

# Grandstream Networks, Inc.

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GWN7610 Enterprise 802.11ac WiFi Access Point

User Manual



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## **CAUTION**

Changes or modifications to this product not expressly approved by Grandstream, or operation of this product in any way other than as detailed by this guide, could void your manufacturer warranty.

## **WARNING**

Please do not use a different power adaptor with devices as it may cause damage to the products and void the manufacturer warranty.



## FCC Caution

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



## GNU GPL INFORMATION

GWN7610 firmware contains third-party software licensed under the GNU General Public License (GPL). Grandstream uses software under the specific terms of the GPL. Please see the GNU General Public License (GPL) for the exact terms and conditions of the license.

Grandstream GNU GPL related source code can be downloaded from Grandstream web site:  
<http://www.grandstream.com/support/faq/gnu-general-public-license>



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## DOCUMENT PURPOSE

This document describes how to configure the GWN7610 via Web GUI in standalone mode, with other GWN7610 as Master/Slave architecture and more. The intended audiences of this document are network administrators. Please visit <http://www.grandstream.com/support> to download the latest “GWN7610 User Manual”.

This guide covers following topics:

- [Product Overview](#)
- [Installation](#)
- [Getting Started](#)
- [Using GWN7610 as Standalone Access Point](#)
- [Upgrading and Provisioning](#)
- [Experiencing the GWN7610 Wireless Access Point](#)



## CHANGE LOG

This section documents significant changes from previous versions of the GWN7610 user manuals. Only major new features or major document updates are listed here. Minor updates for corrections or editing are not documented here.

### **Firmware Version 1.0.1.27**

- This is the initial version.



## WELCOME

Thank you for purchasing Grandstream GWN7610 Enterprise Wireless Access Point. The GWN7610 is a high-performance 802.11ac wireless access point for small to medium sized businesses, multiple floor offices, commercial locations and branch offices. It offers dual-band 3x3:3 MIMO technology and a sophisticated antenna design for maximum network throughput and expanded Wi-Fi coverage range. To ensure easy installation and management, the GWN7610 uses a controller-less distributed network management design in which the controller is embedded within the product's web user interface. This allows each access point to manage a network of up to 50 GWN7610s independently without needing separate controller hardware/software and without a single point-of-failure.

This wireless access point can be paired with any third party routers. With support for advanced QoS, low-latency real-time applications, 250+ client devices per AP and dual Gigabit network ports with PoE/PoE+, the GWN7610 is an ideal wireless access point for large and small wireless network deployments.

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## PRODUCT OVERVIEW

### Technical Specifications

Table 1: GWN7610 Technical Specifications

<b>Wi-Fi Standards</b>	IEEE 802.11 a/b/g/n/ac
<b>Antennas</b>	3x 2.4 GHz, gain 3 dBi, internal antenna 3x 5 GHz, gain 3 dBi, internal antenna
<b>Wi-Fi Data Rates</b>	IEEE 802.11ac: 6.5 Mbps to 1300 Mbps IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n: 6.5 Mbps to 450 Mbps IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
<b>Frequency Bands</b>	2.4GHz radio : 2.400 - 2.4835 GHz 5GHz radio: 5.150 - 5.250 GHz, 5.725 - 5.850 GHz
<b>Channel Bandwidth</b>	2.4G: 20 and 40 MHz 5G: 20,40 and 80 MHz
<b>Wi-Fi Security</b>	WEP, WPA/WPA2-PSK, WPA/WPA2-Enterprise (TKIP/AES)
<b>MIMO</b>	3x3:3 2.4GHz, 3x3:3 5GHz
<b>Coverage Range</b>	575ft. (175 meters)
<b>Maximum TX Power</b>	5G:26dBm 2.4G:26dBm
<b>Receiver Sensitivity</b>	2.4G 802.11b:-92dBm@11Mbps; 802.11g:-76dBm@54Mbps; 802.11n 20MHz: -73dBm@MCS7; 802.11n 40MHz:-70dBm@MCS7  5G 802.11a:-94dBm@6Mbps; 801.11a:-77dBm@54Mbps; 802.11ac 20MHz: -69dBm@MCS8; 802.11ac HT40:-65dBm@MCS9; 802.11ac 80MHz:- 61dBm@MCS9
<b>BSSID</b>	16 BSSID per radio
<b>Concurrent Clients</b>	250+



<b>Network Interfaces</b>	2x autosensing 10/100/1000 Base-T Ethernet Ports
<b>Auxiliary Ports</b>	1x USB 2.0 port, 1x Reset Pinhole, 1x Kensington lock
<b>Mounting</b>	Indoor wall mount or ceiling mount, kits included
<b>LEDs</b>	3 tri-color LEDs for device tracking and status indication
<b>Network Protocols</b>	IPv4, 802.1Q, 802.1p, 802.1x, 802.11e/WMM
<b>QoS</b>	802.11e/WMM, VLAN, TOS
<b>Network Management</b>	Embedded controller in GWN7610 allows it to auto-discover, auto-provision and manage up to 50 GWN7610s in a network
<b>Auto Power Saving</b>	Self power adaptation upon auto detection of PoE or PoE+
<b>Power and Green Energy Efficiency</b>	DC Input: 24VDC/1A Power over Ethernet 802.3af/802.3at compliant Maximum Power Consumption: 13.8W
<b>Temperature &amp; Humidity</b>	Operation: 0°C to 40°C Storage: -10°C to 60°C Humidity: 10% to 90% Non-condensing
<b>Physical</b>	Unit Dimension: 205.3 x 205.3 x 45.9mm; Unit Weight: 540g Unit + Mounting Kits Dimension: 205.3 x 205.3 x 50.9mm; Unit + Mounting Kits Weight: 600g Entire Package Dimension: 258 x 247 x 86mm; Entire Package Weight: 900g
<b>Package Content</b>	GWN7610 802.11ac Wireless AP, Mounting Kits, Quick Start Guide
<b>Compliance</b>	FCC, CE, RCM, IC



## INSTALLATION

Before deploying and configuring the GWN7610, the device needs to be properly powered up and connected to the network. This section describes detailed information on installation, connection and warranty policy of the GWN7610.

### Equipment Packaging

Table 2: GWN7610 Equipment Packaging

<b>Main Case</b>	Yes (1)
<b>Mounting Bracket</b>	Yes (1)
<b>Plastic Washer</b>	Yes (3)
<b>Plastic Expansion Bolt</b>	Yes (3)
<b>M3 NUT</b>	Yes (3)
<b>Screw (PM 3 x 50)</b>	Yes (3)
<b>Screw (PM 3.5 x 20)</b>	Yes (3)
<b>Quick Installation Guide</b>	Yes (1)
<b>GPL License</b>	Yes (1)



## GWN7610 Access Point Ports

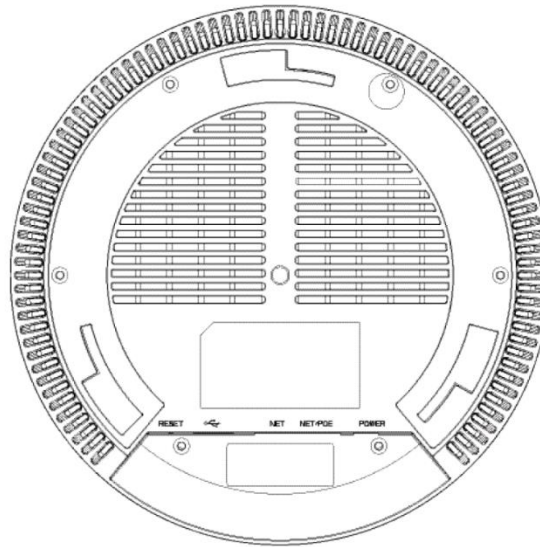



Figure 1: GWN7610 Ports

Table 3: GWN7610 Ports Description

Port	Description
Power	Power adapter connector (24V, 1A)
NET/PoE	Ethernet RJ45 port (10/100/1000Mbps) supporting PoE/PoE+.
NET	Ethernet RJ45 port (10/100/1000Mbps) to your router or another GWN7600 series
	USB 2.0 port(for future IOT & location based applications)
RESET	Factory reset button. Press for 7 seconds to reset factory default settings.

## Power and Connect GWN7610 Access Point

1. Connect one end of a RJ-45 Ethernet cable into the NET or PoE/NET port of the GWN7610.
2. Connect the other end of the Ethernet cable(s) into a LAN port to your Network.
3. Connect the 24V DC power adapter into the power jack on the back of the GWN7610. Insert the main plug of the power adapter into a surge-protected power outlet.

### Notes:



- GWN7610 can be powered using PoE/PoE+ switch via PoE/NET port. In this scenario, GWN7610 should be connected to the Router using NET port.
  - GWN7610 has a PoE detection daemon that will monitor the status and update maximum allowable power for USB ports in real time.
4. Wait for the GWN7610 to boot up and acquire an IP address from the DHCP Server.

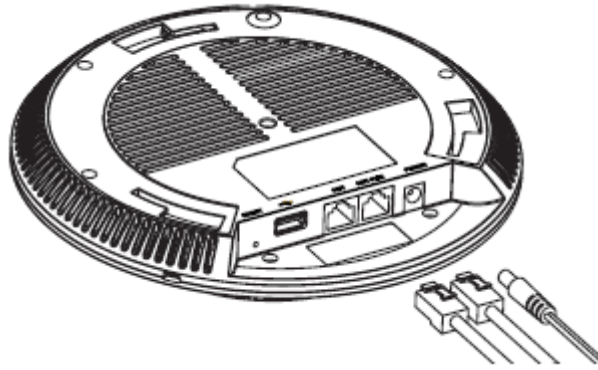


Figure 2: Connecting GWN7610

## Ceiling and Wall Mount Installation

GWN7610 can be mounted on the wall or ceiling, please refer to the following steps for the appropriate installation.

### Wall Mount

1. Position the mounting bracket at the desired location on the wall with the arrow pointing up.
2. Use a pencil to mark the four mounting holes (screw holes DIA 5.5mm, reticle hole DIA 25mm).

