Quick Start Guide

INTRODUCTION

This document will guide you through the process of setting up and registering a Relay2 Access Point (AP) and establishing a WLAN with version 1.3.1 of the Relay2 Cloud Wireless Manager. Detailed information on these and other advanced features can be found in Relay2's WLAN System Test Manual, version 1.3.1.

BEFORE YOU START

The Relay2 Access Point cannot function as a standalone unit. Before connecting your AP to a network, make sure to check the following:

- Acquire a Relay2 account from your Service Provider if you have not already done so; provide your name, company e-mail address, phone number, and a username in the form of an e-mail address for account creation.
- The Relay2 Cloud Wireless Manager is accessed through a variety of web browsers, including Internet Explorer 9 and above, Google Chrome 26 and above, Mozilla Firefox 6 and above, Safari 5 and above, and Opera.
- The Relay2 AP must be connected to a network that can reach the Internet. If your network has a firewall that blocks outbound traffic to the Internet, make sure to configure your firewall to allow at least HTTP and HTTPS ports.
- The AP's management network interface will automatically obtain an IP address from the DHCP server by default. If your network requires the use of static IP address, refer to section 6 for details on how to configure your Relay2 AP accordingly.

QUICK SETUP OVERVIEW

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1. Hook up and install your AP.	Insert power and/or Ethernet cables (for PoE+) Position AP for maximum signal coverage.
2. Login to Cloud Wireless Manager.	Log in at [www.relay2.net]. Check for AP registration on “Dashboard” page.
3. Add a WLAN.	Navigate to “Configure —> WLAN”. Click “Add New” and fill in respective fields. Select “Enabled” and hit “Apply” to activate WLAN.
4. Test your WLAN connection.	Connect to your WLAN SSID with a WiFi device. Check for connection events.

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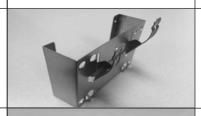
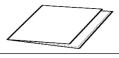
1. Hook up and install your AP

1.1. Check Your AP Packaging List

Packaging List			
No.	Picture	Component Name	Qty.
1		R2-CAP-NP-900N	1
2		Wall Mounting Plate	1
3		Power Adapter	1
4		Power Cord(US Type)	1
5		Screw set for Wall Mounting Plate	4 sets
6		Hardware installation Guide	1
7		Desk-Mount Rubber Pad	4

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Hardware Specification

Weight	0.98KG
Physical Dimensions	270mm * 220mm * 40mm (not including deskmount feet or wall mounting plate)
Mounting	Desktop or wall mount (including wall mounting kit with adjustable angel)
Power	1. PoE+ (802.3at compatible) 2. 48VDC power adaptor 3. When both PoE+ and DC power adaptor are connected to AP as redundant power supply, DC adaptor has the precedence over PoE+.
Power Consumption	Maximum 16W
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Operating Humidity	15% ~95% noncondensing
Storage Temperature	-20°C ~ 80°C (-4°F to 176°F)
Network Interface	one RJ45 GE port (802.3at standard PoE+)
Antenna	Internal hexagonal directional antennas Gain: 3 dBi @ 2.4 GHz, 5 dBi @ 5 GHz
Display	2 line 16 characters LCD Status and alarm information display
LED Indicators	1 Alarm and message indicator 1 power indicator 1 Ethernet connectivity indicator
Regulatory	FCC(US), 3C/TA(China).
Certifications	WiFI Alliance

1.2. Installing Your Access Point

a. When mounting the AP on a wall, follow the instructions in the diagrams below.

