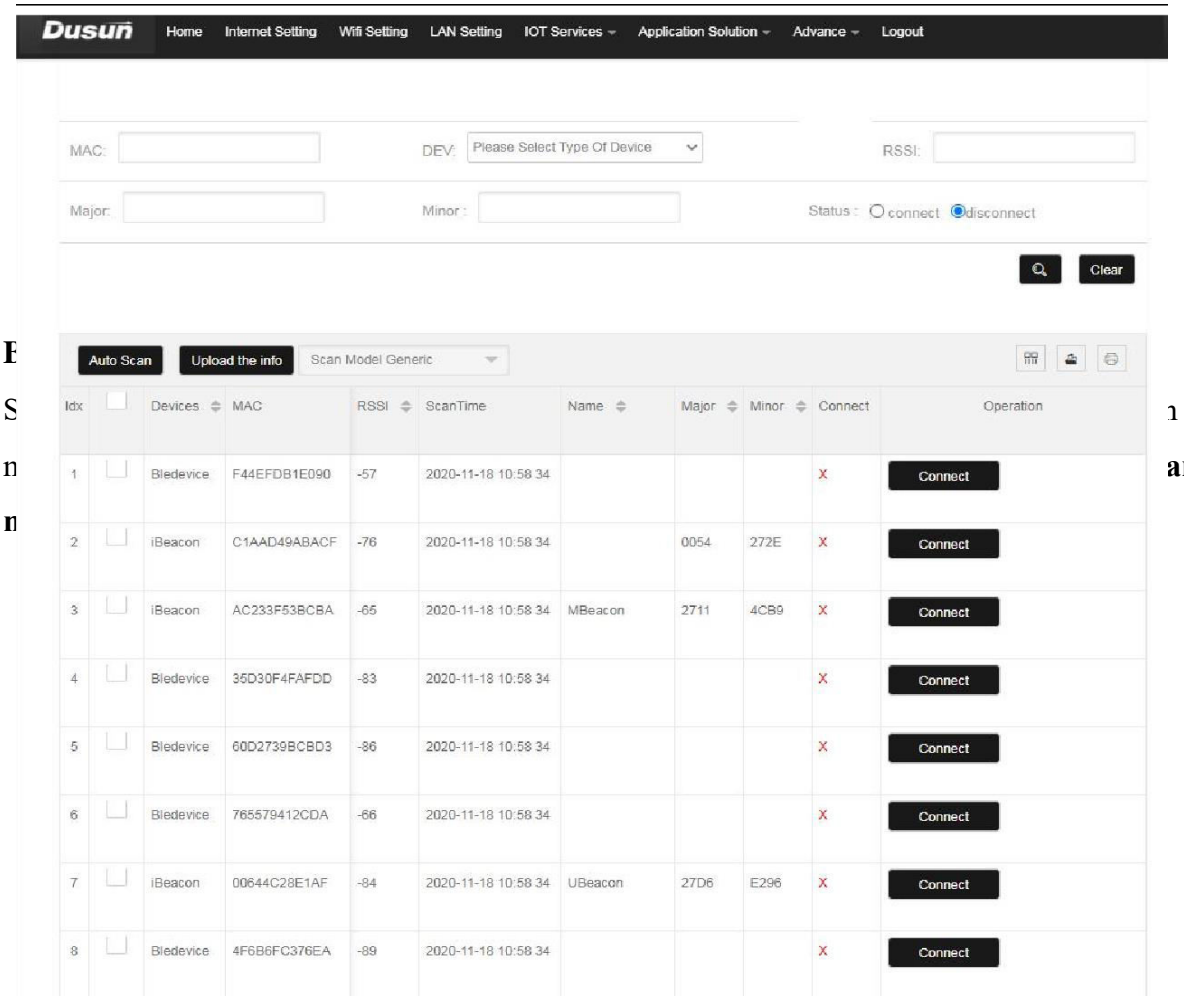
Dusun
Home
Internet Setting
Wifi Setting
LAN Setting
IOT Services
Application Solution
Advance
Logout
MAC:
DEV:
Please Select Type Of Device
RSSI:
Major:
Minor:
Status : connect disconnect
Clear
Auto Scan
Upload the info
Scan Model Generic
Idx
Devices
MAC
RSSI
ScanTime
Name
Major
Minor
Connect
Operation
1 Bledevice F44EFDB1E090 -57 2020-11-18 10:58:34 X Connect
2 iBeacon C1AAD49ABACF -76 2020-11-18 10:58:34 0054 272E X Connect
3 iBeacon AC233F53BCBA -65 2020-11-18 10:58:34 MBeacon 2711 4CB9 X Connect
4 Bledevice 35D30F4FAFDD -83 2020-11-18 10:58:34 X Connect
5 Bledevice 60D2739BCBD3 -86 2020-11-18 10:58:34 X Connect
6 Bledevice 765579412CDA -66 2020-11-18 10:58:34 X Connect
7 iBeacon 00644C28E1AF -84 2020-11-18 10:58:34 UBeacon 27D6 E296 X Connect
8 Bledevice 4F6B6FC376EA -89 2020-11-18 10:58:34 X Connect