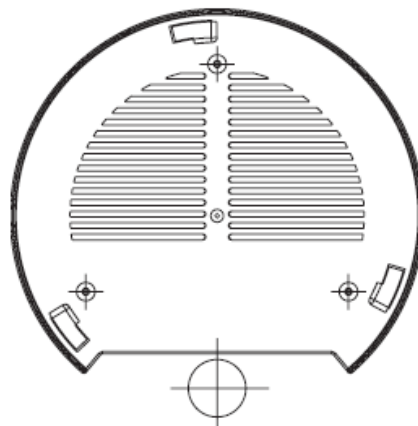
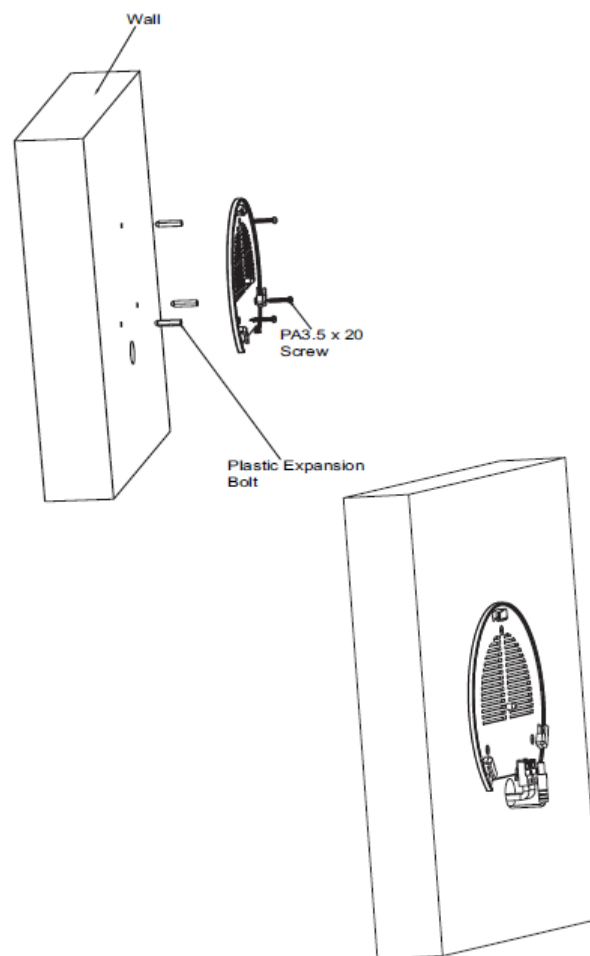


Figure 3: Mounting holes





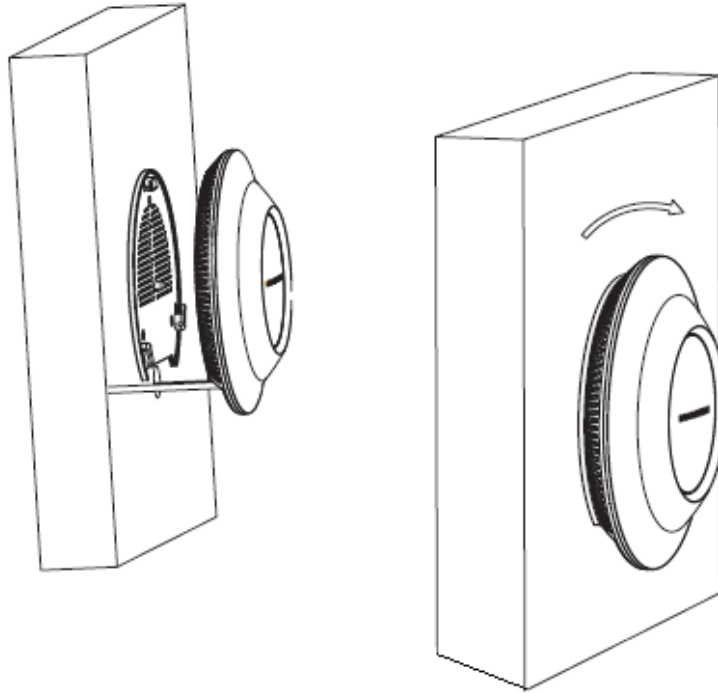
3. Insert screw anchors into the 5.5 mm holes. Attach the mounting bracket to the wall by inserting the screws into the anchors.



**Figure 4: Attaching Mount bracket to the wall**

4. Connect the power cable and the Ethernet cable (RJ45) to the correct ports of your GWN7610.
5. Align the arrow on the GWN7610AP with the arrow on the locking tab of the mounting bracket and ensure that your GWN is firmly seated on the mounting bracket.
6. Turn the GWN clockwise until it locks into place and fits the locking tab.

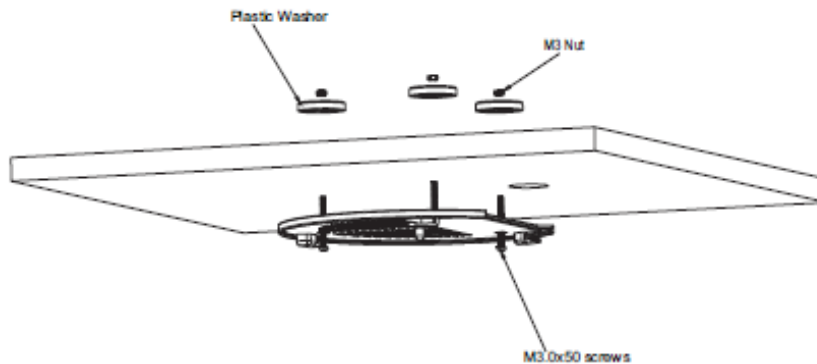




**Figure 5: Locking GWN7610 with Mounting bracket**

### **Ceiling Mount**

1. Remove the ceiling tile.
2. Place the ceiling backing plate in the center of the ceiling tile and mark the mounting screw holes (screw holes DIA 5.5mm, reticle hole DIA 25mm).
3. Insert the screws through the mounting bracket.



**Figure 6: Fixing Mounting bracket**



4. Connect the power cable and the Ethernet cable (RJ45) to the correct ports of your GWN7610.

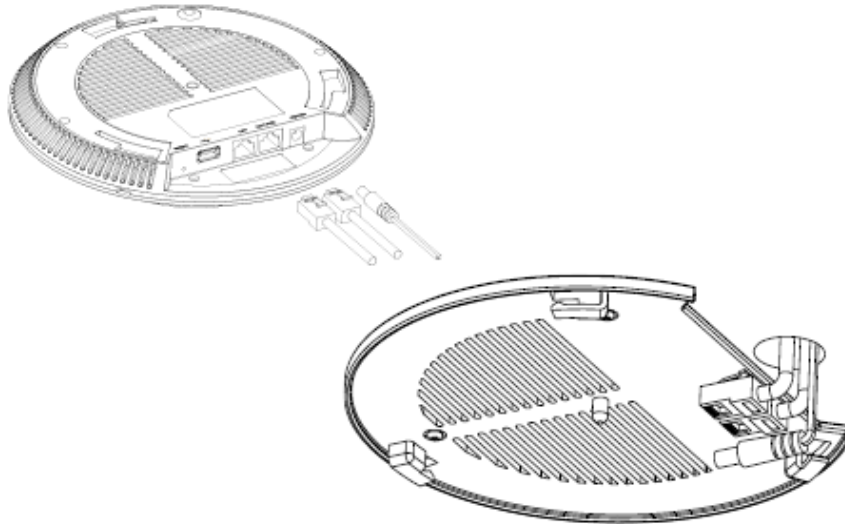


Figure 7: Inserting cables to connect with GWN7610

5. Align the arrow on the GWN7610AP with the arrow on the locking tab of the mounting bracket and ensure that your GWN is firmly seated on the mounting bracket and connect the network and power cables.

6. Turn the GWN clockwise until it locks into place and fits the locking tab.

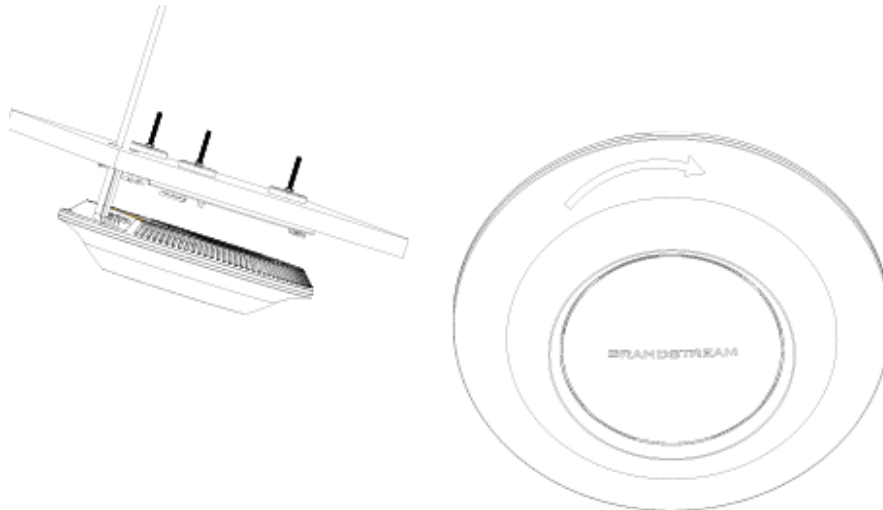


Figure 8: Fixing GWN7610 to Mounting bracket



**Note:**

Ceiling mounting is recommended for optimal coverage performance.

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## Warranty

If the GWN7610 Wireless Access Point was purchased from a reseller, please contact the company where the device was purchased for replacement, repair or refund. If the device was purchased directly from Grandstream, contact our Technical Support Team for a RMA (Return Materials Authorization) number before the product is returned. Grandstream reserves the right to remedy warranty policy without prior notification.



## GETTING STARTED

The GWN7610 Wireless Access Point provides an intuitive web GUI configuration interface for easy management to give users access to all the configurations and options for the GWN7610's setup.

This section provides step-by-step instructions on how to read LED patterns, discover the GWN7610 and use its Web GUI interface.

### LED Patterns

The panel of the GWN7610 has different LED patterns for different activities, to help users read the status of the GWN7610 whether it's powered up correctly, provisioned, in upgrading process and more, for more details please refer to the below table.