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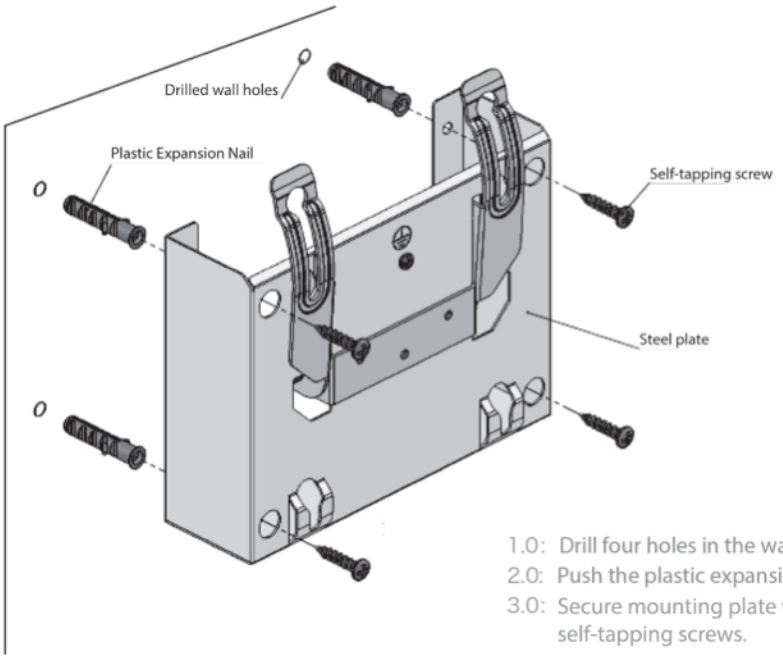
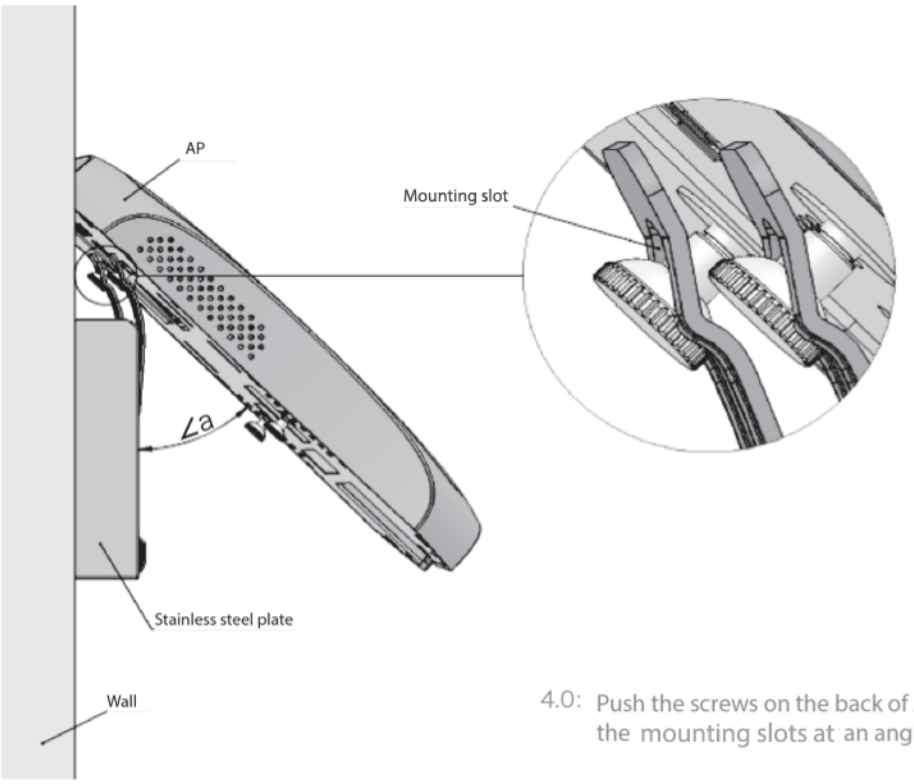
Wall Mounting Plate

Installation Steps



1.0: Drill four holes in the wall.
2.0: Push the plastic expansion nails into holes.
3.0: Secure mounting plate with four self-tapping screws.



4.0: Push the screws on the back of AP into the mounting slots at an angle ∠a.

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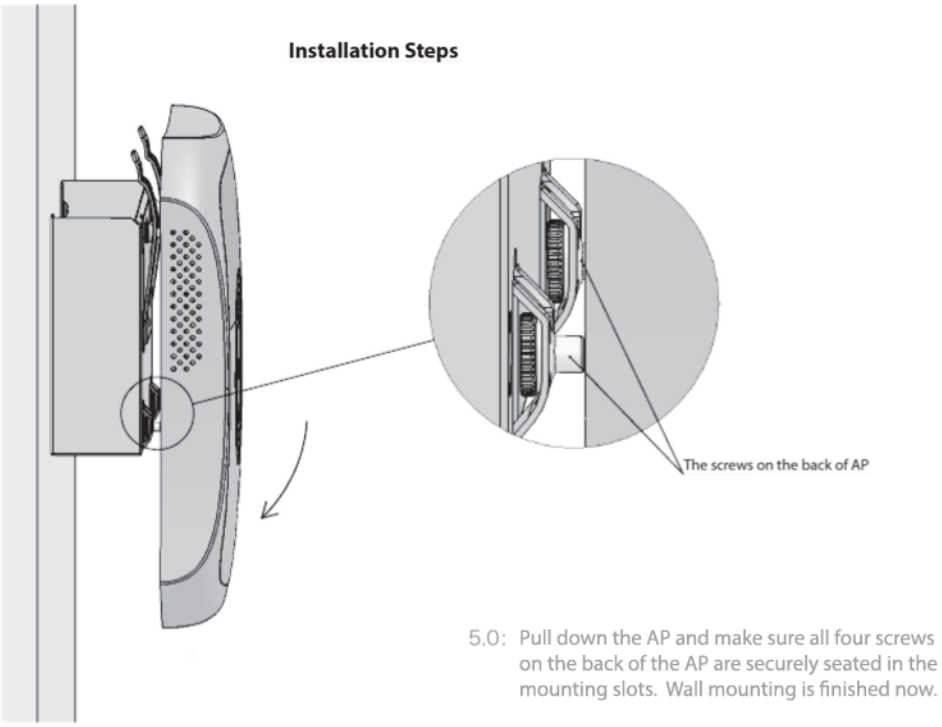

