QUANTUM NETWORKS QN-I-270 Networks Access Point User Guide

Contents

QUANTUM NETWORKS QN-I-270 Networks Access Point

Product Information

Specifications:

- Model: QN-I-270
- Operation Modes: Standalone, Cloud, Bridge, Router
- Quantum Rudder: Cloud-hosted controller for device configuration and management

Product Usage Instructions

Setup Guide:
This Quick Setup Guide provides step-by-step instructions on how to set up Quantum Networks Access Point. After completing the steps described in this Guide, you will be able to install the Access Point (AP) on-site and provide wireless network access to users.

Feature Management Modes:

- **Standalone Mode:** Configured and managed individually. Suitable for scenarios with few devices or limited Internet access.
- **Cloud Mode:** Configured and managed from a central cloud controller with advanced features.
- **Bridge Mode:** Extends network coverage over wireless by connecting to a network via an ethernet cable.
- **Router Mode:** Connects to the Internet Service Provider directly and shares access over wired or wireless network.

Connect Access Point:

1. Unpack the Access Point.
2. Connect it to an Internet source.
3. Plug-in Ethernet cable to the Access Point.
4. Power on using 802.3af / 802.3at PoE Switch / PoE Injector.

Note: Internet access is required during initial setup for activation, warranty, and support.

Basic Setup:

1. Connect the WAN port of the Access Point to a network with Internet access.
2. You should see a new wireless network with SSID QN_XX:XX (last four digits of MAC Address).
3. Connect to QN_XX:XX SSID and browse Access Point's default IP 169.254.1.1.

FAQ:

- **Q: Do I need Internet access during initial setup?**

  A: Yes, Internet access is required for the initial setup to activate the device, warranty, and support.
- **Q: How do I switch between Standalone and Cloud modes?**

  A: The mode can be changed in the device settings accessed through Quantum Rudder controller.

This Quick Setup Guide provides step-by-step instructions on how to set up Quantum Networks Access Point. After completing the steps described in this Guide, you will be able to install the Access Point (AP) on-site and provide wireless network access to users.

Glossary

Feature	Description
Management Mode	**Standalone:** In this mode, each device is configured and managed individually. It can be useful in scenarios with few devices or sites with limited I nternet access and basic features. **Cloud:** In this mode, devices are configured and managed from a central contr oller hosted in the cloud. It offers many more sets of features as compared to t he Standalone mode.
Operation Mode	**Bridge:** In this mode, the device connects to a network over an ethernet cable and extends the coverage over wireless. **Router:** In this mode, the device connects to Internet Service Provider directly using DHCP / Static IP / PPPoE protocols and shares Internet access over a wi red or wireless network to users.
Quantum Rudder	**Quantum Rudder** is a cloud-hosted controller which can be used to configure, manage & monitor devices associated with it. It can be accessed from **https://rudder.qntmnet.com**

Icon Description

Icon on GUI	Description
	Click to get the option for the firmware update.
	Click to get back to the home page.
	Click to check the documentation.
	Click to check device information.

Before you begin

Your Quantum Networks Access Point can work in “Standalone Mode” or can be managed by “Rudder”.

Package contents

- Access Point.
- Mounting kit

Prerequisites

- Internet access.
- Desktop / Laptop / Handheld device.
- 802.3af / 802.3at PoE Switch / PoE Injector.
- 12V, 2A DC power adapter.

Network requisites

The listed ports must be opened or allowed in the network firewall.

- TCP: 80, 443, 2232, 1883.
- UDP: 123, 1812, 1813.
- Allow **rudder.qntmnet.com** and **reports.qntmnet.com** in the destination field.

Connect Access Point

- After unpacking Access Point, connect it to an Internet source.
- Plug-in Ethernet cable of Access Point.
- Power on Access Point by using 802.3af / 802.3at PoE Switch / PoE Injector.

Note: Access Point must have Internet access during initial setup for the first time to activate the device, warranty and support.

- **Step 1 – Create new account on Quantum Rudder**
  - Browse **https://rudder.qntmnet.com**.

- Click “Create New Account” to sign up for a new account.

Figure 1

- Follow the steps as guided on the screen for Registration.
- Verify Quantum Rudder account from registered email id. (you will get)
- Once the account gets validated, it turns the page to “Add License Key” (User will get the license key from respective (Partner / Resource))
- Account on Quantum Rudder (Quantum Networks Cloud Controller) is now ready to use.

- **Step 2 – Basic setup**
  - Connect the WAN port of the Access Point to the network with Internet access.
  - You should see a new wireless network with SSID QN_XX:XX (where XX:XX are the last four digits of Access Point MAC Address).
  - Connect to QN_XX:XX SSID and browse Access Point’s default IP “169.254.1.1”.