**Table 4: LED Patterns**

LED Status	Indication
<b>OFF</b>	Unit is powered off or abnormal power supply.
<b>Solid green</b>	Unit is powered on.
<b>Blinking green</b>	Firmware update in progress.
<b>Solid green</b>	Firmware update successful.
<b>Solid red</b>	Firmware update failed.
<b>Blinking purple</b>	Unit not provisioned.
<b>Blinking blue</b>	Unit provisioning in progress.
<b>Solid blue</b>	Unit is provisioned successfully.



## Discover the GWN7610

Once the GWN7610 is powered up and connected to the Network correctly, users can discover the GWN7610 using one of the below methods:

### Method1: Discover the GWN7610 using its MAC address

1. Locate the MAC address on the MAC tag of the unit, which is on the underside of the device, or on the package.
2. From a computer connected to same Network as the GWN7610, type in the following address using the GWN7610's MAC address on your browser [https://gwn\\_<mac>.local](https://gwn_<mac>.local)

For example, if a GWN7610 has the MAC address **00:0B:82:8B:4E:28**, this unit can be accessed by typing [https://gwn\\_000b828b4e28.local/](https://gwn_000b828b4e28.local/) on the browser.

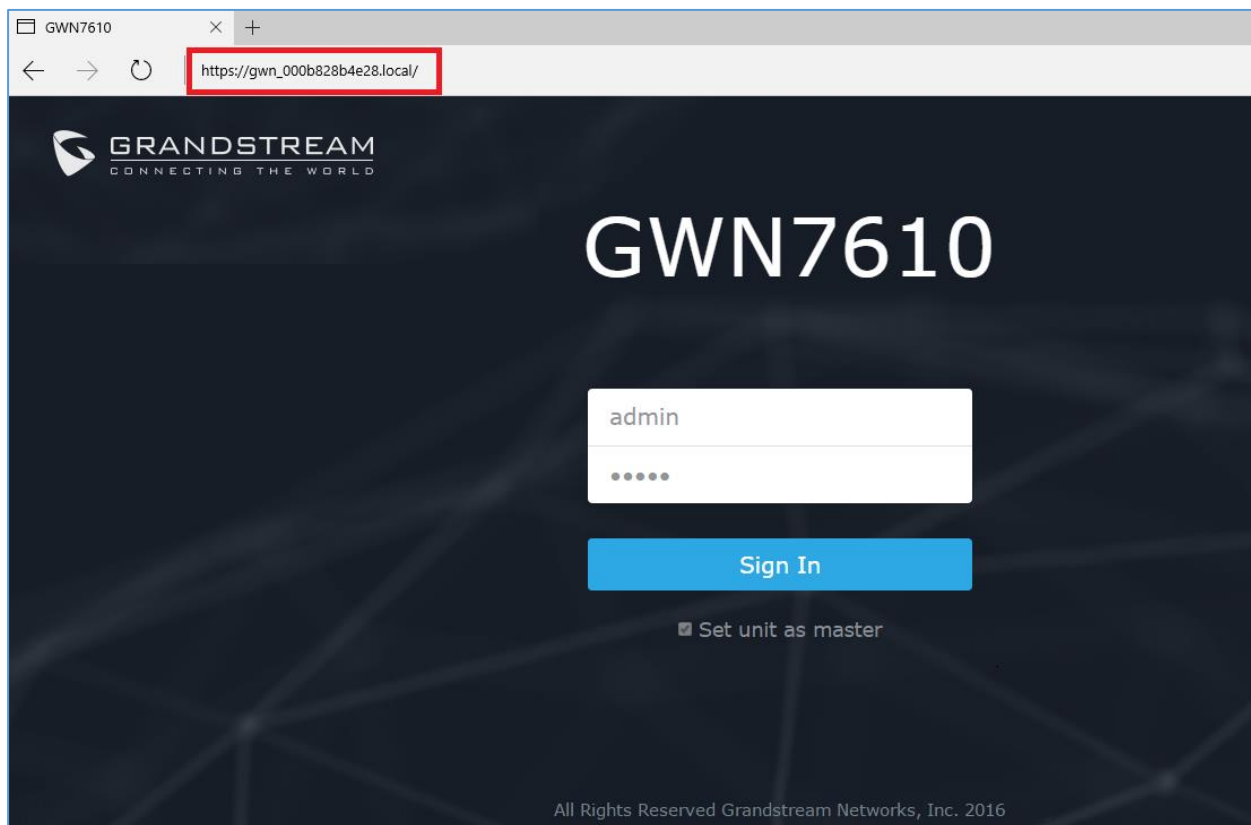


Figure 9: Discover the GWN7610 using its MAC Address



## Method 2: Discover the GWN7610 using GWNDiscoveryTool

1. Download and install **GWNDiscoveryTool** from the following link:  
<http://www.grandstream.com/support/tools>
2. Open the GWNDiscoveryTool, click on **Select** to define the network interface, then click on **Scan**.
3. The tool will discover all GWN7610 Access Points connected on the network showing their MAC, IP addresses and firmware version.
4. Click on **Manage Device** to be redirected directly to the GWN7610's configuration interface, or type in manually the displayed IP address on your browser.

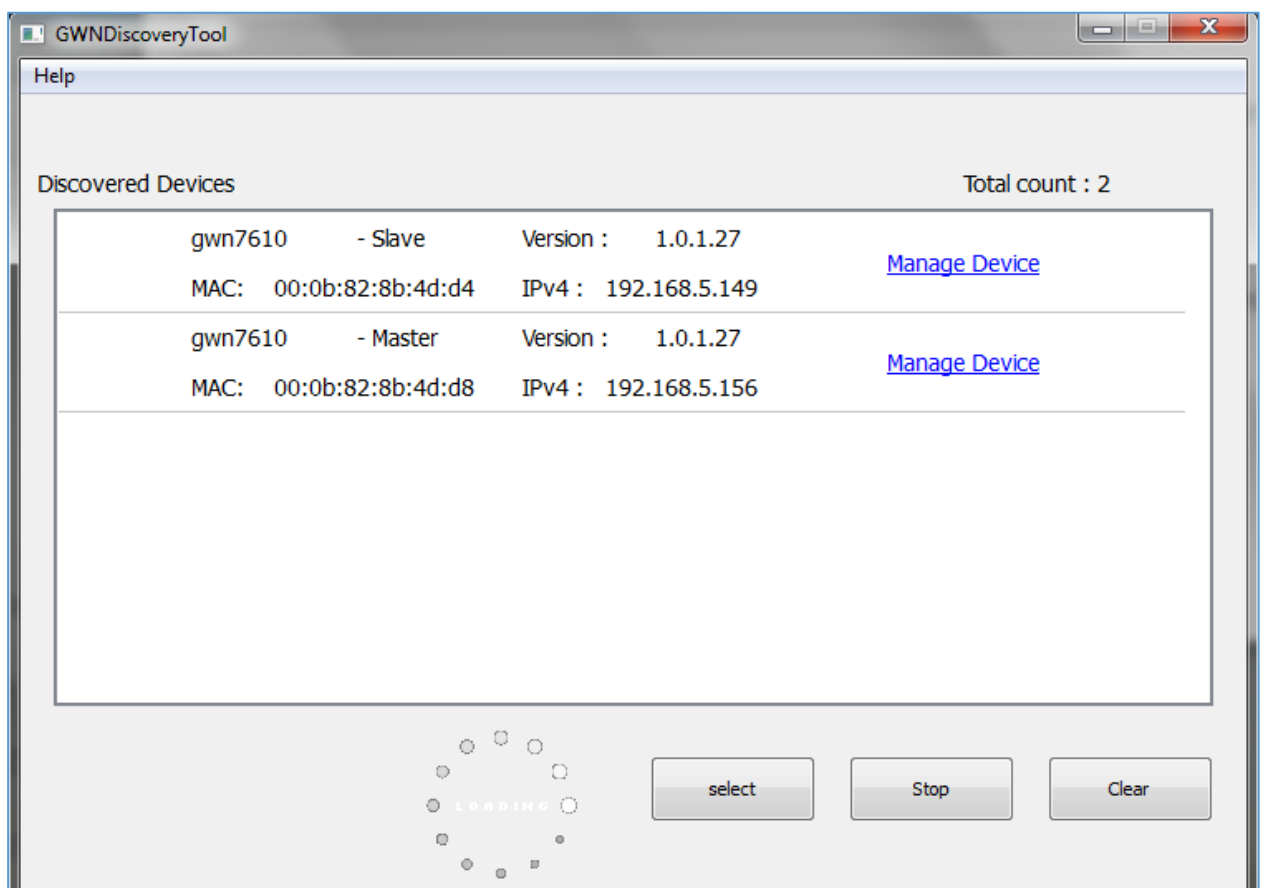


Figure 10: GWN Discovery Tool

Users can access then the GWN7610 using its WebGUI, the following sections will explain how to access and use the Web Interface.



## Use The WEB GUI

### Access WEB GUI

The GWN7610 embedded Web server responds to HTTPS GET/POST requests. Embedded HTML pages allow users to configure the device through a Web browser such as Microsoft IE, Mozilla Firefox, Google Chrome and etc.



Figure 11: GWN7610 Web GUI Login Page

To access the Web GUI:

1. Make sure to use a computer connected to the same local Network as the GWN7610.
2. Ensure the device is properly powered up.
3. Open a Web browser on the computer and type in the URL using the MAC address as shown in [Discover the GWN7610](#) or the IP address using the following format:

***https://IP\_Address***

4. Enter the administrator's login and password to access the Web Configuration Menu. The default administrator's username and password are "admin" and "admin".





## WEB GUI Languages

Currently the GWN7610 series web GUI supports **English** and **Simplified Chinese**.

Users can select the displayed language at the upper right of the web GUI either before or after logging in.