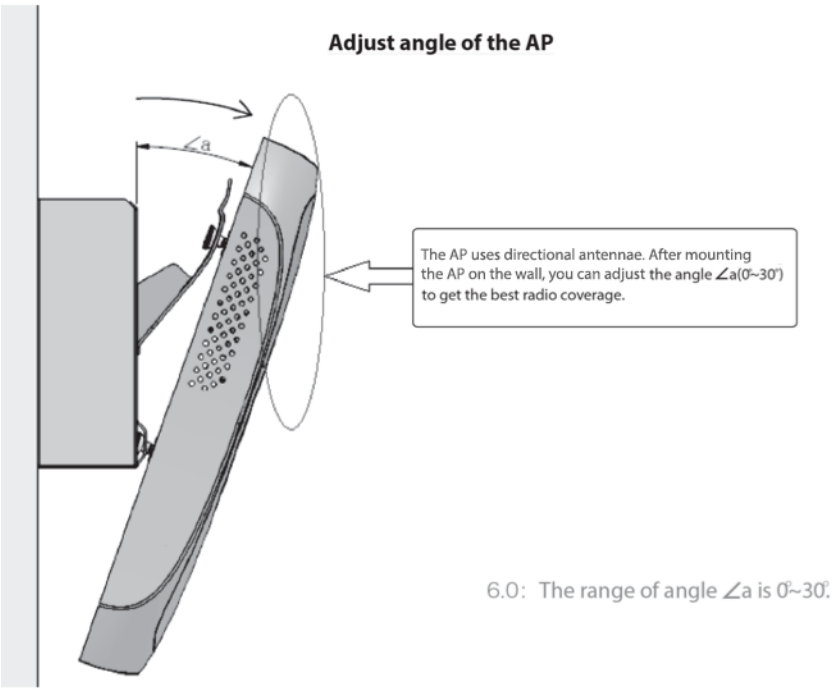

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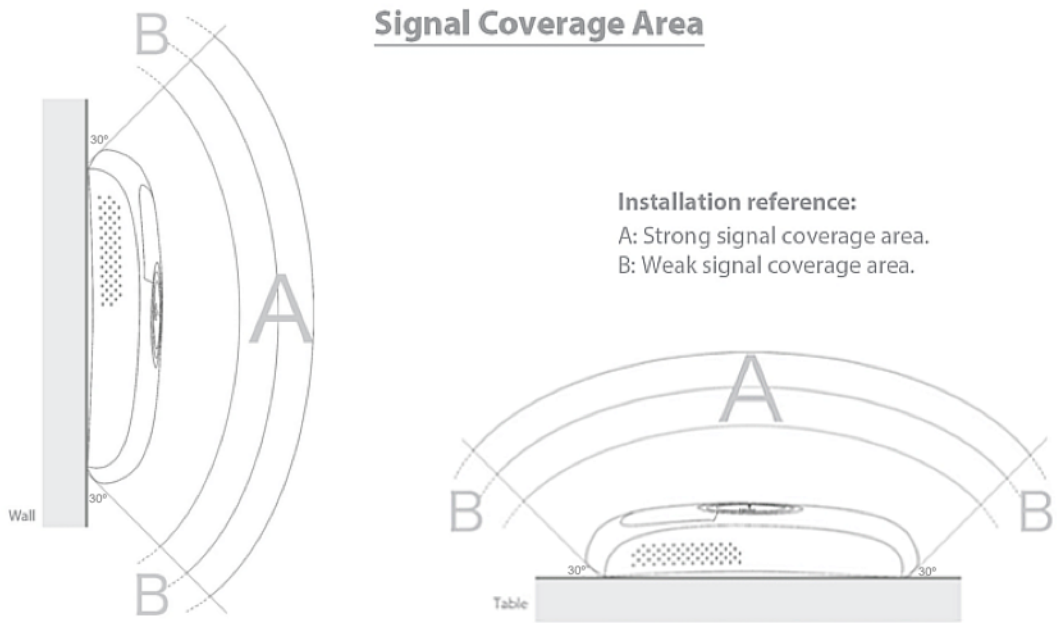
1.3. Setting Up Your Access Point

a. The Relay2 AP can be placed on a desk or mounted on a wall. If mounted, the AP can be tilted to provide maximum signal coverage. Use this diagram to position the AP so that it provides the most signal coverage for your purposes.
b. Avoid placing objects on top of the AP.
c. Avoid installing the AP near magnetic and/or metal objects.
d. For more information relating to the setup of the Relay2 AP, see section 2 of this document.



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1.4. Your Access Point Hardware Features

a. Power can be supplied either through: a 48VDC adaptor, or an IEEE 802.3at PoE+ (PoE plus) switch port that can supply up to 25W power over an Ethernet cable inserted into the RJ45 port (B7).
b. If you do not have a PoE+ switch, you can use the power adaptor that comes with the AP. The AP's power cable can be inserted into the DC port (B6).
c. CAT5 or CAT6 class cable should be used for Ethernet. Insert the Ethernet cable into the RJ45 port (B7).