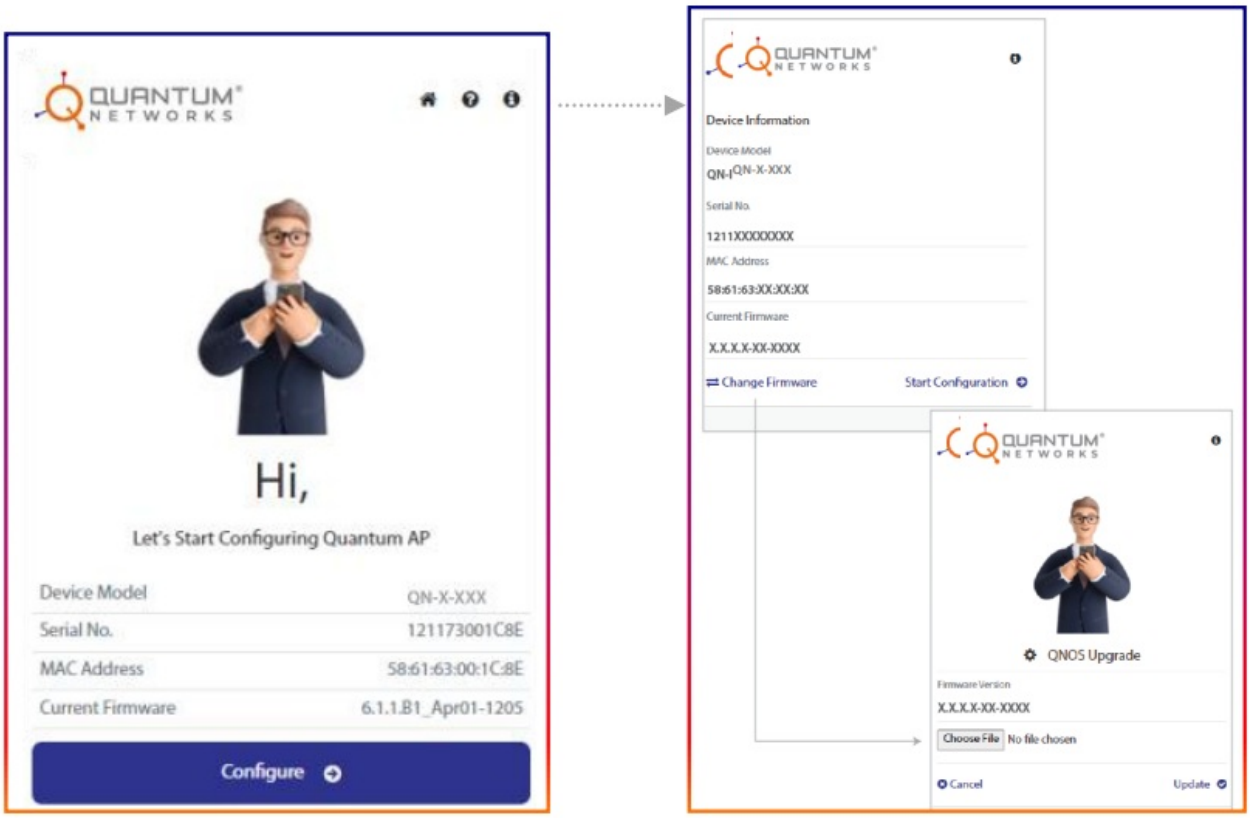


Figure 2

Let's start the configuration.

On the configuration start page, it will display,

- Device model number
- Serial number
- MAC address
- Current firmware

  Note:

  - Click  button to get the option to "change the firmware" if required.
  - Click Change Firmware to update firmware if required. Select the firmware file from the respective location and update it.

- **Step 3 – Setting up device IP address**

  Click "Configure" and set the device IP address by selecting the required options.

  - Connectivity Mode – Select the connectivity mode.
  - Protocol – DHCP, Static or PPPoE
  - Interface – Select interface
  - VLAN Assignment- Enable parameter. Enter VLAN ID and click "Fetch IP Address" to get the respective IP in case of VLAN setup is required.

