



Quick Setup Guide

Model: QN-H-245

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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	<p>Standalone: In this mode, each device is configured and managed individually. It can be useful in scenarios with few devices or sites with limited Internet access.</p> <p>RUDDER: In this mode, devices are configured and managed from a central controller hosted in the cloud. It offers many more sets of features as compared to the Standalone mode.</p>
Operation Mode	<p>Bridge: In this mode, the device connects to a network over an ethernet cable and extends the coverage over wireless.</p> <p>Router: In this mode, the device connects to Internet Service Provider directly using DHCP / Static IP / PPPoE protocols and shares Internet access over a wired or wireless network to users.</p>
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.

Prerequisites

- Internet access.
- Desktop / Laptop / Handheld device.
- 802.3af / 802.3at PoE Switch / PoE Injector.
- 48VDC 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.



The screenshot shows the Quantum RUDDER registration interface. At the top, the logo reads "QUANTUM RUDDER® Network and Services Controller". Below the logo is a "Sign up" link. The registration form includes the following fields:

- Administrator:** Split into "First Name" and "Last Name" input boxes.
- Email:** A single input box.
- Phone:** An input box with a dropdown menu showing the Indian flag and the text "phone".
- Country:** A dropdown menu with "India" selected.
- Timezone:** A dropdown menu with "Asia/Kolkata(GMT+5:30)" selected.
- Password:** An input box with masked characters (dots) and a visibility toggle icon.
- Confirm Password:** An input box with masked characters and a visibility toggle icon.

At the bottom of the form is a large blue "Register" button. In the bottom right corner, there is a "Login" link.

Figure 1

- Follow the steps as guided on the screen for Registration.
- Verify Quantum® RUDDER account from registered email id.
- 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".

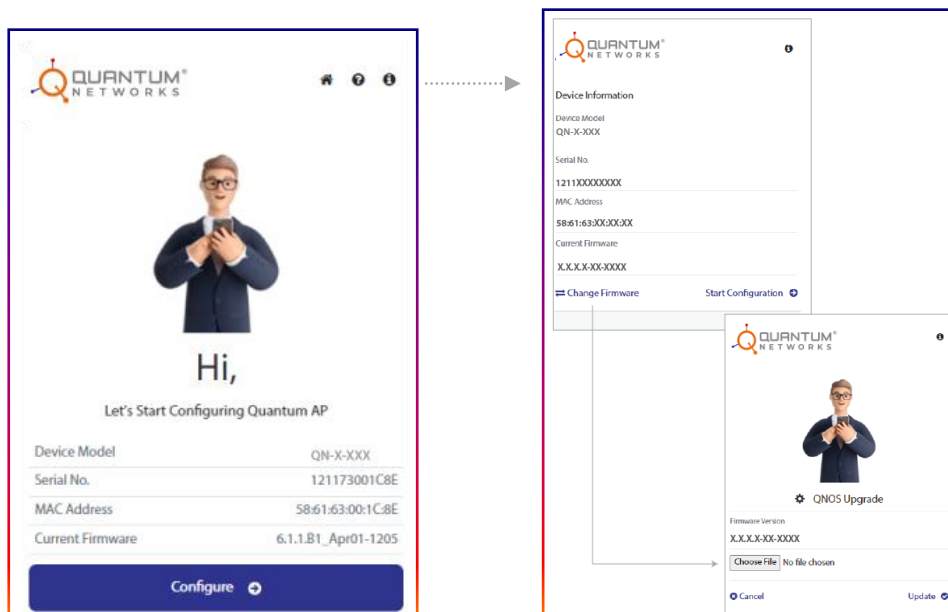



Figure 2

Let's start the configuration.