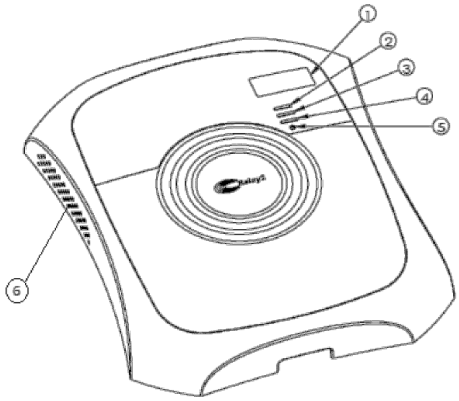

Figure A. Panel of WLAN Access Point

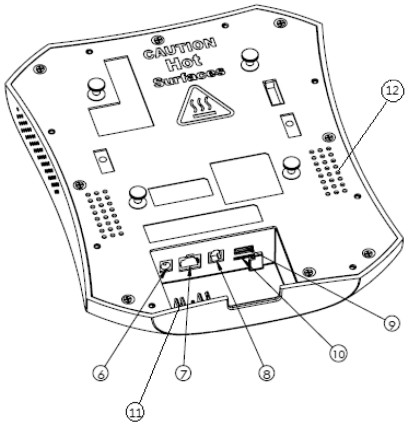

Figure B. WLAN Access Point Interfaces

1	LCD Display
2	Status LED
3	Radio LED
4	Ethernet LED
5	Reset Button
6	Air Circulation Holes

6	DC in/48-VDC
7	RJ45 Port
8	RJ9 Port (RJ9 to RS232) (service maintenance purpose)
9	USB Port (service maintenance purpose)
10	Micro SIM Card port (reserved)
11	Trunking for Power Cord
12	Air Circulation Holes

d. The Relay2 AP also features a serial port (B8), a USB port (B9), and an optional SIM card port (B10).
e. Once the AP has been provided power, it will initiate an LCD/LED startup sequence.
f. In the LED startup sequence, all three LED lights—Status (A2), Radio (A3), and Ethernet (A4)—should blink green and then turn solid green.
g. The AP's power and Ethernet cables can be trunked into the guides beneath their respective ports, as shown below:

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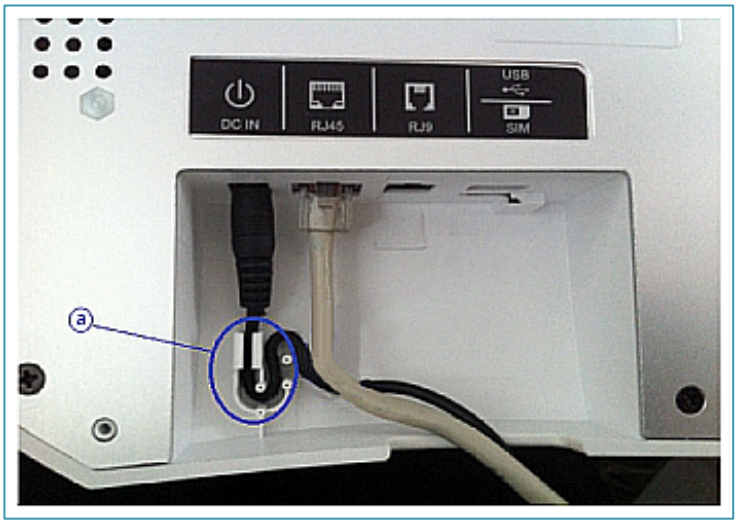

2. AP Boot

The first time you power on your Relay2 AP, it will take 5 – 10 minutes depending on the software version number installed on your AP. Additional time may be needed if the AP detects that there is a new software image available for download to automatically update the AP. The first time boot process may result in several cycles through the start up states. The start up sequence will be shown on the LCD screen, and may include the following:

1. Welcome to R2OS (The Relay2 Operating System) – AP is booting up
2. AP Configuration is being pushed from the Relay2 cloud controller
3. Connect – Connecting to certificate server
4. Registered - Found and registered with the cloud controller
5. Download – Found new AP SW image to be downloaded; AP will reboot after image update
6. Radio 1&2 UP –AP has successfully connected to the cloud controller
7. Miscellaneous messages: Reboot, Bootstrap

Additional information about the boot up process can be found in the Appendix of the separate User's Guide.

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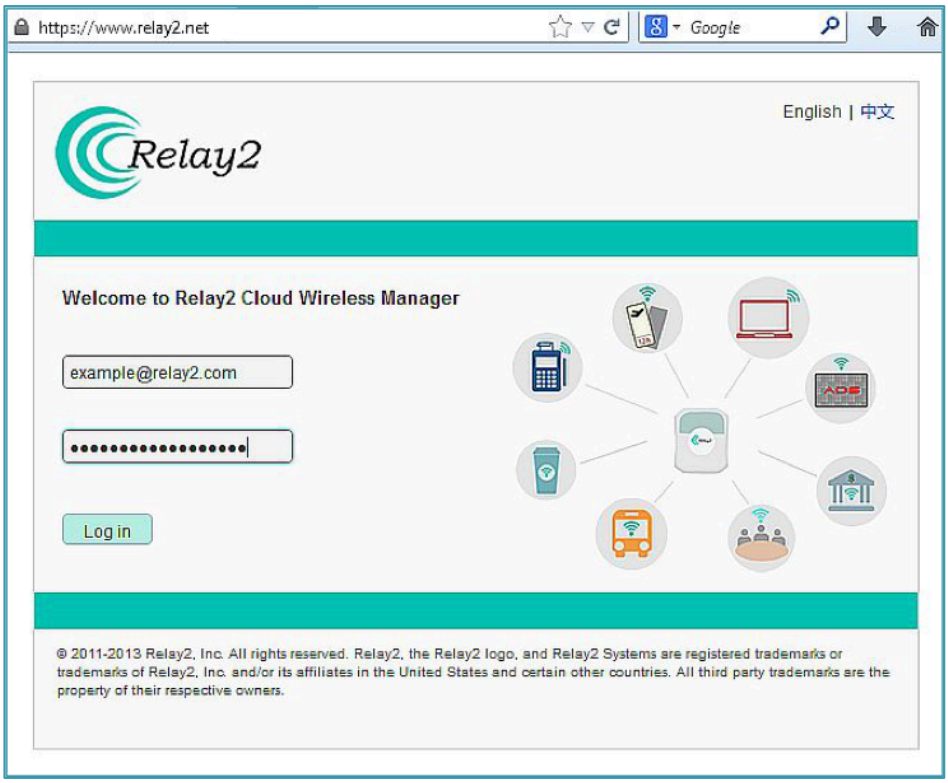
3. Logging in