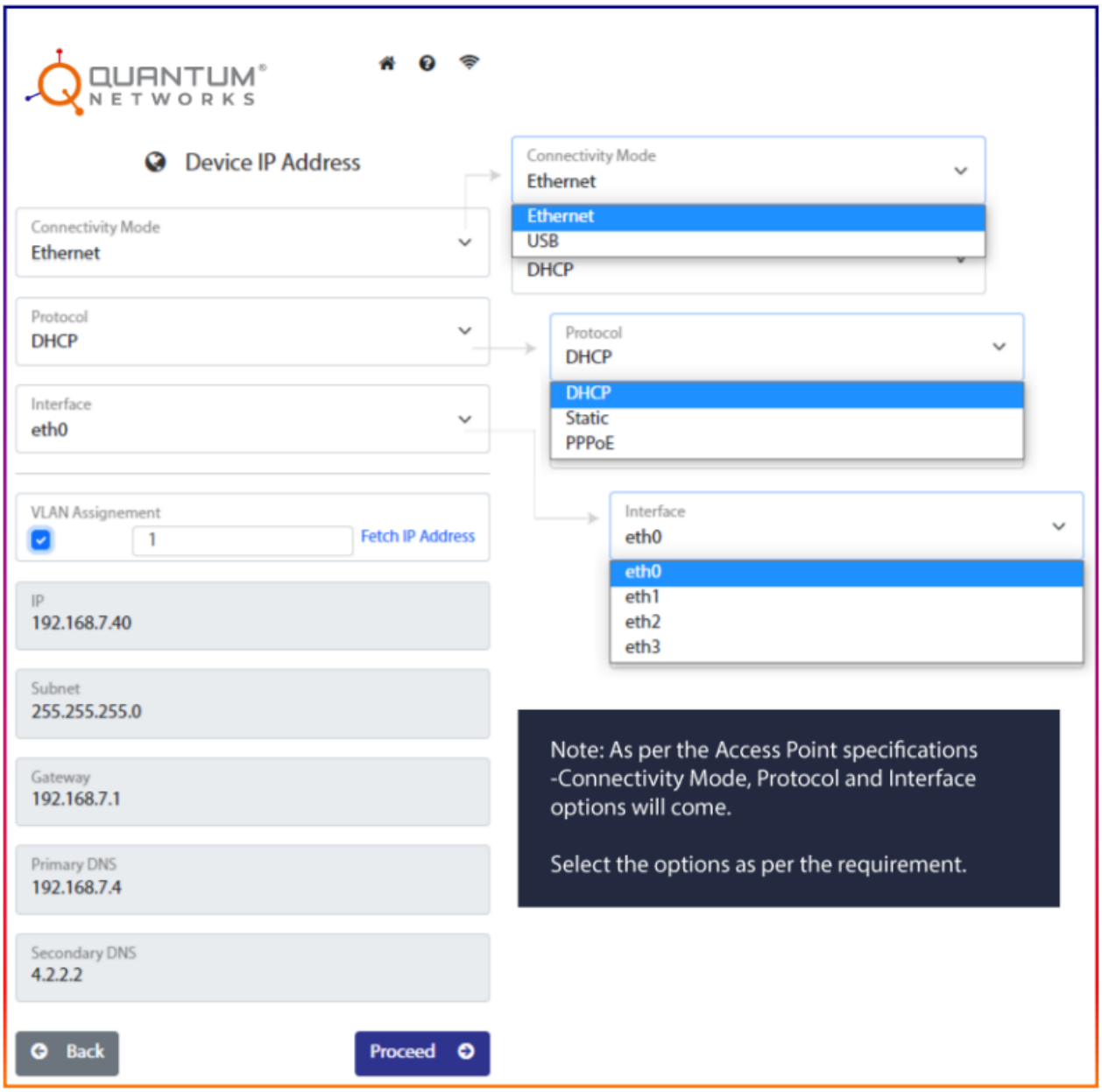


Figure 3

Click “Proceed” to apply configuration and turn to the next page.

- **Step 4 – Set the management mode**
  - **Management Mode Quantum**

    Networks Access Point can be configured in two modes:
    - **Rudder (on cloud / on-premise)**

      Centralized management of Access Points using Quantum Rudder
    - **Standalone**

      Independent management of each Access Point

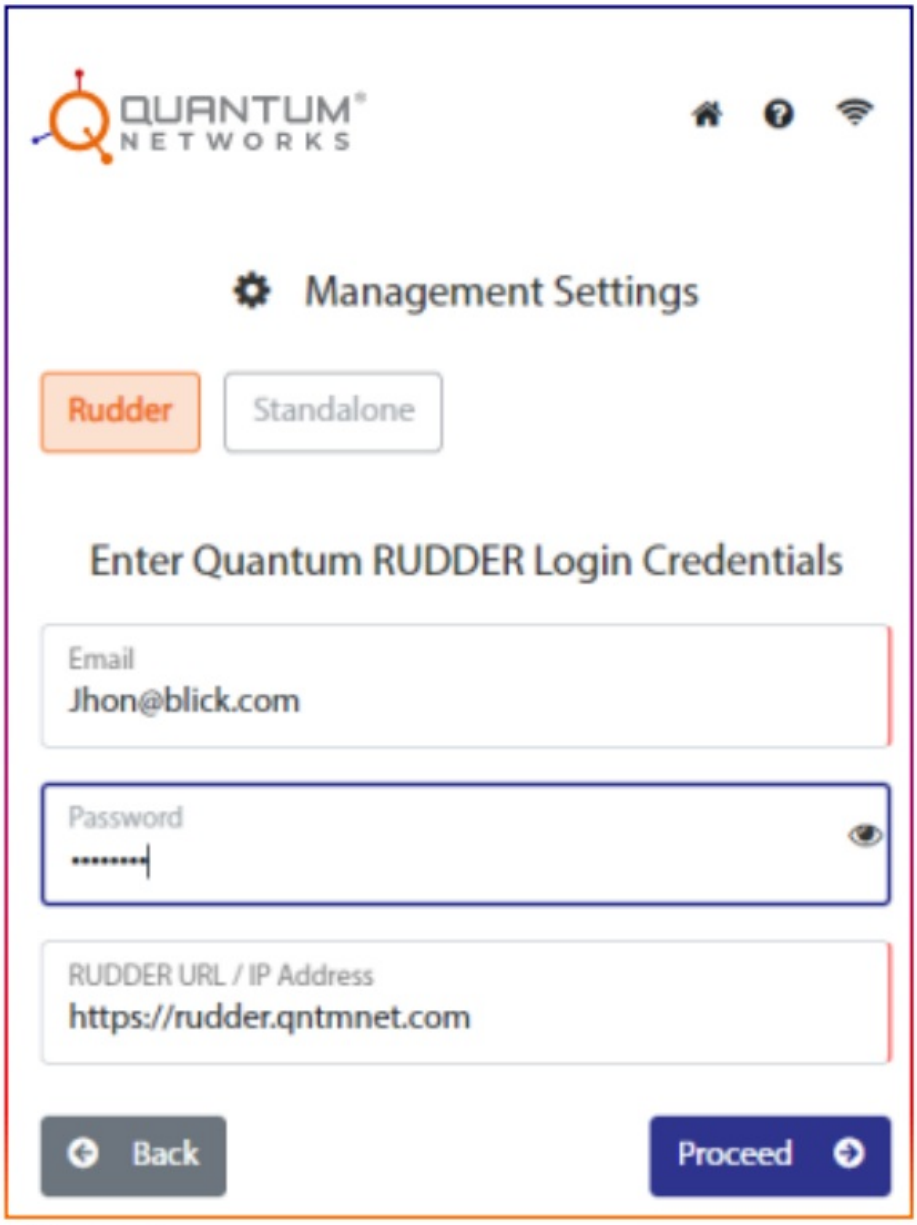


Figure 4

- **Step 5 – Access Point quick setup in Rudder Mode**
  - Select “Management Mode” as “Rudder”, enter Quantum Rudder login credentials and click “Proceed”.