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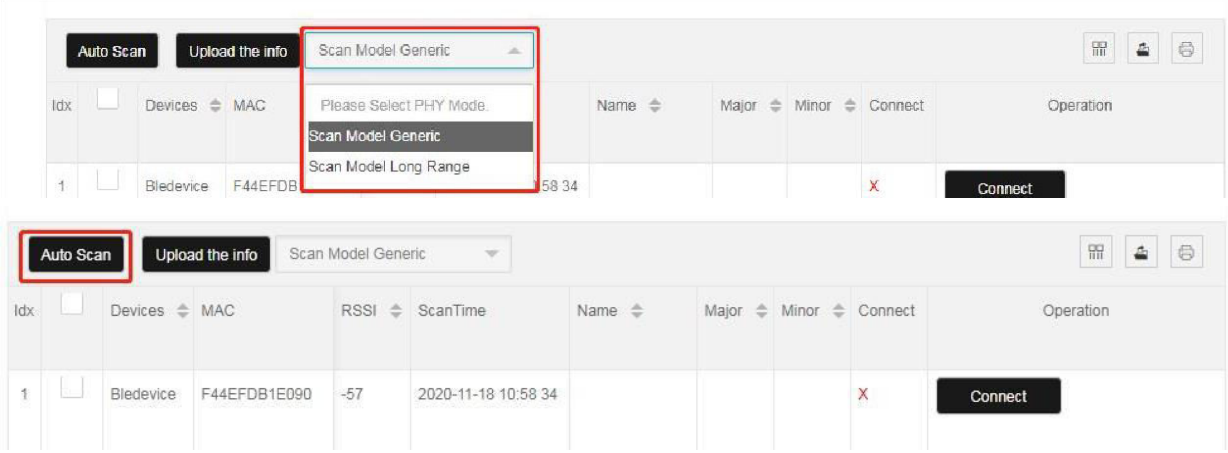