a. Log in with your provided account at www.relay2.net

NOTE: A new account is always provisioned with your email address as the login name, and your email as the initial password. We strongly encourage you to change the password at your earliest opportunity.



b. Upon logging in, you will be directed to the “Monitor -> Dashboard” page.

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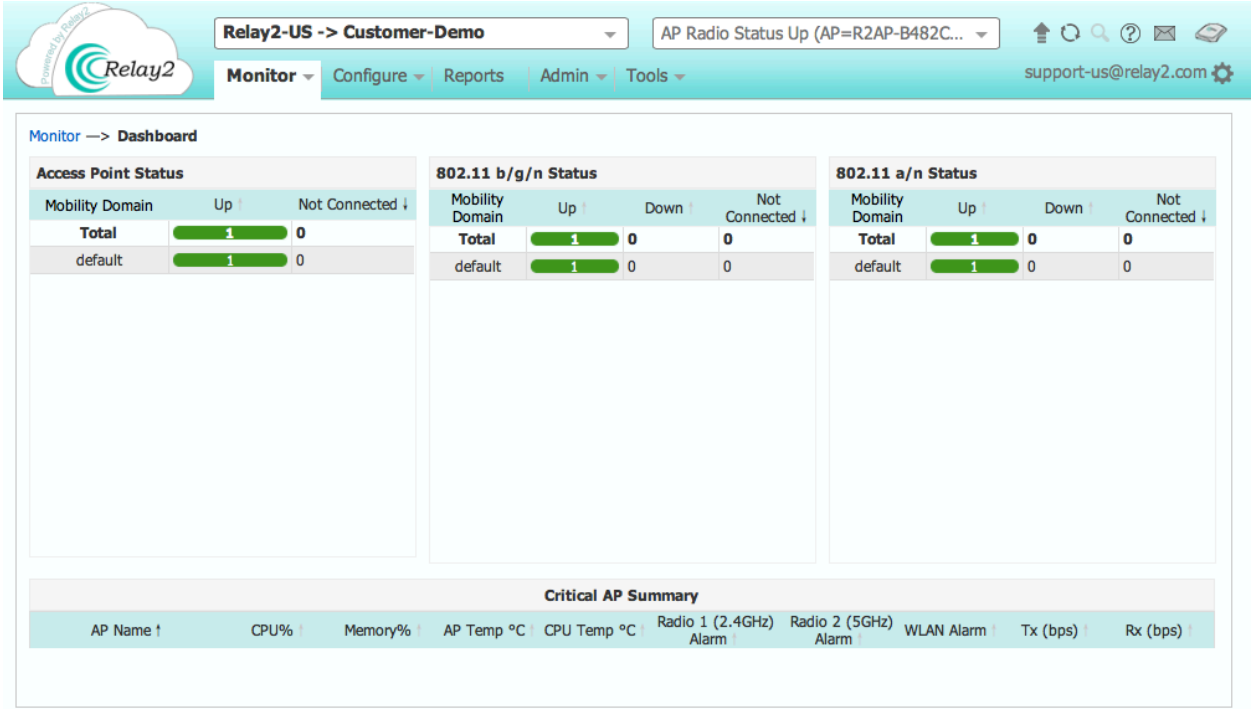

If your AP(s) do not show as being “Up”, please wait 2-3 minutes for them to initialize and come online.

4. Adding a WLAN

a. If you are logged in as a service provider, select the correct customer account you wish to add a WLAN account to by utilizing the drop down menu at the top of the NMS user interface.

b. Navigate to “Configure —> WLAN,” then click on “Add New”.