Figure 12: GWN7610 Web GUI Language

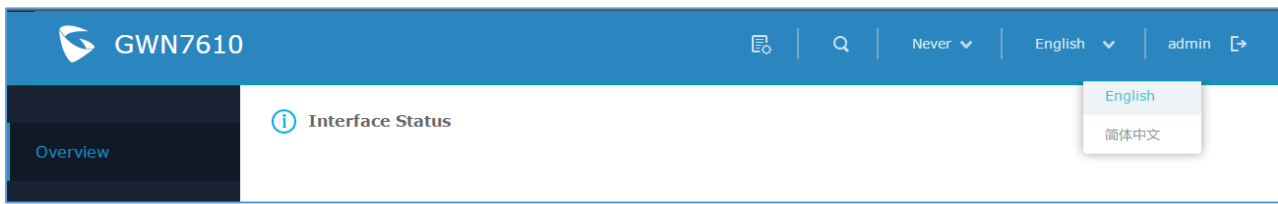




Figure 13: GWN7610 Web GUI Language

## Interface Status Icons

Overview is the first page shown after successful login to the GWN7610's Web Interface. Overview page provides an overall view of the GWN7610's interfaces via different icons. The following table shows different icons status in overview page of WebGUI.

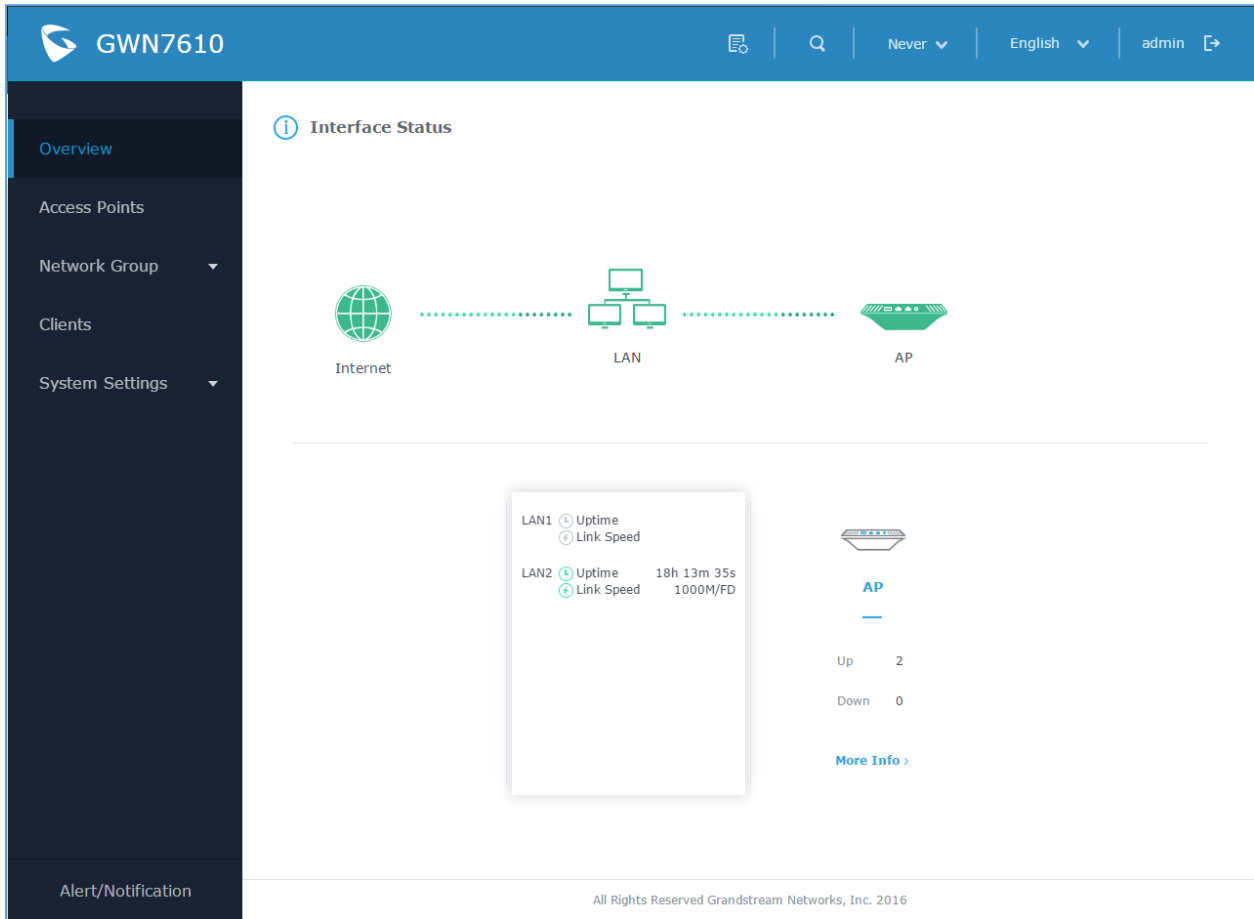
Table 5: Interface Status Icons

Icon Status	Indication
	All Access Points are discovered and paired correctly.
	Slave Access Points are offline.


Users can easily identify and have an overall view of the GWN7610 interfaces and slave access points as well as basic information such as link speed, IP addresses, uptime of LAN interfaces by highlighting the desired field using the mouse as shown in Figure 8. Or click on More info under AP to go to the Access



Points page to have advanced settings and configuration.



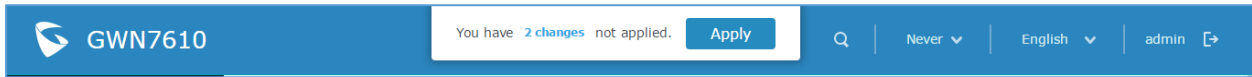
**Figure 14: Overview Page**

Note that status icons can be updated each 15s, 1min ,2min and 5min or Never by clicking  in the upper bar menu (Default is 15s).



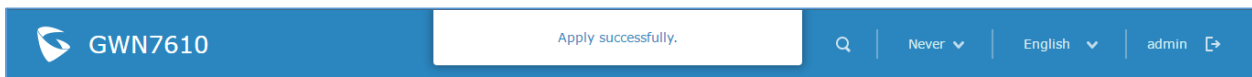
## Save And Apply Changes

When clicking on "Save" button after configuring or changing any option on the web GUI pages. A message mentioning the number of changes will appear on the upper menu (See Figure 9).



**Figure 15: Apply Changes**

Click on **Apply** button to apply changes.



**Figure 16: Apply Successful**



## USING GWN7610 AS STANDALONE ACCESS POINT

The GWN7610 can be used in Standalone mode, where it can act as Master Access Point Controller or in Slave mode and managed by another GWN7600 Master.

This section will describe how to use and configure the GWN7610 in standalone mode.

### Connect to GWN7610 Default Wi-Fi Network

GWN7610 can be used as standalone access point out of box, or after factory reset with Wi-Fi enabled by default.

After powering the GWN7610 and connecting it to the network, GWN7610 will broadcast a default SSID based on its MAC address **GWN[MAC's last 6 digits]** and a random password.

Note that GWN7610's default SSID and password information are printed on the MAC tag of the unit as shown on the below figure.

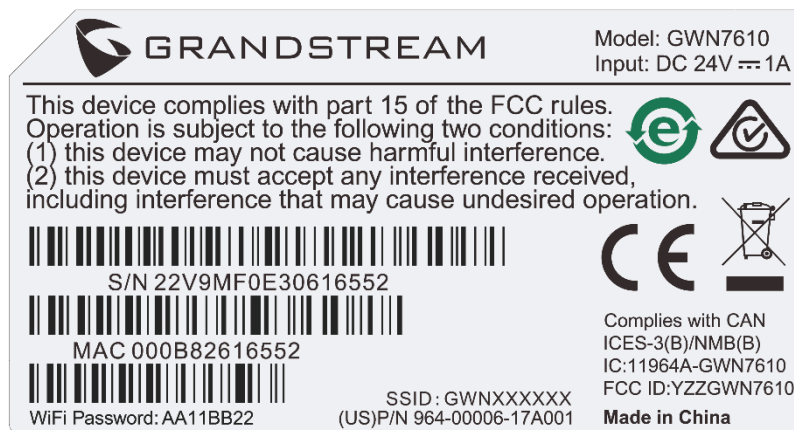


Figure 17: MAC Tag Label

### Using GWN7610 as Master Access Point Controller

Master Mode allows a GWN7600 to act as an Access Point Controller managing other GWN7610 access points. This will allow users adding other access points under one controller and managing them in an easy and a centralized way.

Master/Slave mode is helpful with large installations that needs more coverage area zones with the same controller.





**Figure 18: Login Page**


At factory reset, “**Login as Master**” will be checked by default, click on “**Sign In**” after typing the admin’s username and password.

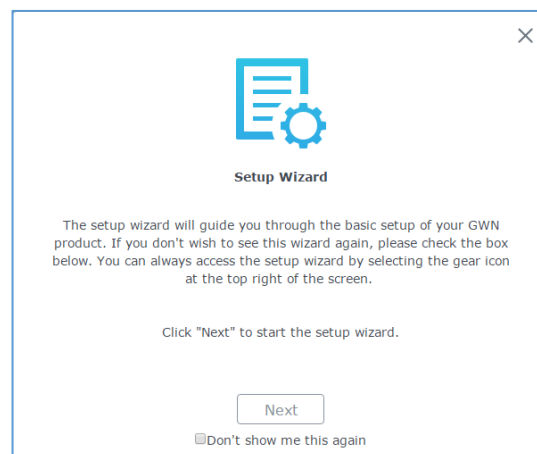
 **Warning:**

“**Login as Master**” option will forbid the GWN7610 Access Point from being paired by other Master GWN7610, and can only act as a Master Access point controller.

Users will need to perform a factory reset to the GWN7610, or unpair it from the initial GWN7610 in order to make it open to Master Access Point mode again.