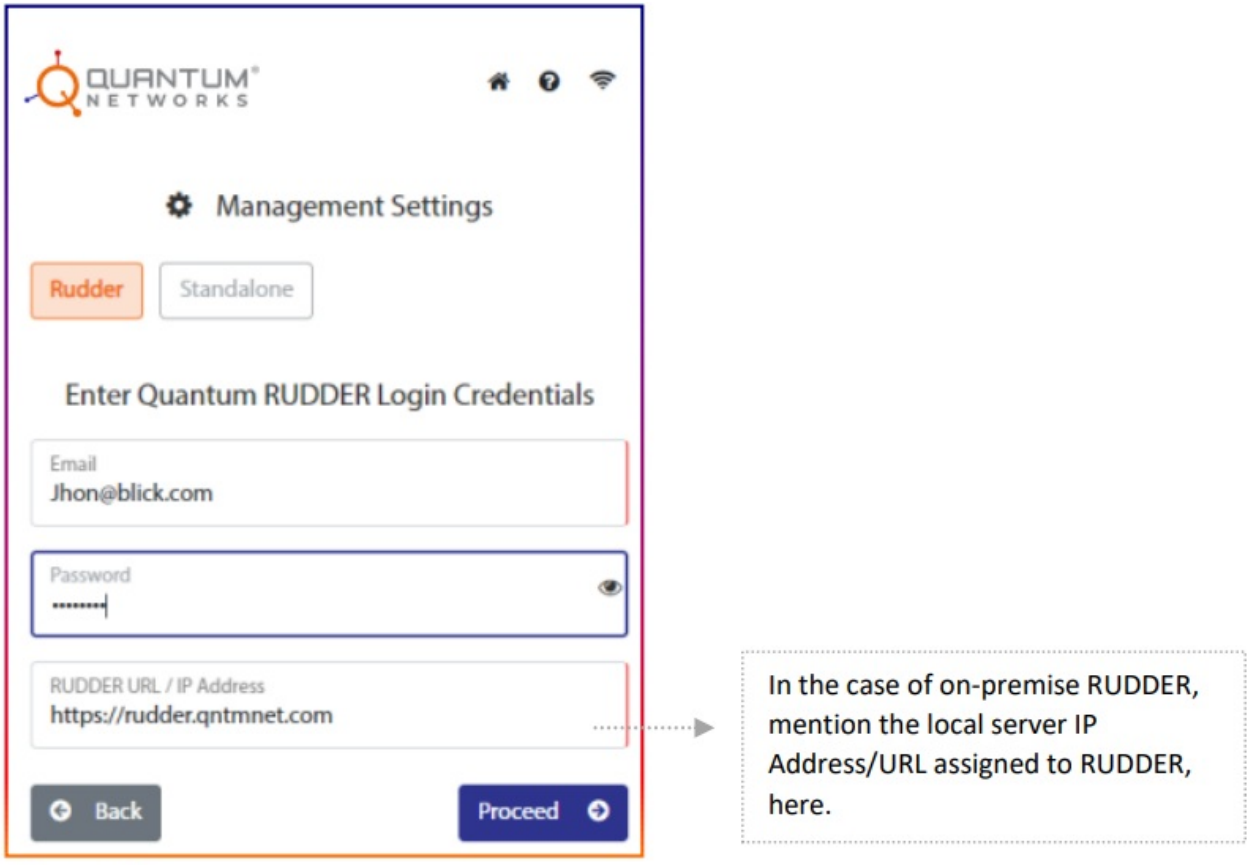


Figure 5

- It will verify the credentials, and turn to a next page.