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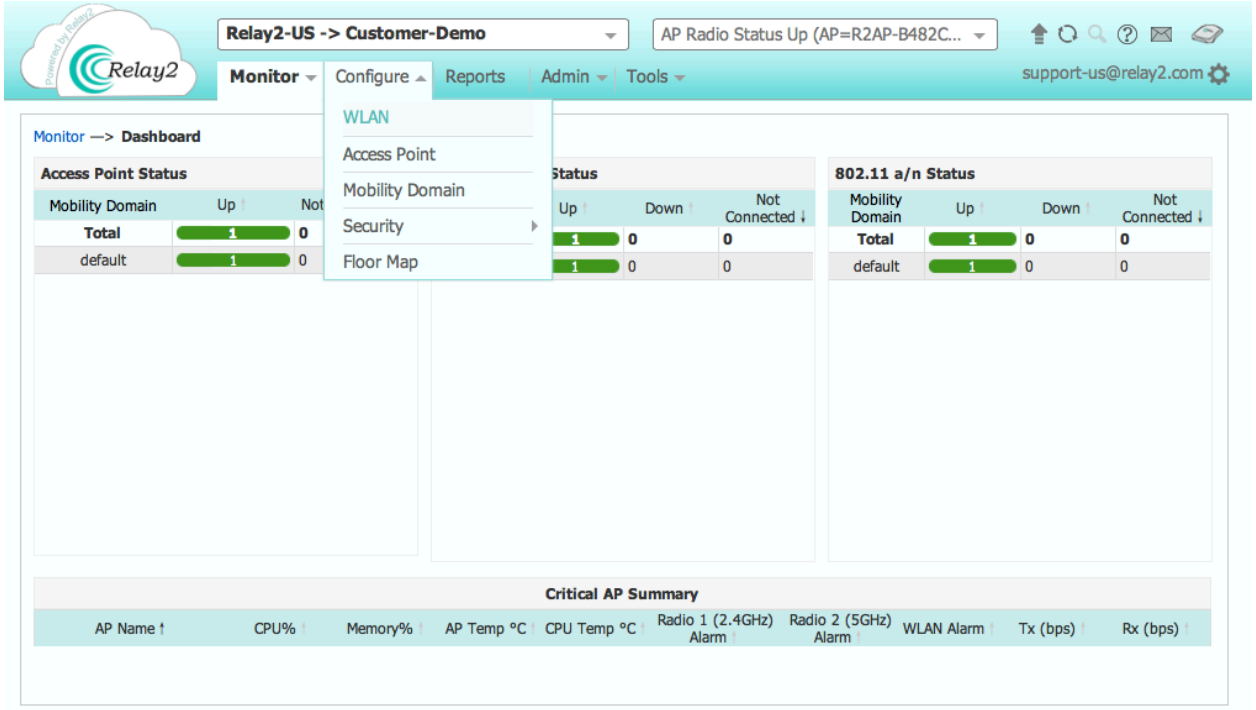

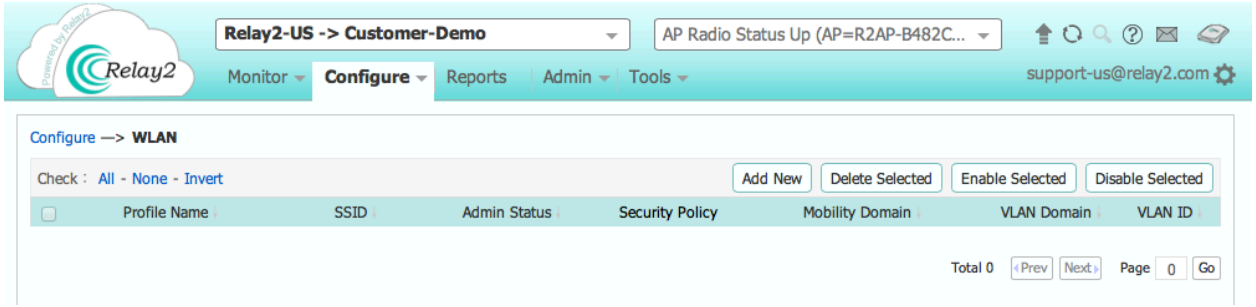

c. Add a WLAN profile name, SSID, and modify settings as desired; Click “Enabled“ and then click “Apply”.

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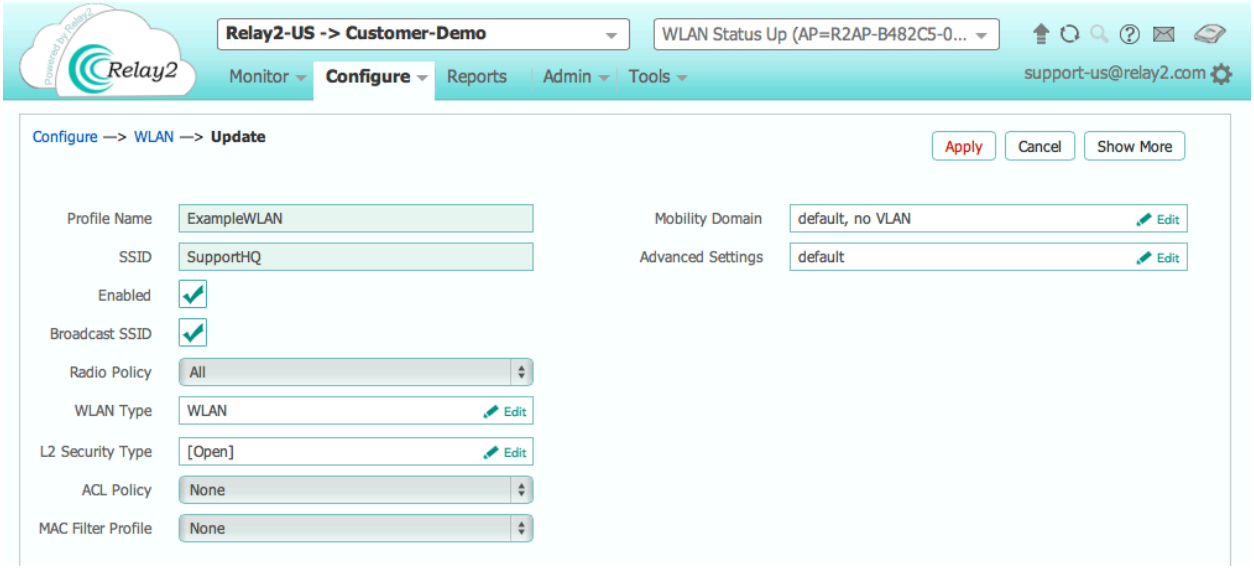
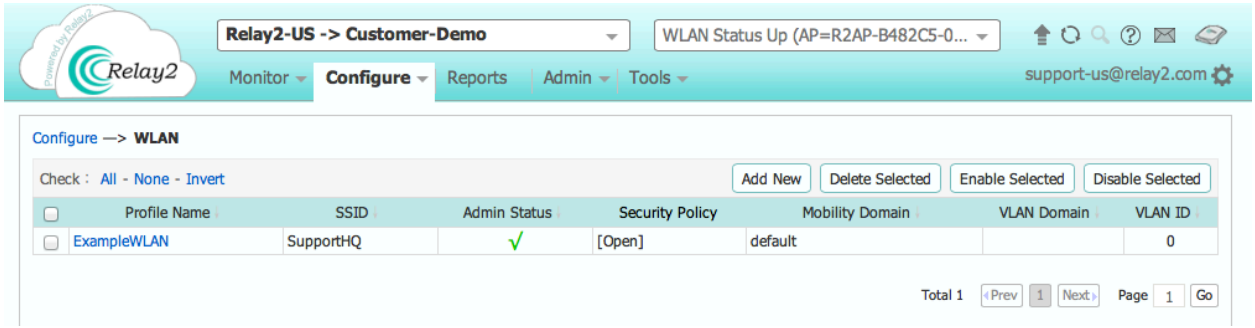