The scanning mode can be selected between **Generic** and **Long range**,

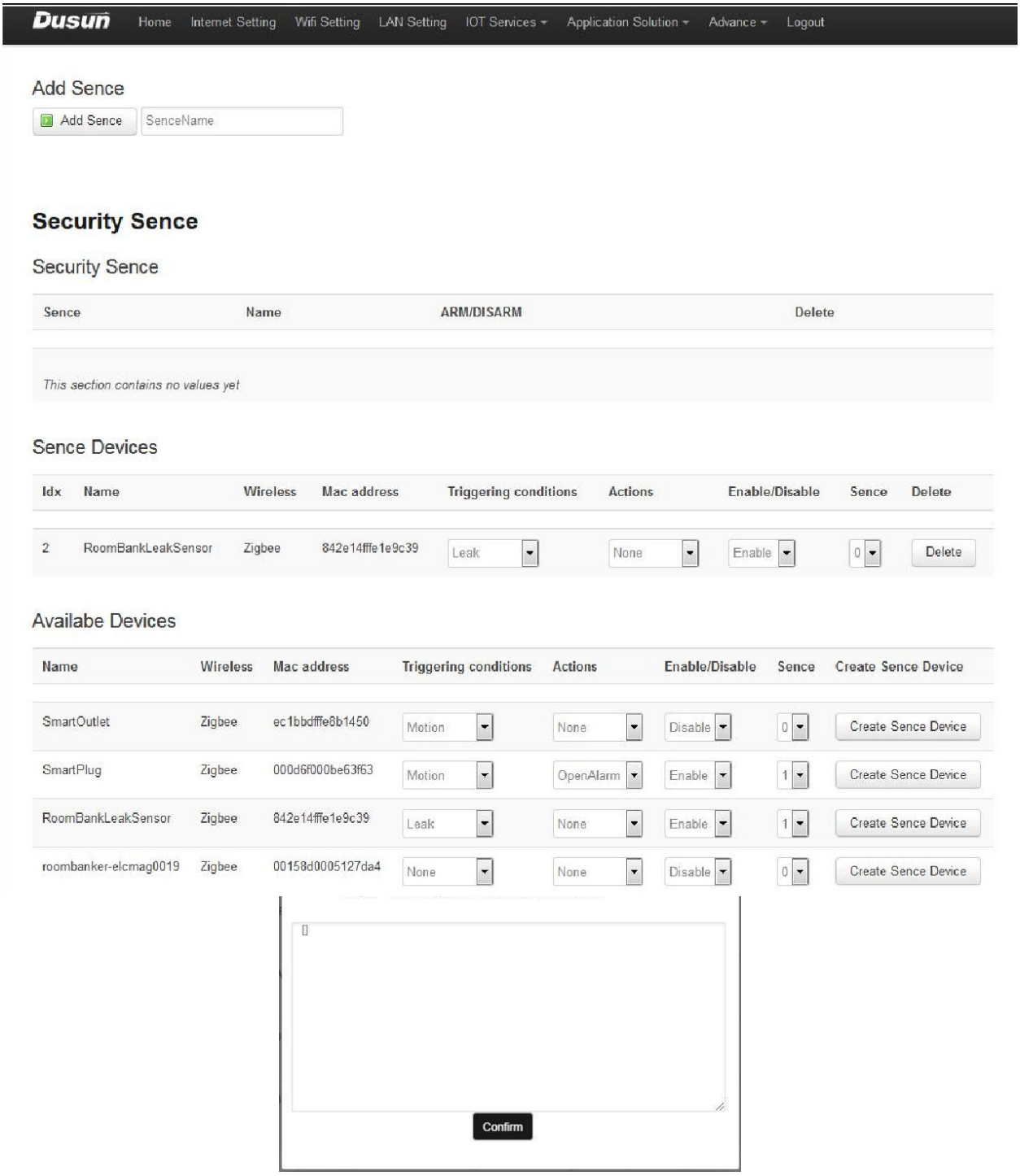
The Beacon messages could be uploaded to the MQTT Broker automatically, the detailed information can be configured by pressing the **Upload the info button.**

There are various options to configured the beacon messages uploaded to the **MQTT broker** user configured,

1) Raw Data/ Format Data: format data is the parsed data from the advertising packages, raw data is the unprocessed advertising package
2) MAC address: Filter the beacon messages by a consecutive number in the MAC address string

3) RSSI value: Filter the beacon messages with signal strength more than a specific value

4) Interval: Upload interval of the beacon messages, 3 seconds on minimum, set to 0 to switch off the upload process