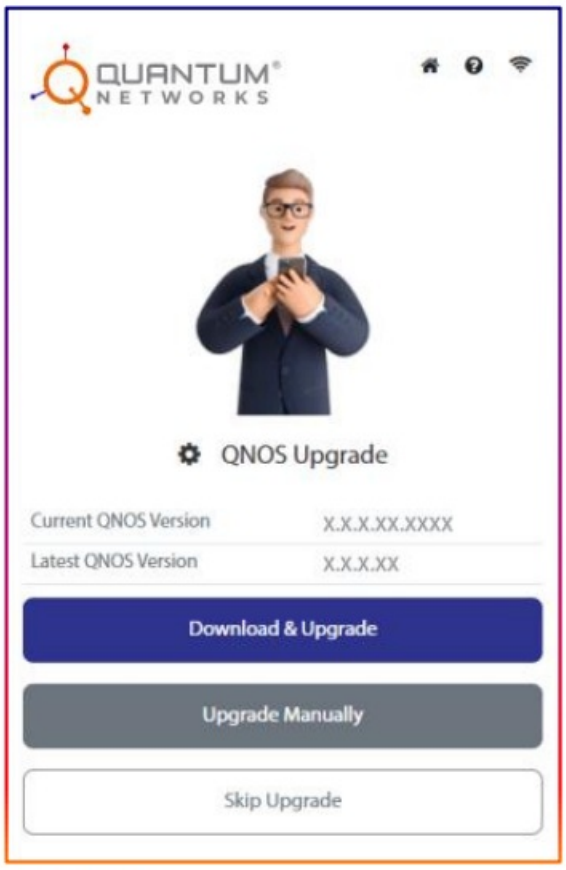


Figure 6

- Upgrade QNOS version by either downloading from the cloud or by selecting manually from respective location and upgrade or click “Skip Upgrade” to move further.
- The user will turn to a page where the user has to select the site and AP group.

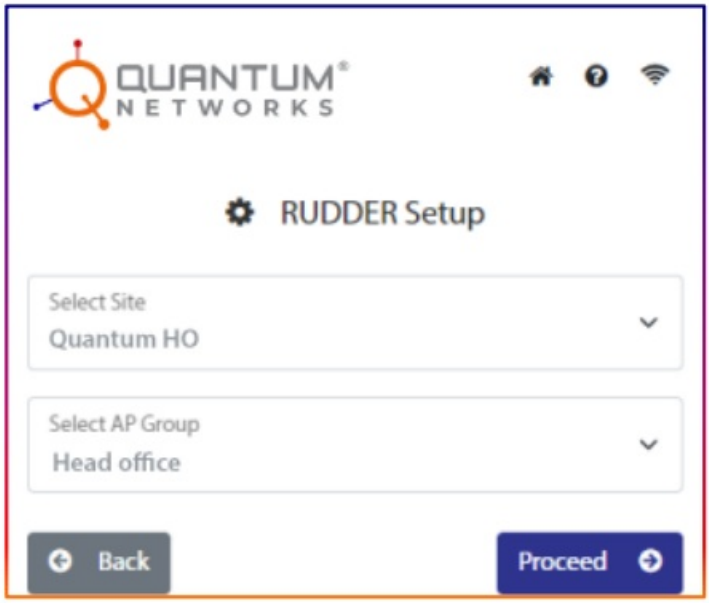


Figure 7

- Select Rudder site and AP Group where Access Point's needs to be added and click "Proceed".
  - If the selected site is already having another Access Point, it will automatically configure AP in a bridge mode and will turn the user on the summary page after clicking "Proceed". (Figure 8)
  - If this is the first Access Point for the selected site – the user will turn on the page, where the user can select Access Point Operation mode as Bridge or Router. (Figure 9)

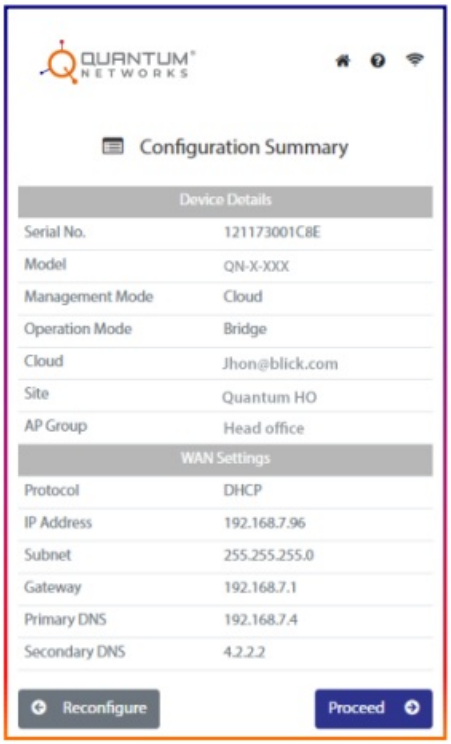


Figure 8

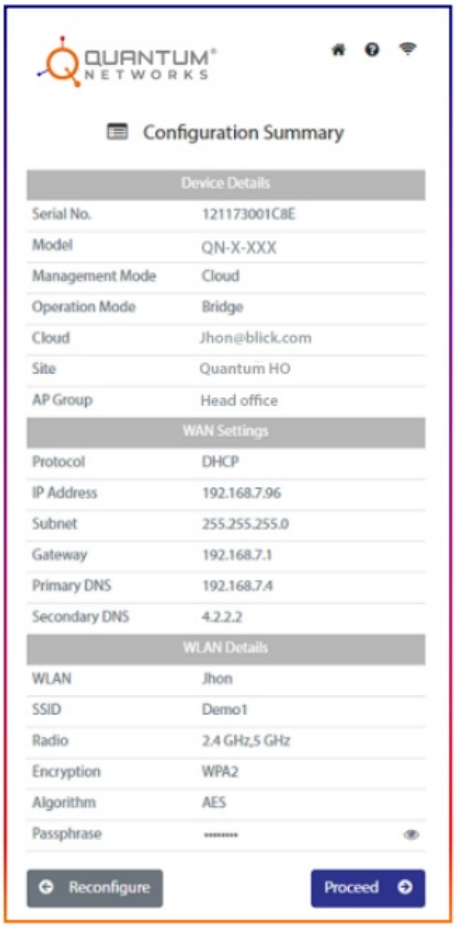
Figure 9

- **Bridge**
  - Select option Bridge and click "Proceed".
  - Configure WLAN (SSID) parameters and click "Proceed".