d. Your WLAN has been created.



5. Testing your WLAN connection

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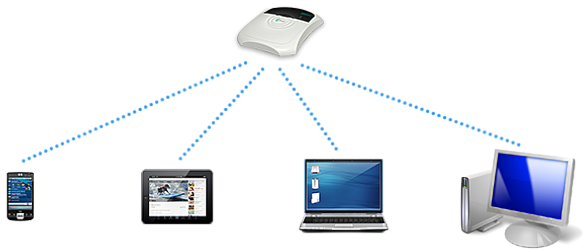
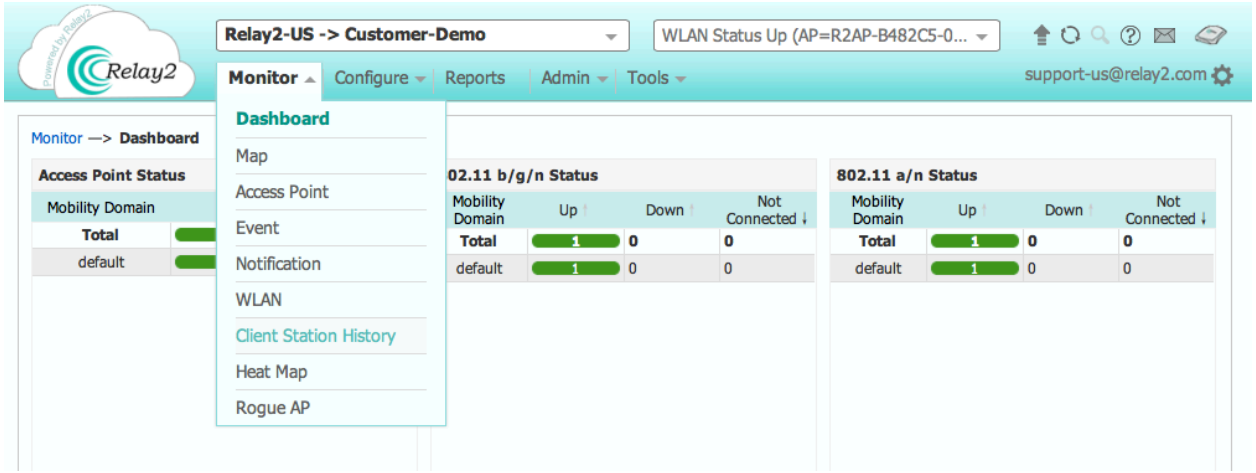
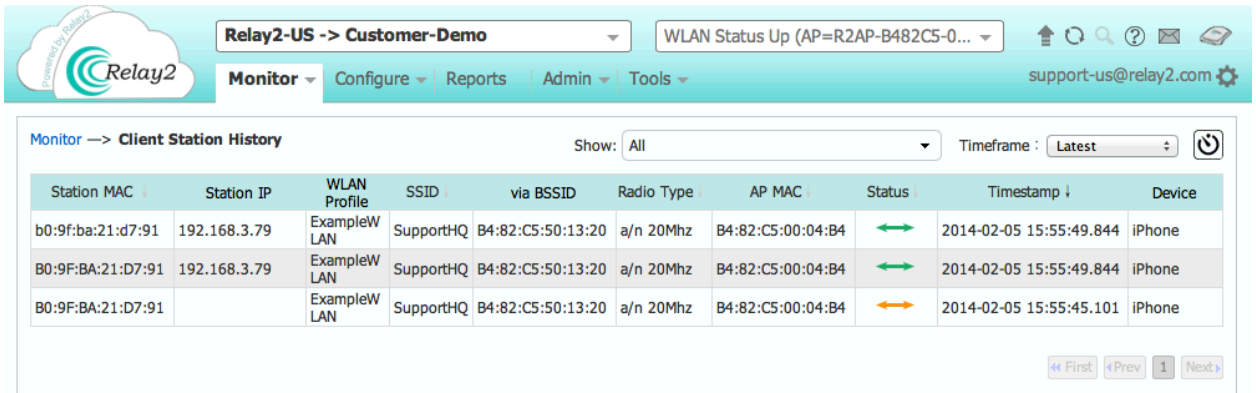
a. Test your WLAN configuration by connecting a device with WiFi capabilities to your WLAN SSID, launch a web browser and connect to the Internet.