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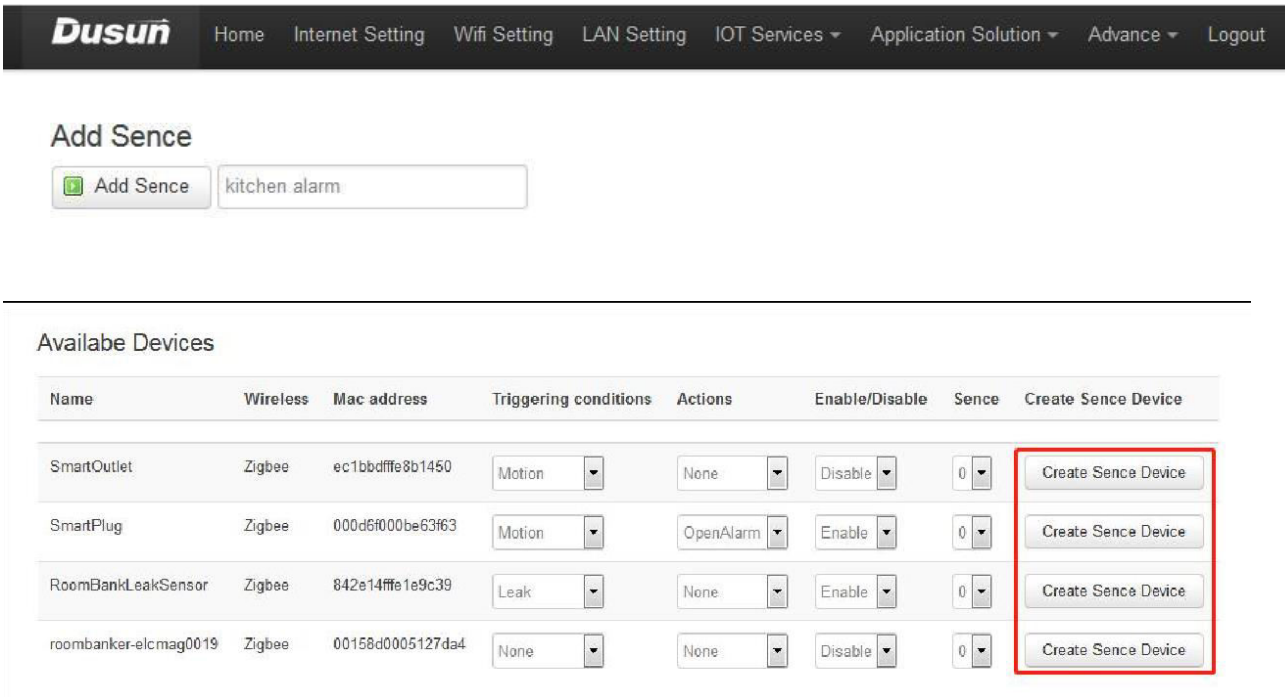


2) Add devices to the scene using the real devices,

3) Configure the scenario as desired, when leakage sensor triggered, the outlet would be turned off