Parameter	Value
WLAN	
WLAN Name	Define a name for the network
SSID	Define visible wireless network name
Password	Configure passphrase for SSID
Local Subnet	
IP Address	LAN IP address. This IP address can be used for accessing this Access Point
Subnet Mask	LAN Subnet mask

Figure 10

Note: If you do not want to create **WLAN** (SSID)/**LAN** now, click the **Skip** option. It will turn to **Configuration Summary**.



Review the Configuration Summary. Click “Reconfigure” if any changes are required or click “Proceed” to complete the configuration.

Figure 11

- **Router**
  - Select option Router and click “Proceed”.
  - Configure WLAN (SSID) and Local subnet parameters and click “Proceed”.

Parameter	Value
WLAN	
WLAN Name	Define a name for the network
SSID	Define visible wireless network name
Password	Configure passphrase for SSID
Local Subnet	
IP Address	LAN IP address. This IP address can be used for accessing this Access Point
Subnet Mask	LAN Subnet mask

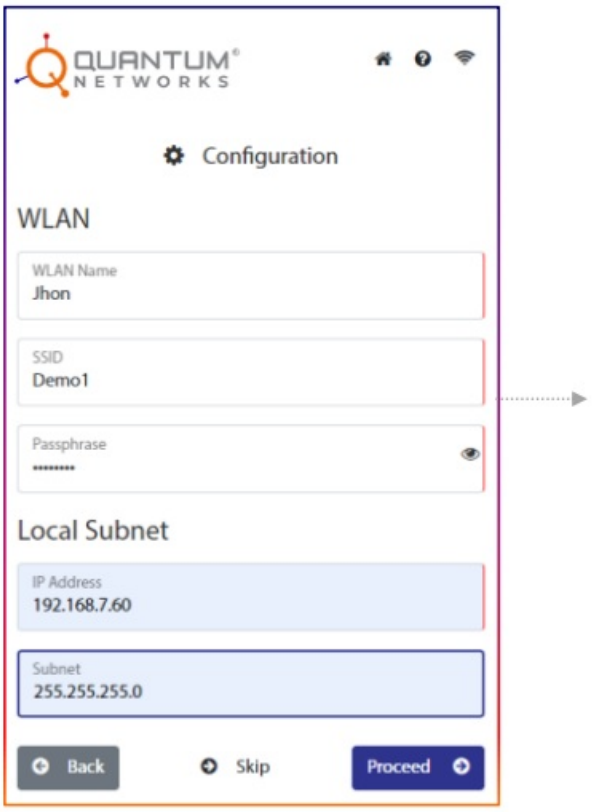


Figure 12

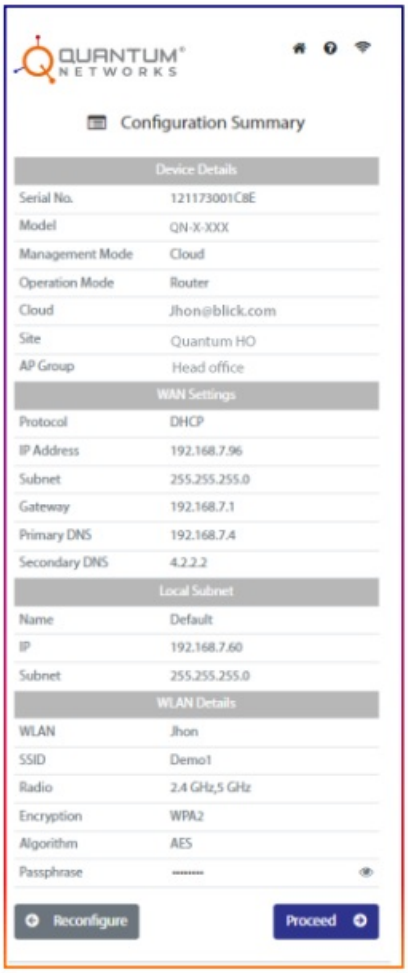


Figure 13

- **Note:** If you do not want to create WLAN (SSID)/LAN now, click the Skip option. It will turn to Configuration Summary.
  Review the Configuration Summary. Click “Reconfigure” if any changes are required or click “Proceed” to complete the configuration.

- **Step 6 – Access Point quick setup in standalone mode**

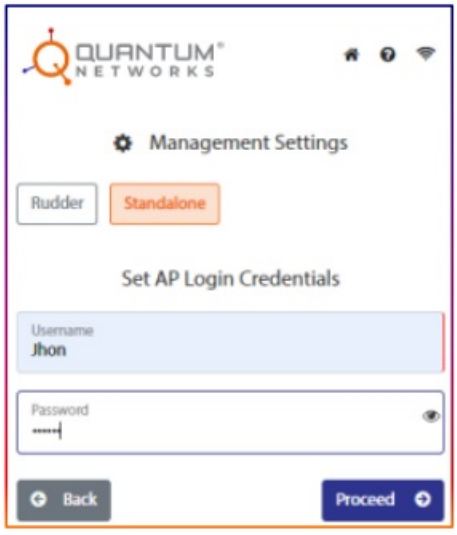


Figure 14

  - Select “Management Mode” as “Standalone” if each Access Point is to be configured and managed individually. Define username and password for the device and click “Proceed”.
  - User can select Access Point Operation mode as Bridge or Router.