b. Navigate to "Monitor —> Client Station History" to check for these connection events in the following sequence: Association, Authentication, and Connection. When all three appear, your device has successfully connected to the AP.





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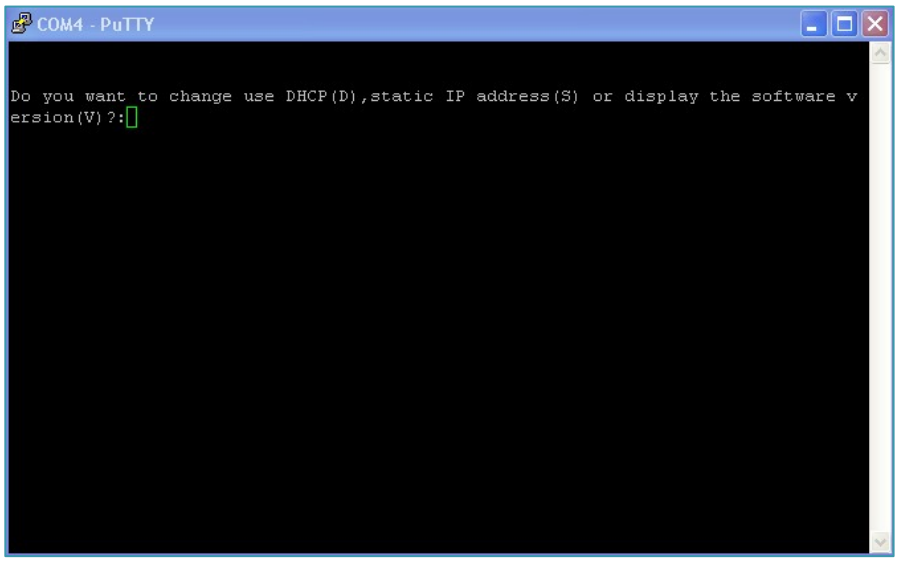
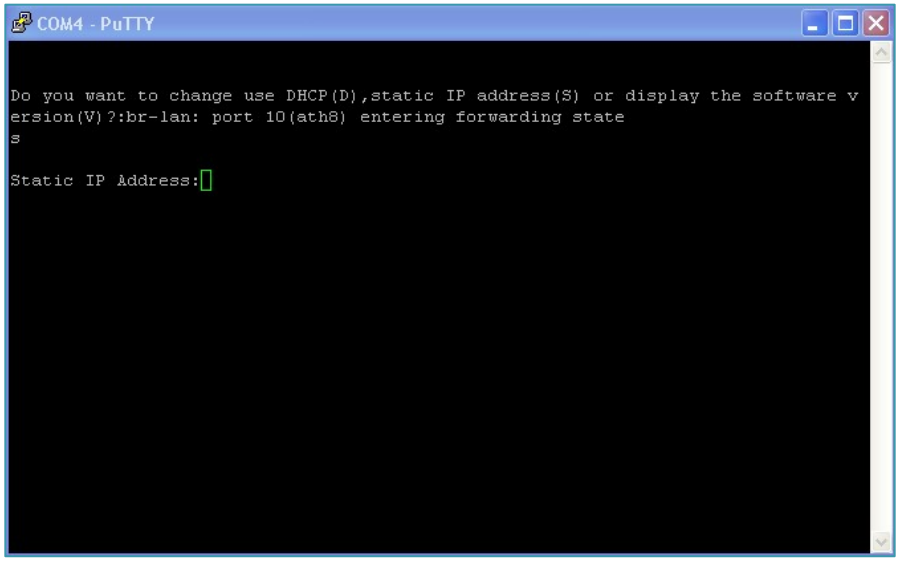
6. Establishing a static IP address (If Required in Your Network Environment)

a. Enable AP Console adapter access by connecting the RJ9 port on the AP (see B8 in section 3) to the serial port on your laptop with the help of a USB to Serial adapter, if necessary.



b. Launch a program that can communicate with serial ports (for example, PuTTY).
c. Access the Relay2 AP's serial port.
d. Hit [s] to switch to a static IP address.



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e. Add a new static IP address, NetMask, Default Gateway and DNS, hitting [ENTER] after each entry.
f. Hit [y] when complete. Your AP will restart and connect to the static IP address.

7. FCC Regulatory Information

§ 15.19 Labeling requirements.

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.

§ 15.21 Information to user.

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

§ 15.105 Information to the user.

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

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This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.