d. Advance

Switch to Advance section

Logo setting

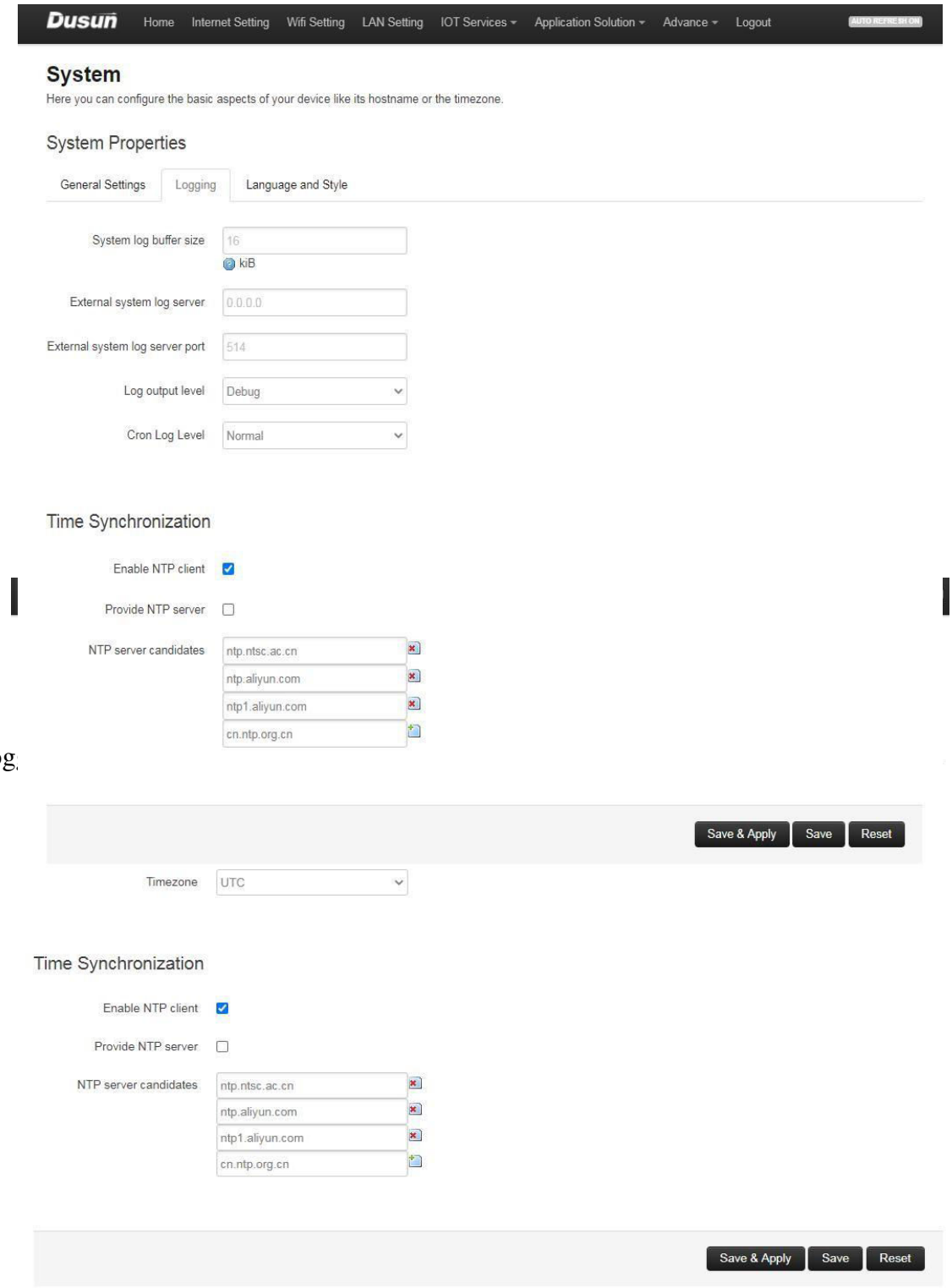
Switch to Logo setting menu,

Dusun supported customer setting of the logo. User can upload the desired Logo picture

System

Switch to System menu, in general setting section, user can configure the HOST name and

time zone of the gateway. The source for time synchronization can be chosen at right NTP server.