### Login Page

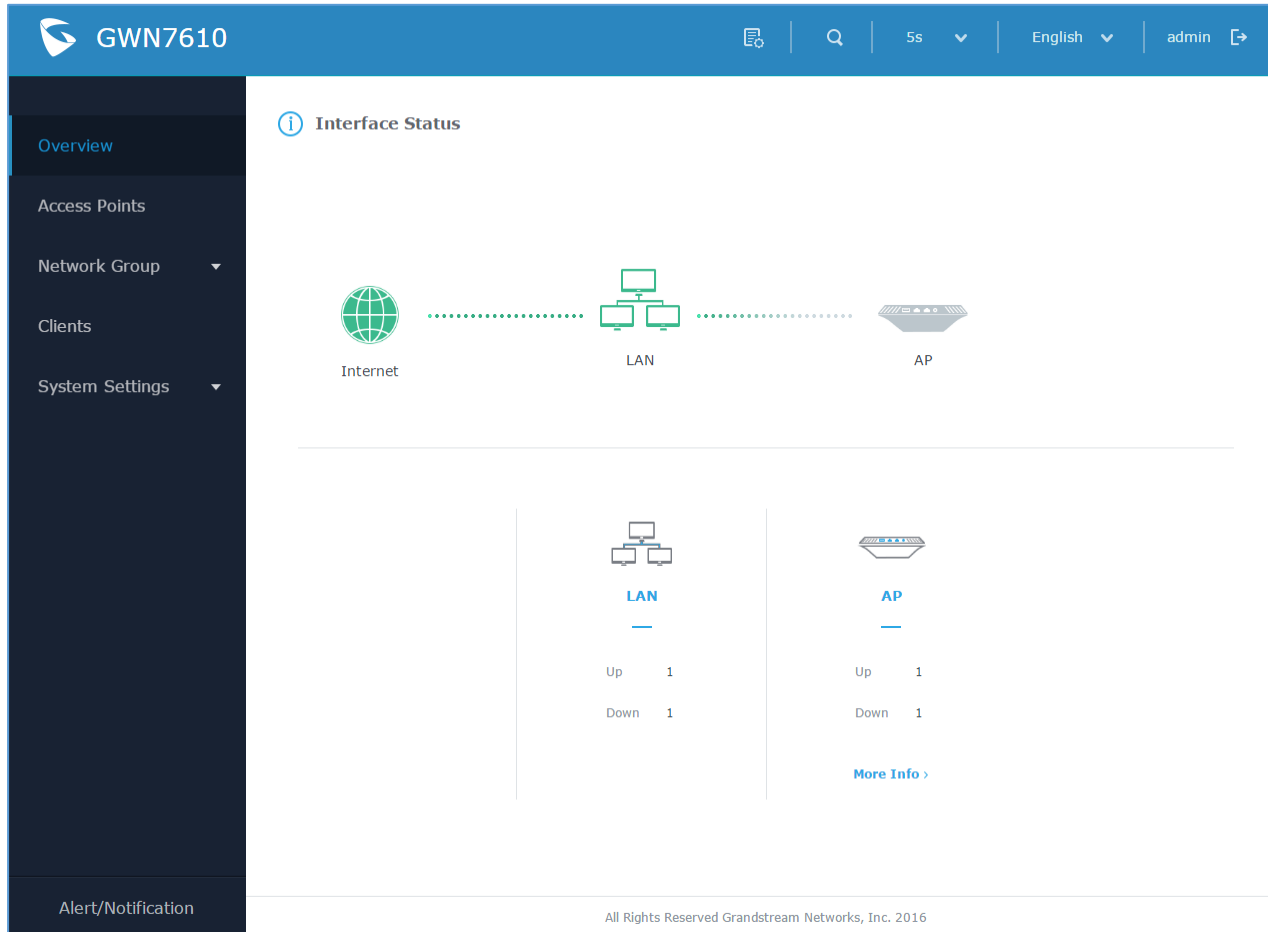
After login, users can use the Setup Wizard tool to go through the configuration setup, or exit and configure it manually. Setup Wizard can be accessed anytime by clicking on  while on the web interface.



**Figure 19: Setup Wizard**



The first page will give an overview of the GWN7610 status and connectivity with other GWN7610 Access Points.



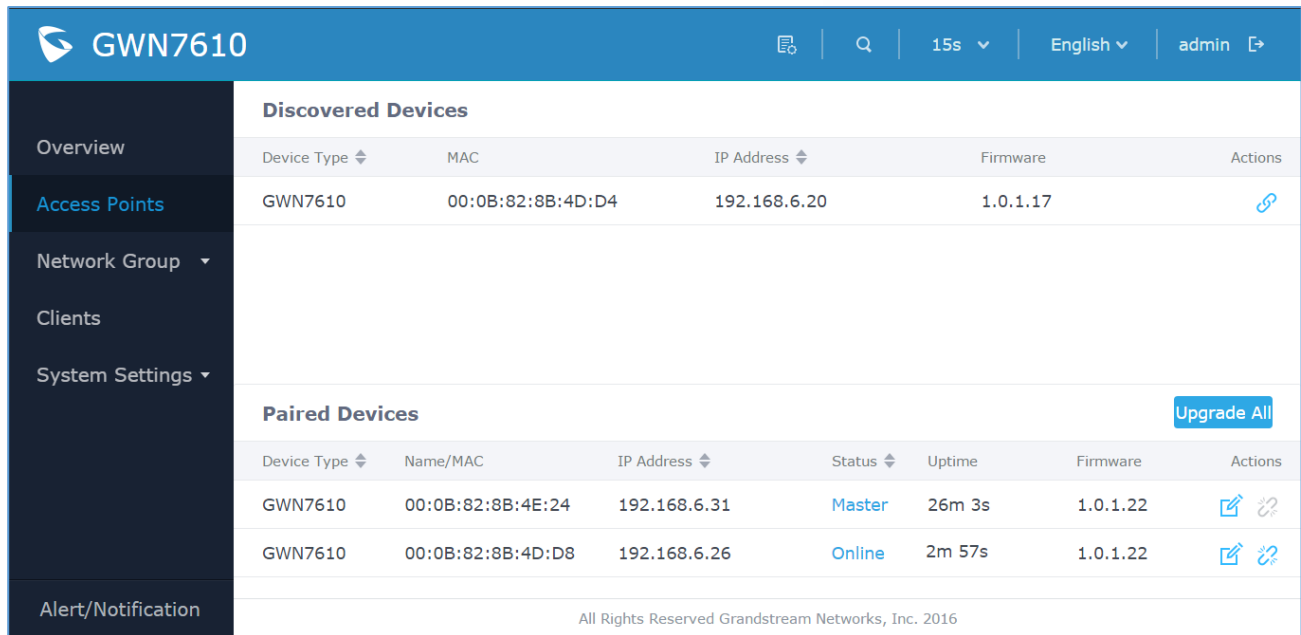
**Figure 20: Master Access Point Overview**

## Discover and Pair Other GWN7610 Access Point

To Pair a GWN7610 access point connected to the same Network as the GWN7610 follow the below steps:

1. Connect to the GWN7610 Web GUI as Master and go to **Access Points**.





GWN7610							
Overview Access Points Network Group ▾ Clients System Settings ▾ Alert/Notification	Discovered Devices						
	Device Type	MAC	IP Address	Firmware	Actions		
	GWN7610	00:0B:82:8B:4D:D4	192.168.6.20	1.0.1.17			
	Paired Devices <span style="float: right;">Upgrade All</span>						
	Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
	GWN7610	00:0B:82:8B:4E:24	192.168.6.31	Master	26m 3s	1.0.1.22	
	GWN7610	00:0B:82:8B:4D:D8	192.168.6.26	Online	2m 57s	1.0.1.22	
	All Rights Reserved Grandstream Networks, Inc. 2016						

**Figure 21: Discover and Pair GWN7610**

- Click on Pair under Actions, in order to pair the discovered access point as slave with the GWN7610 acting as Master.
- The paired GWN7610 will appear Online, users can click on to unpair it.

GWN7610	00:0B:82:8B:4D:D8	192.168.1.24	Online	18h 37m 2s	1.0.1.17	
---------	-------------------	--------------	--------	------------	----------	--

**Figure 22:GWN7610 online**

- Users can click on next to Master or paired access point to check device configuration for its status, users connected to it and configuration. Refer to below table for Device Configuration tabs.

**Table 6: Device Configuration**

<b>Status</b>	Shows the device’s status information such as Firmware version, IP Address, Link Speed, Uptime, and Users count via different Radio channels.
<b>Users</b>	Shows the connected Users to the GWN7610 access point.
<b>Configuration</b>	<ul style="list-style-type: none"> <li><b>Device Name:</b> Set GWN7610’s name to be shown next to MAC address.</li> <li><b>Fixed IP:</b> Set a static IP for the GWN7610, default is unchecked.</li> </ul>



- **Frequency:** Set the GWN7610's frequency, it can be either 2.4GHz, 5GHz or Dual-band.
- **Enable Band Steering:** When Frequency is set to Dual-Band, users can check this option to enable Band Steering on the Access Point, this will help redirecting clients to a radio band accordingly for efficient use and to benefit from the maximum throughput supported by the client.
- **Mode:** Choose the mode for the frequency band, 802.11n/g/b for 2.4 Ghz and 802.11ac for 5Ghz.
- **Channel Width:** Choose the channel width.
- **40MHz Channel Location:** Configure the 40MHz channel location.
- **Channel:** Select Auto, or a specified channel, default is Auto.
- **Enable Short Guard Interval:** Check to activate this option to increase throughput.
- **Active Spatial Streams:** Choose active spatial stream if Auto, 1, 2 or 3 streams.
- **Radio Power:** Set the Radio Power, it can be Low, Medium or High.
- **Disable Beam Forming:** Check to disable beam forming to broadcast the signal to a wide area.
- **Reboot Device:** Reboot the access point.
- **Upgrade Device Firmware:** Upgrade the access point's firmware.