Figure 15

- **Bridge**
  - Select option Bridge and click “Proceed”.
  - Configure WLAN (SSID) parameters and click “Proceed”.

Parameter	Value
Country	Select country for radio management.
Timezone	Select timezone for Rudder management.
WLAN Name	Define a name for the network.
SSID	Define visible wireless network name.
Passphrase	Configure a passphrase for SSID.

  - Review the Configuration Summary. Click “Reconfigure” if any changes are required or click “Proceed” to complete the configuration.

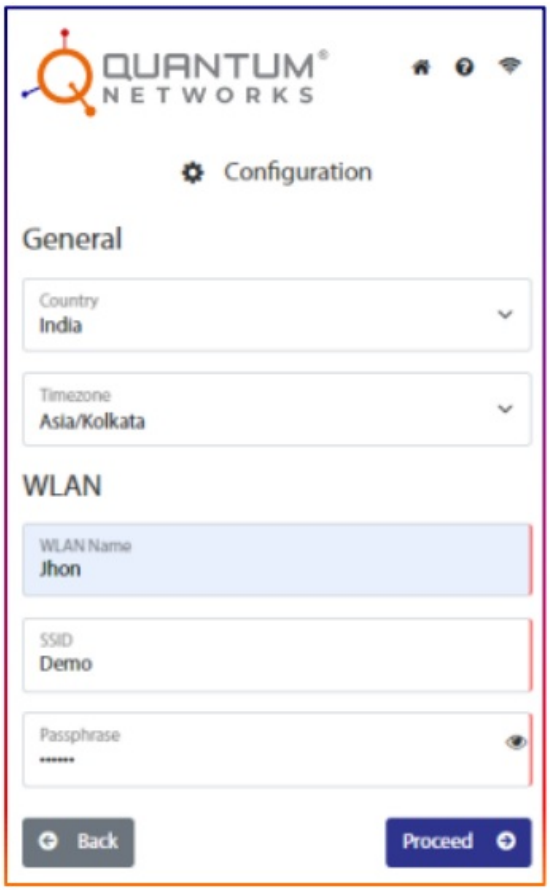


Figure 16

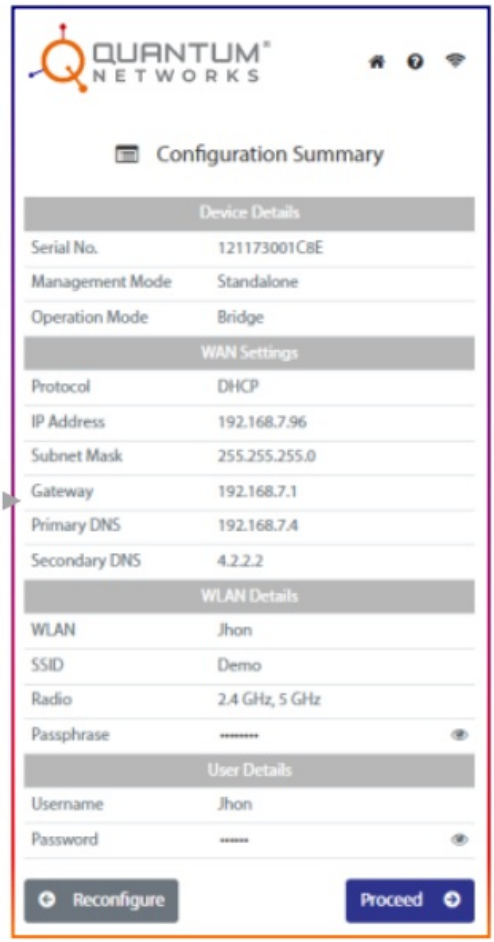


Figure 17

- **Router**
  - Select option Router and click “Proceed”.
  - Configure WLAN (SSID) and Local subnet parameters and click “Proceed”.

Parameter	Value
WLAN	
Country	Select country for radio management.
Timezone	Select timezone for Rudder management.
WLAN Name	Define a name for the network.
SSID	Define visible wireless network name.
Password	Configure a passphrase for SSID.
Local Subnet	
IP Address	LAN IP address. This IP address can be used for accessing this Access Point.
Subnet Mask	LAN subnet mask.

- Review the Configuration Summary. Click “Reconfigure” if any changes are required or click “Proceed” to complete the configuration.