In log

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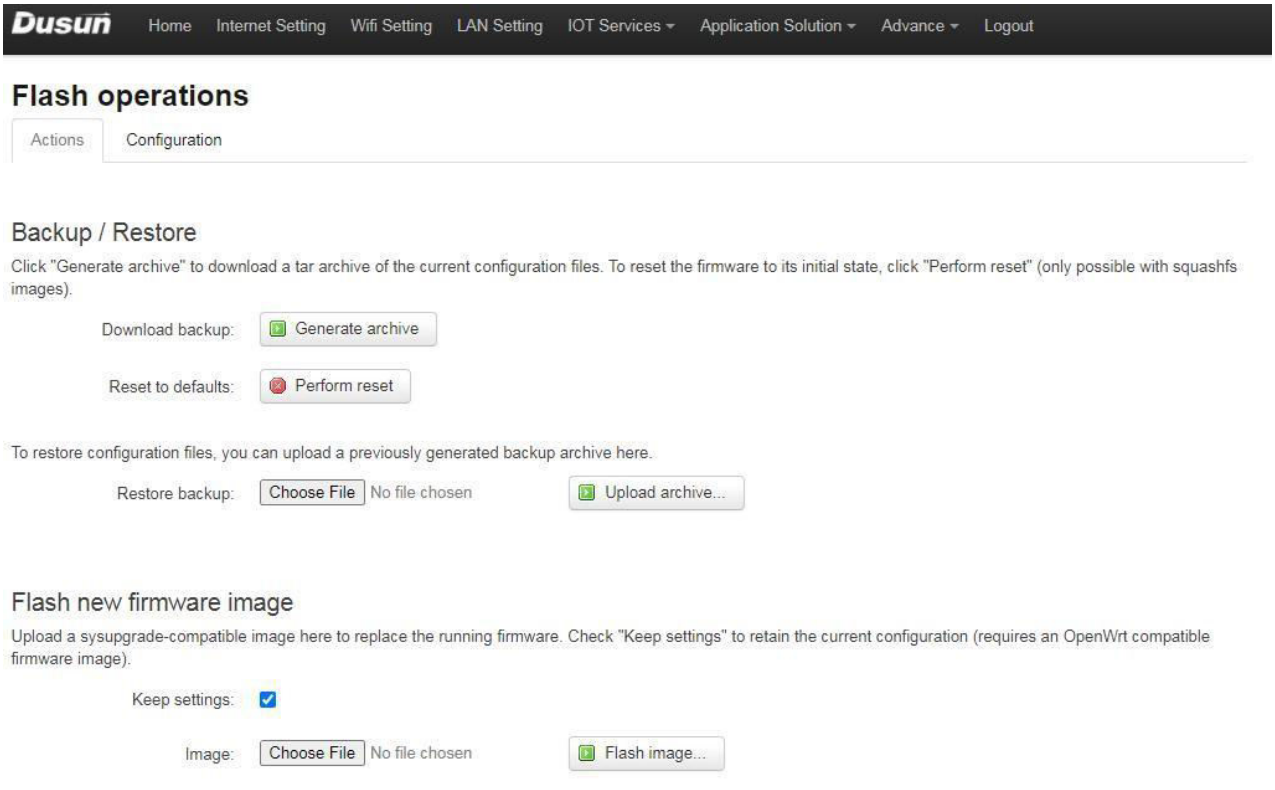
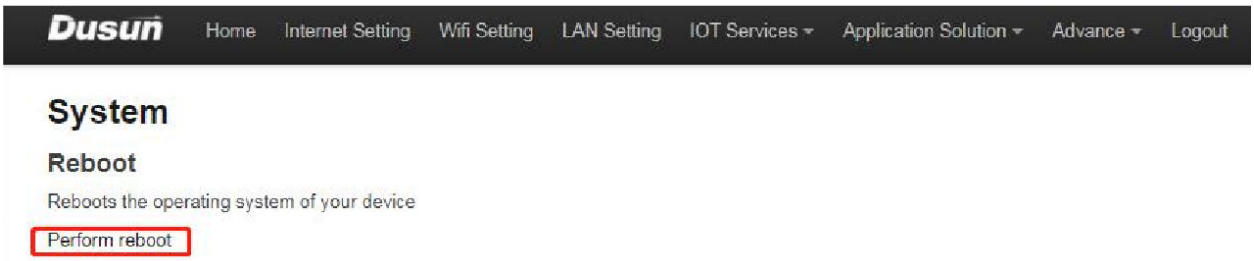
Administration

Diagnostics



Backup/ Flash firmware

Switch to Backup/ Flash firmware section,



version, If keeping setting is clicked the previous setting for wifi and MQTT would be stored, otherwise, they would not be stored.

Reboot

User can reboot gateway in Luci page

e. Logout

Press Logout to log out the login status