---

**Note**

If a GWN7610 is not being paired or the pair icon is grey color, make sure that it is not being paired with another GWN7610 Access Point acting as Master Controller, if yes users will need to unpair it first, or reset it to factory default settings in order to make it available for pairing by other GWN7610 Access Point Controller

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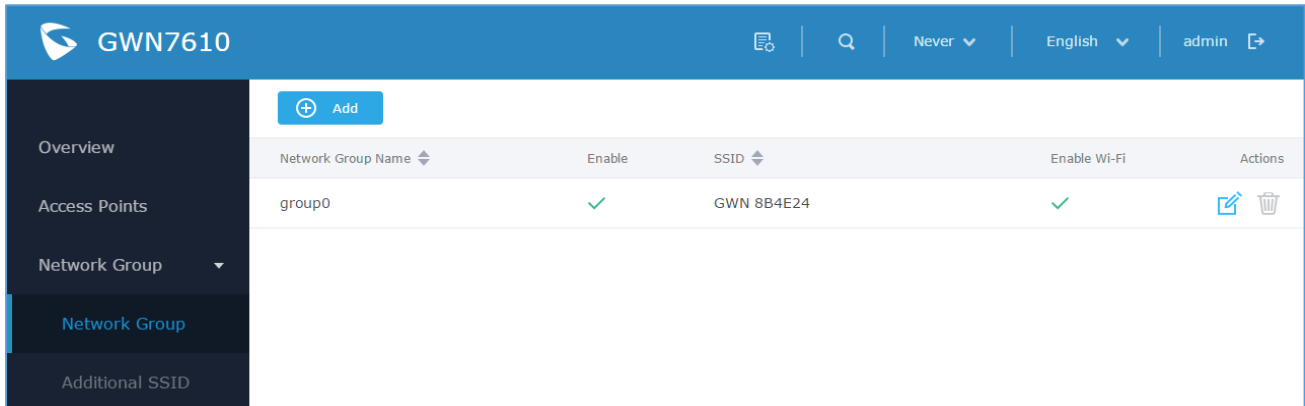






## Network Groups

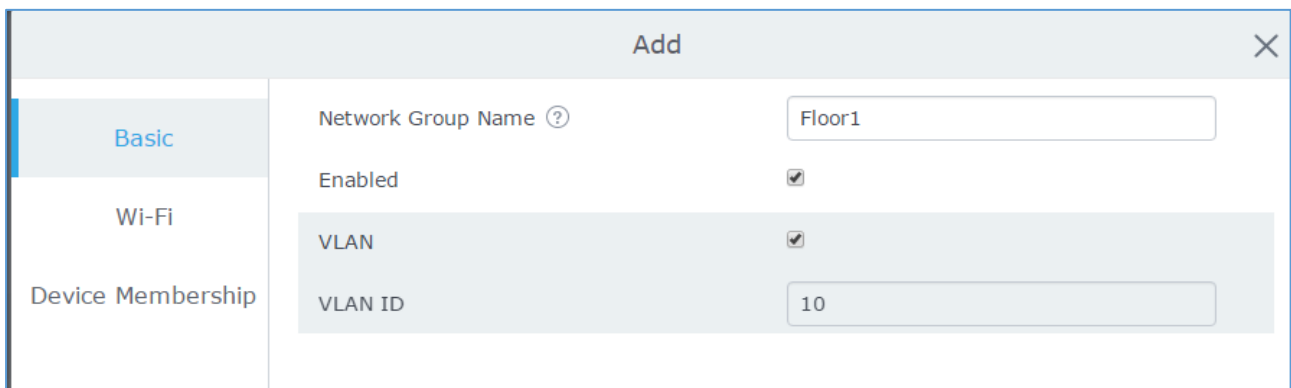
When using GWN7610 as Master Access Point, users have the ability to create different Network groups and adding GWN7610 Slave Access Points.

Log in as Master to the GWN7610 WebGUI and go to **Network Group->Network Group**.



**Figure 23: Network Group**

The GWN7610 will have a default network group named group0, click on  to edit it, or click on  to add a new network group.



**Figure 24: Add a New Network Group**

When editing or adding a new network group, users will have three tabs to configure:

- Basic: Used to name the network group, and set a VLAN ID if adding a new network group
- Wi-Fi: Please refer to the below table for Wi-Fi tab options

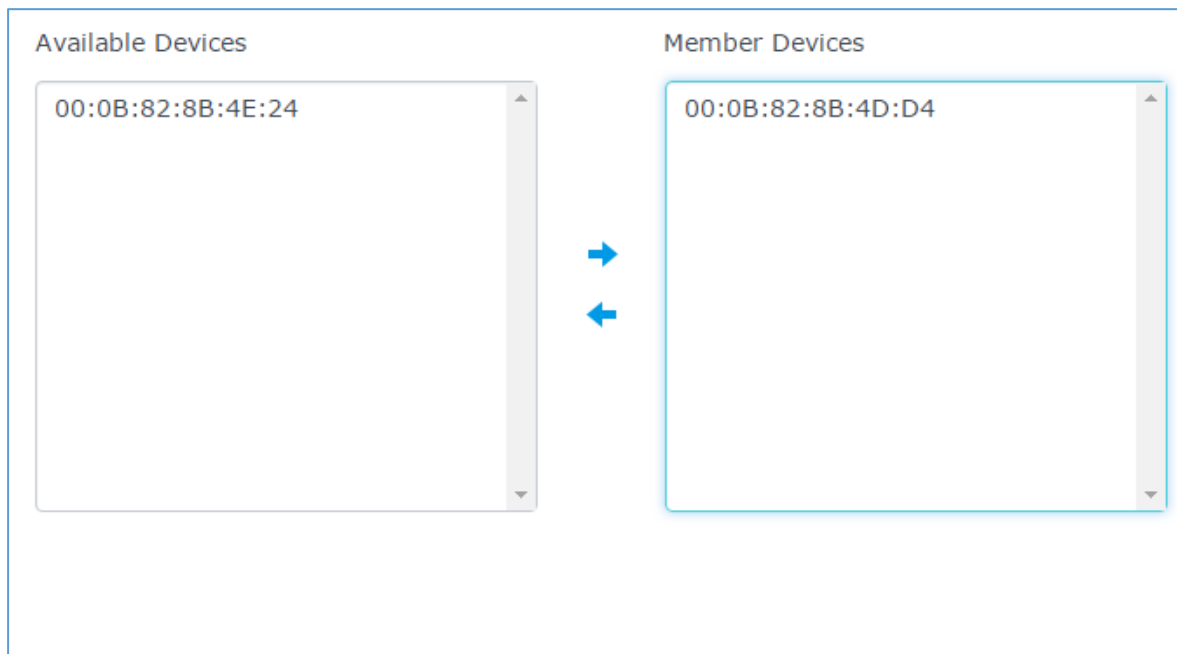
**Table 7: Wi-Fi**

<b>Enable Wi-Fi</b>	Check to enable Wi-Fi for the network group.
<b>SSID</b>	Set or modify the SSID name.
<b>SSID Hidden</b>	Select to hide SSID.
<b>Security Mode</b>	Set the security mode for encryption, 5 options are available: WEP 64-bit, WEP 128-bit, WPA, WPA2 and Open).



<b>Use MAC Filtering</b>	Choose Blacklist/Whitelist to specify MAC addresses to be excluded/included from connecting to the zone's Wi-Fi. Default is Disabled.
<b>Client Isolation</b>	Choose if client isolation will be enabled in order to forbid wireless clients connected to the zone's Wi-Fi from seeing each other.
<b>Gateway MAC Address</b>	Type in the Gateway's MAC address if available.
<b>RSSI Enabled</b>	Check to enable RSSI function.
<b>Minimum RSSI (dBm)</b>	Enter the minimum RSSI value in dBm. If the signal value is smaller than the configured minimum value, the client will be disconnected. The input range is from "-94" or "-1".

- Device Membership: Used to add or remove paired access points to the network group

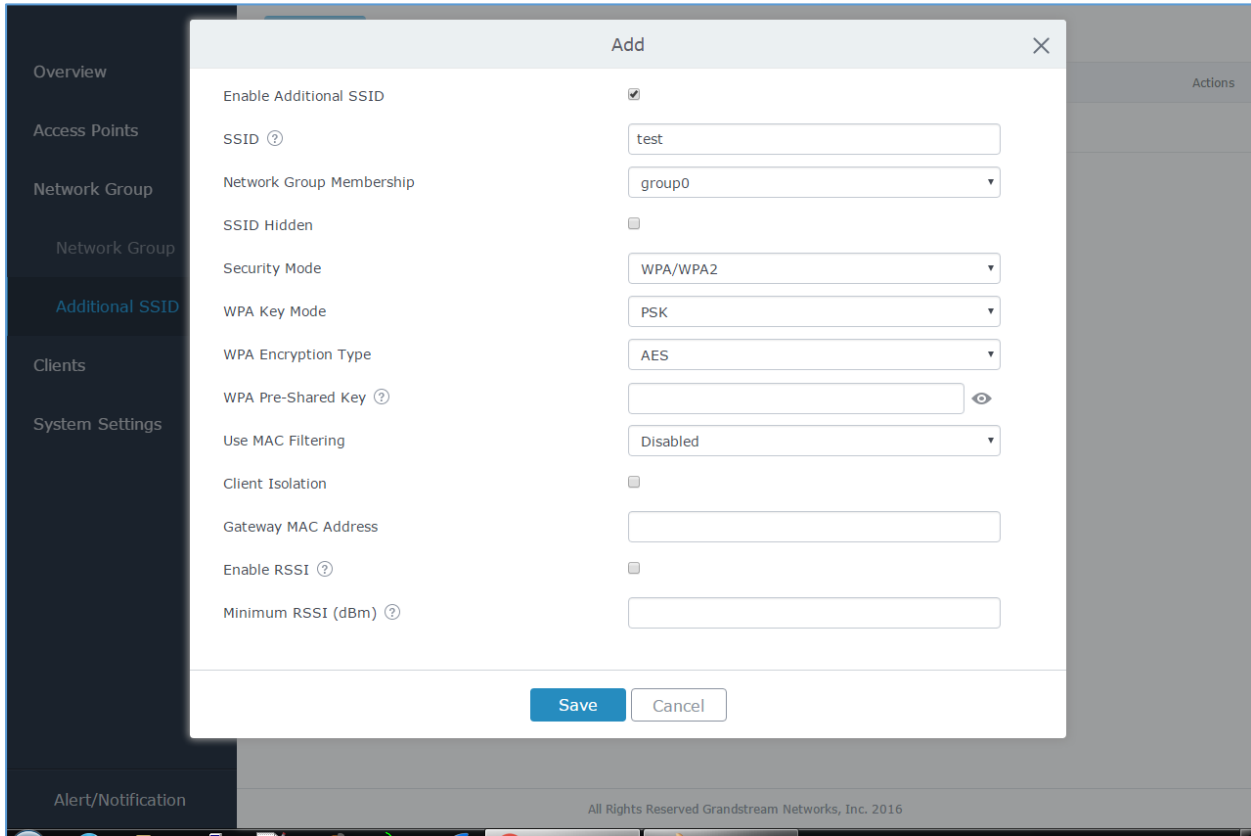


**Figure 25: Device Membership**

Click on  to add the GWN7610 to the network group, or click on  to remove it.