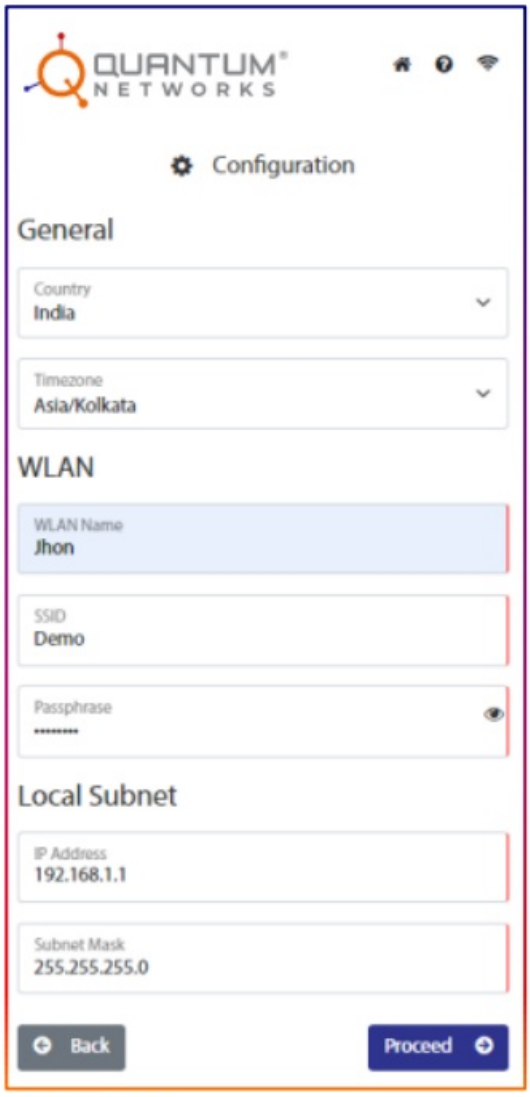


Figure 18

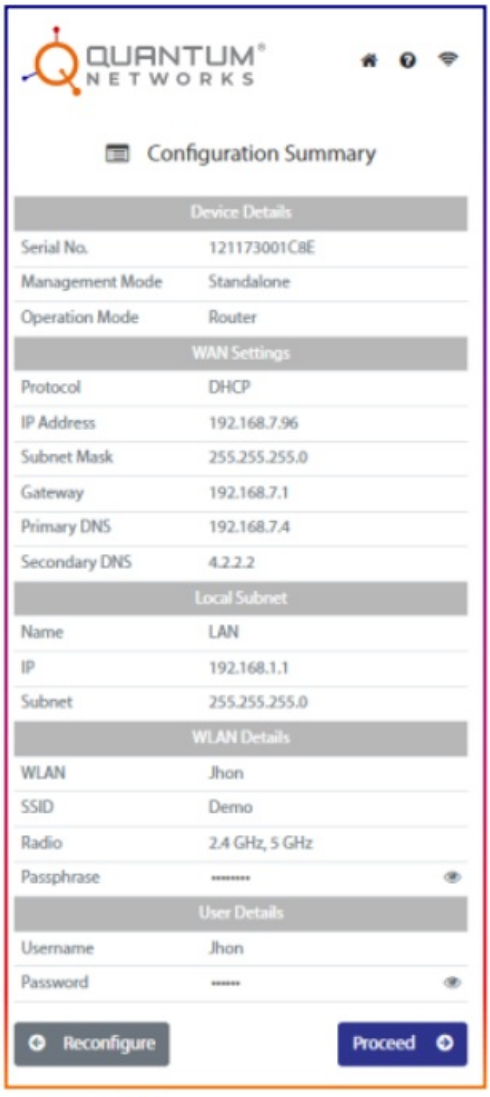


Figure 19

Reset Access Point to factory defaults

- Power on the Access Point
- Push the reset button on the back panel and hold it for 10 seconds.
- Access Point would restart with factory defaults

Access Point default login detail

- **With standalone mode:**
  - **User Name**: Created while doing “Quick Setup”
  - **Password:** Created while doing “Quick Setup”
- With Rudder mode:
  - User Name: Auto Generated, administrator can change from site settings.
  - Password: Auto Generated, administrator can change from site settings.

If you encounter problems while installing or using this product, please browse www.qntmnet.com for:

- Direct contact with the support center.
  - **Contact:** 18001231163
  - **Email:** support@qntmnet.com
- For the latest software, user documentation and product updates browse: qntmnet.com/resource-library

FCC statement

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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. For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible. This device is restricted for indoor use.

IMPORTANT NOTE: FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 24 cm between the radiator and your body. **Installation location:** To meet regulatory RF exposure requirements, this product shall be installed at a location where, during normal operations, the radiating antenna is at least 24 cm away from any nearby persons.
External antenna: Use only the antennas that have been approved by the applicant. Using non-approved antenna(s) is prohibited and may produce unwanted spurious or excessive RF transmitting power which may lead to a violation of FCC limits.
Installation procedure: Please refer to this equipment's user manual for the procedure details.
Warning: The installation position must be carefully selected so that the final output power does not exceed the limit set forth in relevant regulations. Violation of output power regulations could lead to serious federal penalties.

CE Statement
This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 24 cm between the radiator and your body.

The device is restricted to indoor use only when operating in the 5150 to 5350MHz frequency range.

All operational modes:

- 2.4GHz: 802.11b, 802.11g, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ax(HE20), 802.11ax(HE40)
- 5 GHz: 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ac(VHT80), 802.11ax(HE20), 802.11ax(HE40),802.11ax(HE80)

- BLE 2.4GHz: 802.15.1

The frequency and maximum transmitted power limit in EU are listed as below:

- 2412-2472MHz: 20 dBm
- 5150-5350MHz: 23 dBm
- 5500-5700MHz: 30 dBm

The abbreviations of the countries, as prescribed in above table, where any restrictions on putting into service or any requirements for authorization of use exist.

CE Mark Declaration of Conformance for EMI and Safety (EEC)
This information technology equipment is in compliance with the Directive 2014/53/EU and Directive2014/35/EU. The Declaration of Conformity (DoC) can be obtained from: www.qntmnet.com> resource-library.

www.qntmnet.com

Documents / Resources

	QUANTUM NETWORKS QN-I-270 Networks Access Point [pdf] User Guide QN-I-270, QN-I-270 Networks Access Point, Networks Access Point, Access Point, Point

References

- Quantum Network
- Quantum Network
- Quantum Network
- User Manual