Users can also create an additional SSID under the same group. To create an additional SSID go to **Network Group->Additional SSID**.







**Figure 26: Additional SSID**

Select one of the available network groups from **Network Group Membership** dropdown menu, this will create an additional SSID with the same Device Membership configured when creating the main network group.

SSID	Enabled	Network Group	Hidden	Security Mode	MAC Filtering	Client Isolat...	RSSI	Actions
test	✓	group0	✗	WPA/WPA2	Disabled	✗	✗	 

**Figure 27: Additional SSID Created**

Click on  to delete the additional SSID, or  to edit it.




## Advanced Features

GWN7610 offers many features for managing and monitoring connected clients to network groups, as well as debugging and troubleshooting.


### Capture

This section is used to generate packet trace captures from network groups interfaces which will help to sniff packets within the network group for troubleshooting purpose or monitoring...Users will need to plug a USB device to one of the USB ports on the back of the GWN7610.

To access Capture page, go to **Maintenance->Debug->Capture**

Click on  to start capturing on a certain device plugged to the USB port.

Click on  to stop the capture.

Click on  to show the captured files on a chosen device, users could check the capture files

details, click on  to delete all files, click on  next to a capture file to download it on a local

folder, or click on  to delete it.

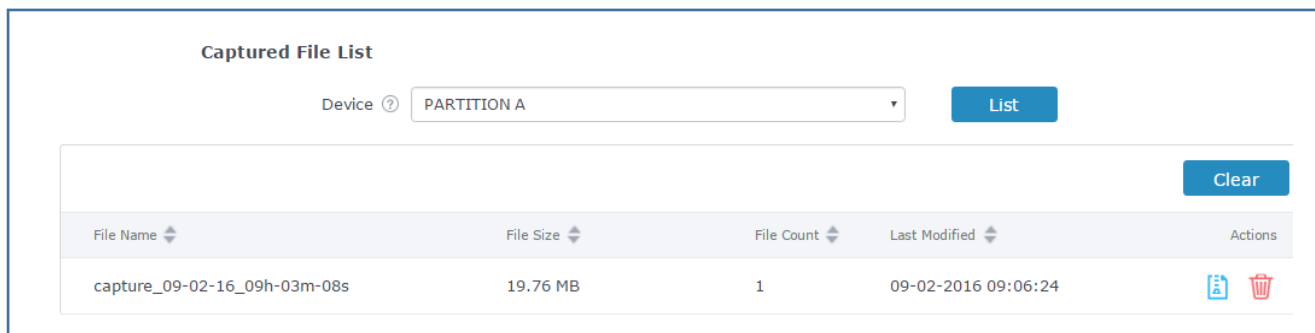


Figure 28: Capture Files

The below table will show different fields used on debug page

Table 8: Debug

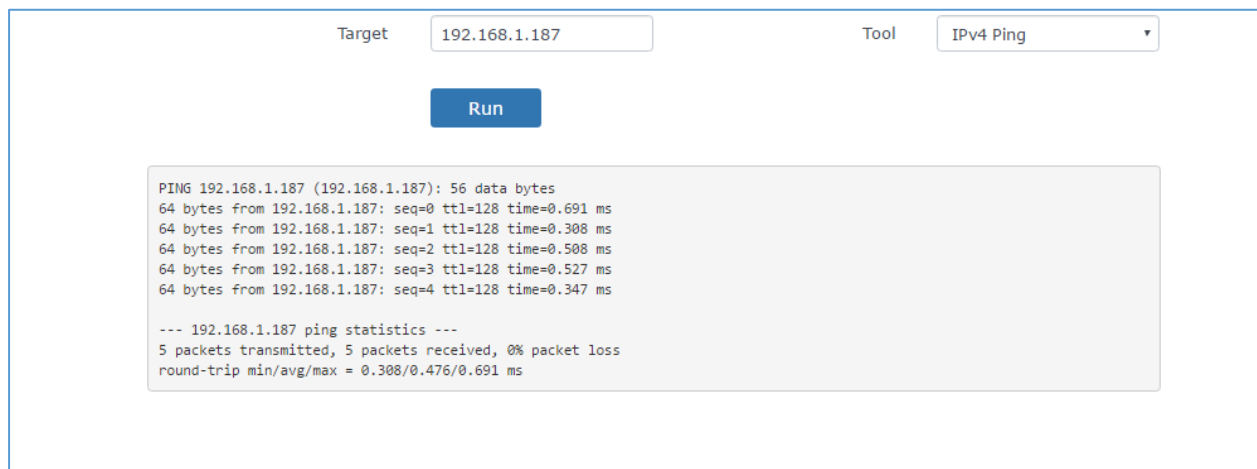
<b>File Name</b>	Enter the name of the capture file that will be generated.
<b>Interface</b>	Choose a network group as Interface.



<b>Device</b>	Choose a device plugged to USB port to save the capture once started.
<b>File Size</b>	Set a File size that the capture will not exceed (Optional field)
<b>Rotate Count</b>	Set a value for rotating captures(Optional Field)
<b>Direction</b>	Choose if you want to get all traffic or only outgoing or incoming to the chosen interface.
<b>Source Port</b>	Set the Source Port to filter capture traffic coming from the defined source port.
<b>Destination Port</b>	Set the Destination Port to filter capture traffic coming from the defined port.
<b>Source IP</b>	Set the Source IP to filter capture traffic coming from the defined source IP.
<b>Dest IP</b>	Set the Destination IP to filter capture traffic coming from the defined destination IP.
<b>Protocol</b>	Choose ALL or a specific protocol to capture (IP, ARP, RARP, TCP, UDP, ICMP, IPv6)

## Ping/Traceroute

Ping and Traceroot are useful debugging tools to verify reachability with other clients across the network. The GWN7610 offers both Ping and Traceroot tools for IPv4 and IPv6 protocols. To use these tools, go to GWN7610 **WebGUI->System Settings->Debug** and click on **Ping/Traceroot**.



Target: 192.168.1.187      Tool: IPv4 Ping

Run

```

PING 192.168.1.187 (192.168.1.187): 56 data bytes
64 bytes from 192.168.1.187: seq=0 ttl=128 time=0.691 ms
64 bytes from 192.168.1.187: seq=1 ttl=128 time=0.308 ms
64 bytes from 192.168.1.187: seq=2 ttl=128 time=0.508 ms
64 bytes from 192.168.1.187: seq=3 ttl=128 time=0.527 ms
64 bytes from 192.168.1.187: seq=4 ttl=128 time=0.347 ms

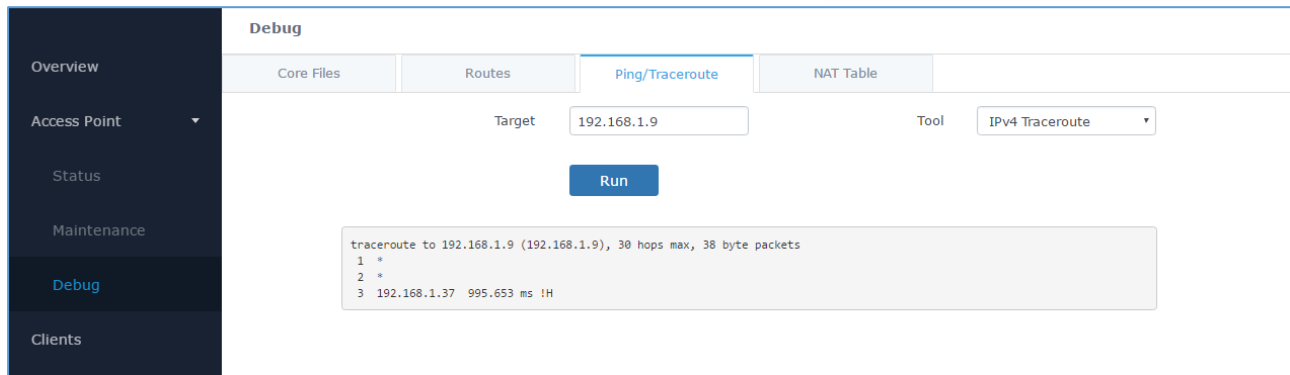
--- 192.168.1.187 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 0.308/0.476/0.691 ms
  
```

**Figure 29: IP Ping**

- Next to **Tool** choose from the dropdown menu:
  - IPv4 Ping for an IPv4 Ping test to Target
  - IPv6 Ping for an IPv6 Ping test to Target
  - IPv4 Traceroute for an IPv4 Traceroot to Target
  - IPv6 Traceroute for an IPv6 Traceroot to Target
- Type in the destination's IP address in **Target** field.



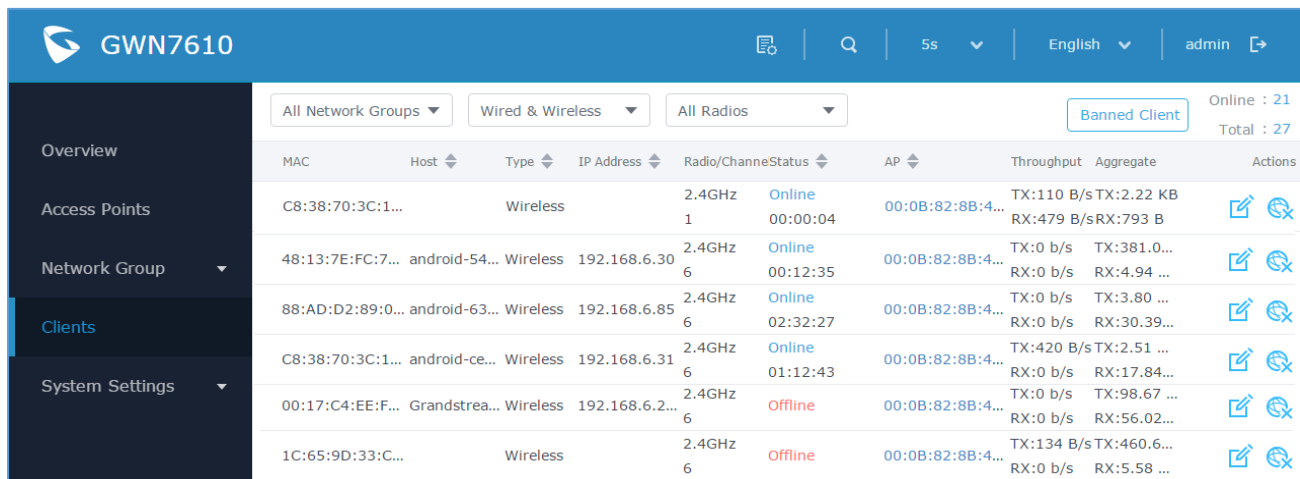
- Click on **Run**.



**Figure 30: IP Tracerout**



## Clients Configuration

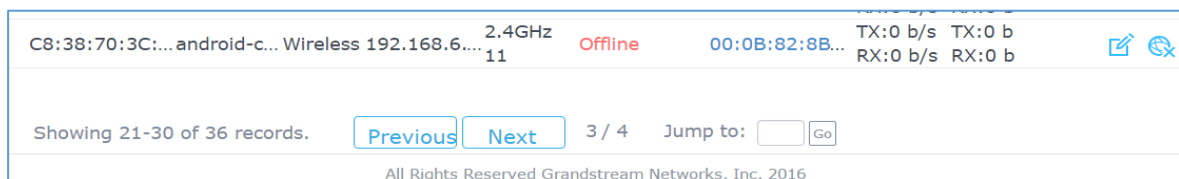
Users can access clients list connected to GWN7610 zone from GWN7610 **Web GUI** -> **Clients** to perform different actions to wireless clients.



MAC	Host	Type	IP Address	Radio/Channel	Status	AP	Throughput	Aggregate	Actions
C8:38:70:3C:1...		Wireless		2.4GHz 1	Online 00:00:04	00:0B:82:8B:4...	TX:110 B/s RX:479 B/s	TX:2.22 KB RX:793 B	
48:13:7E:FC:7...	android-54...	Wireless	192.168.6.30	2.4GHz 6	Online 00:12:35	00:0B:82:8B:4...	TX:0 b/s RX:0 b/s	TX:381.0... RX:4.94 ...	
88:AD:D2:89:0...	android-63...	Wireless	192.168.6.85	2.4GHz 6	Online 02:32:27	00:0B:82:8B:4...	TX:0 b/s RX:0 b/s	TX:3.80 ... RX:30.39...	
C8:38:70:3C:1...	android-ce...	Wireless	192.168.6.31	2.4GHz 6	Online 01:12:43	00:0B:82:8B:4...	TX:420 B/s RX:0 b/s	TX:2.51 ... RX:17.84...	
00:17:C4:EE:F...	Grandstrea...	Wireless	192.168.6.2...	2.4GHz 6	Offline	00:0B:82:8B:4...	TX:0 b/s RX:0 b/s	TX:98.67 ... RX:56.02...	
1C:65:9D:33:C...		Wireless		2.4GHz 6	Offline	00:0B:82:8B:4...	TX:134 B/s RX:0 b/s	TX:460.6... RX:5.58 ...	

**Figure 31: Clients**

- Click on  under Actions to check a client's status and modify basic settings such as Device's Name.
- Click on  to block a client's MAC address from connecting to the zone's network group.
- Click on **Banned Client** to add or remove a client from banned client list.
- Users can scroll down to the down of the client's page to paginate between clients list.



**Figure 32: Paginate between client's list**



## UPGRADING AND PROVISIONING

### Upgrading Firmware

The GWN7610 can be upgraded to a new firmware version remotely or locally. This section describes how to upgrade your GWN7610.

### Upgrading via WEB GUI


The GWN7610 can be upgraded via TFTP/HTTP/HTTPS by configuring the URL/IP Address for the TFTP/HTTP/HTTPS server and selecting a download method. Configure a valid URL for TFTP, HTTP or HTTPS; the server name can be FQDN or IP address.

#### Examples of valid URLs:

firmware.grandstream.com/BETA  
 192.168.5.87

The upgrading configuration can be accessed via **Web GUI->System Settings->Maintenance**.

**Table 9: Network Upgrade Configuration**

<b>Upgrade Via</b>	Allow users to choose the firmware upgrade method: TFTP, HTTP or HTTPS.
<b>Firmware Server</b>	Define the server path for the firmware server.
<b>Check Update on Boot</b>	Allows the device to check if there is a firmware from the configured firmware server at boot.
<b>Automatic Upgrade check interval(m)</b>	Set the value for automatic upgrade check in minutes.
<b>Upgrade Now</b>	Click on  button to begin the upgrade. Note that the device will reboot after downloading the firmware.

### Upgrading Slave Access Points.

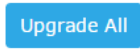


When the GWN7610 is being paired as slave using another GWN7610 Access Point acting as Controller, users can upgrade their paired access points from the GWN7610 Master Controller.



To upgrade a slave access point, log in to the GWN7610 acting as Master Controller and go to **Access Points**.

Paired Devices							Upgrade All
Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions	
GWN7610	00:0B:82:8B:4D:D4	192.168.6.20	Online	1d 16h 51m 53s	1.0.1.15		
GWN7610	00:0B:82:8B:4E:24	192.168.6.29	Online	28m 1s	1.0.1.15		

**Figure 33: Access Points**

Make sure that firmware server path is set correctly under Maintenance, and click on  to upgrade all paired access points, or click on  next to the paired device to access its configuration page, and click on  to upgrade the device.

Device Configuration ✕

Status	Device Name <span style="font-size: small;">?</span>	<input type="text"/>
Users	Fixed IP <span style="font-size: small;">?</span>	<input type="checkbox"/>
Configuration	Frequency	<input type="text" value="Dual-Band"/>
	Enable Band Steering	<input type="checkbox"/>
		2.4GHz                      5GHz
	Mode <span style="font-size: small;">?</span>	<input type="text" value="802.11n"/> <input type="text" value="802.11ac"/>
	Channel Width <span style="font-size: small;">?</span>	<input type="text" value="20MHz"/> <input type="text" value="80MHz"/>
	40MHz Channel Location <span style="font-size: small;">?</span>	<input type="text" value="Auto"/>
	Channel	<input type="text" value="Auto"/> <input type="text" value="Auto"/>
	Enable Short Guard Int...	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
	Active Spatial Streams <span style="font-size: small;">?</span>	<input type="text" value="Auto"/> <input type="text" value="Auto"/>
	Radio Power <span style="font-size: small;">?</span>	<input type="text" value="High"/> <input type="text" value="High"/>
	Reboot Device	<input type="button" value="Reboot"/>
	Upgrade Device Firmware <span style="font-size: small;">?</span>	<input type="button" value="Upgrade"/>

**Figure 34: Device Configuration**





The status of the device will show Upgrading, wait until it finishes and reboots, then it will appear online again.

GWN7610	00:0B:82:8B:4D:D4	192.168.6.20	Upgrading	1d 22h 48m 29s	1.0.1.15	 
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**Figure 35: GWN7610 Upgrading**

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 **Note:**

Please do not interrupt or power cycle the GWN7610 during upgrading process.

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Service providers should maintain their own firmware upgrade servers. For users who do not have TFTP/HTTP/HTTPS server, some free windows version TFTP servers are available for download from [http://www.solarwinds.com/products/freetools/free\\_tftp\\_server.aspx](http://www.solarwinds.com/products/freetools/free_tftp_server.aspx)  
<http://ftpd32.jounin.net>

Please check our website at <http://www.grandstream.com/support/firmware> for latest firmware.

Instructions for local firmware upgrade via TFTP:

1. Unzip the firmware files and put all of them in the root directory of the TFTP server;
2. Connect the PC running the TFTP server and the GWN7610 to the same LAN segment;
3. Launch the TFTP server and go to the File menu->Configure->Security to change the TFTP server's default setting from "Receive Only" to "Transmit Only" for the firmware upgrade;
4. Start the TFTP server and configure the TFTP server in the GWN7610 web configuration interface;
5. Configure the Firmware Server to the IP address of the PC;
6. Update the changes and reboot the GWN7610.

End users can also choose to download a free HTTP server from <http://httpd.apache.org/> or use Microsoft IIS web server.



## Provisioning and backup

The GWN7610 configuration can be backed up locally or via network. The backup file will be used to restore the configuration on GWN7610 when necessary.


### Download Configuration

Users can download the GWN7610 configuration for restore purpose under **Web GUI->System Settings->Maintenance**

Click on  to download locally the configuration file.

### Upload Configuration

Users can upload configuration file to the GWN7610 under **Web GUI->System Settings->Maintenance**

Click on  to browse for the configuration to upload.

Please note that the GWN7610 will reboot after the configuration file is restored successfully.

### Configuration Server (Pending)

Users can download and provision the GWN7610 by putting the config file on a TFTP/HTTP or HTTPS server, and set Config Server to the TFTP/HTTP or HTTPS server used in order for the GWN7610 to be provisioned with that config server file.

### Reset and reboot

Users could perform a reboot and reset the device to factory functions under **Web GUI->System**

**Settings->Maintenance** by clicking on  button.

 Will restore all the GWN7610 itself to factory settings.



## Syslog

On the GWN7610, users could dump the syslog information to a remote server under **Web GUI ->System Settings->Maintenance**. Enter the syslog server hostname or IP address and select the level for the syslog information. Five levels of syslog are available: None, Debug, Info, Warning, and Error.



## EXPERIENCING THE GWN7610 WIRELESS ACCESS POINT

Please visit our website: <http://www.grandstream.com> to receive the most up- to-date updates on firmware releases, additional features, FAQs, documentation and news on new products.

We encourage you to browse our [product related documentation](#), [FAQs](#) and [User and Developer Forum](#) for answers to your general questions. If you have purchased our products through a Grandstream Certified Partner or Reseller, please contact them directly for immediate support.

Our technical support staff is trained and ready to answer all of your questions. Contact a technical support member or [submit a trouble ticket online](#) to receive in-depth support.

Thank you again for purchasing Grandstream GWN7610 Wireless Access Point, it will be sure to bring convenience and color to both your business and personal life