On the configuration start page, it will display,

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

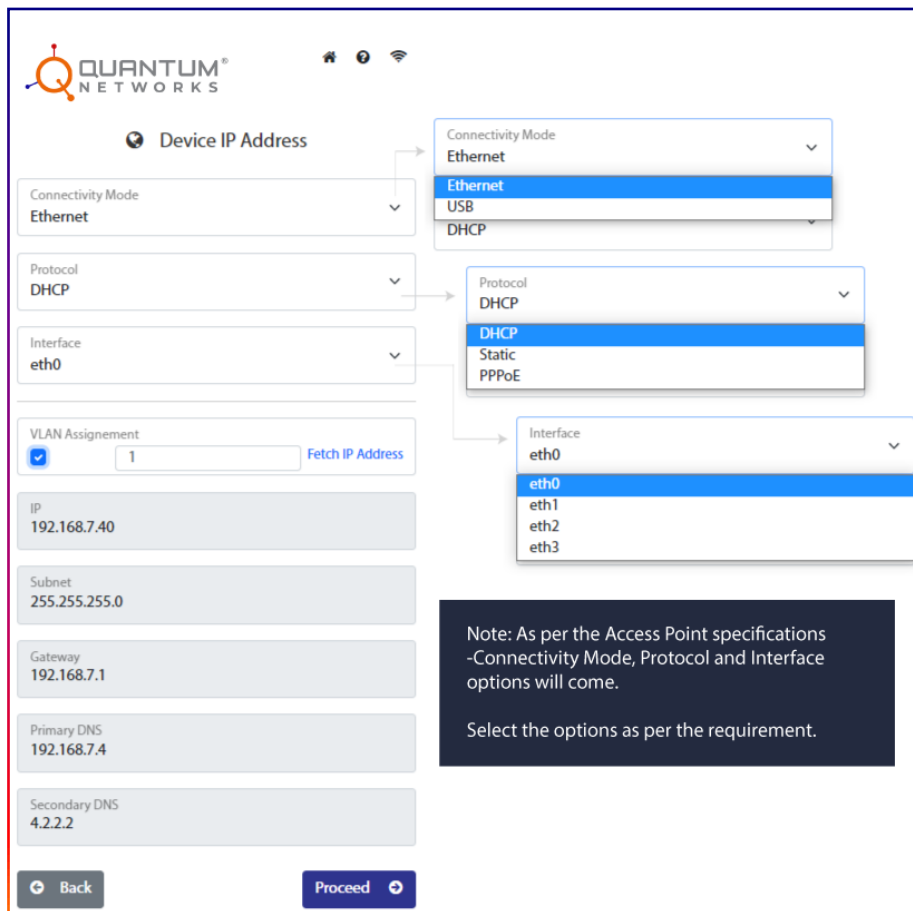
Note:

- 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.



Quantum Networks

Device IP Address

Connectivity Mode: Ethernet

Protocol: DHCP

Interface: eth0

VLAN Assignment: ☒ 1 [Fetch IP Address](#)

IP: 192.168.7.40

Subnet: 255.255.255.0

Gateway: 192.168.7.1

Primary DNS: 192.168.7.4

Secondary DNS: 4.2.2.2

[Back](#) [Proceed](#)

Note: As per the Access Point specifications -Connectivity Mode, Protocol and Interface options will come.
Select the options as per the requirement.

Figure 3

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

Step 4 – Set the management mode

Management Mode

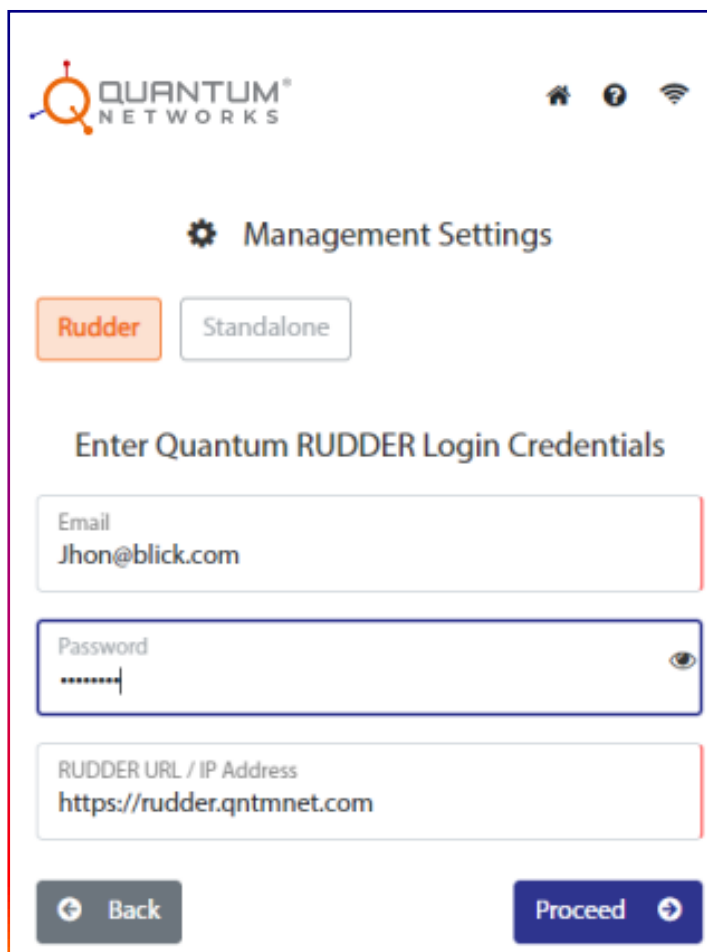
Quantum Networks® Access Point can be configured in two modes:

RUDDER (on cloud / on-premise)

Centralized management of Access Points using Quantum® RUDDER

Standalone

Independent management of each Access Point



Quantum Networks

Management Settings

Rudder Standalone

Enter Quantum RUDDER Login Credentials

Email
Jhon@blick.com

Password
.....

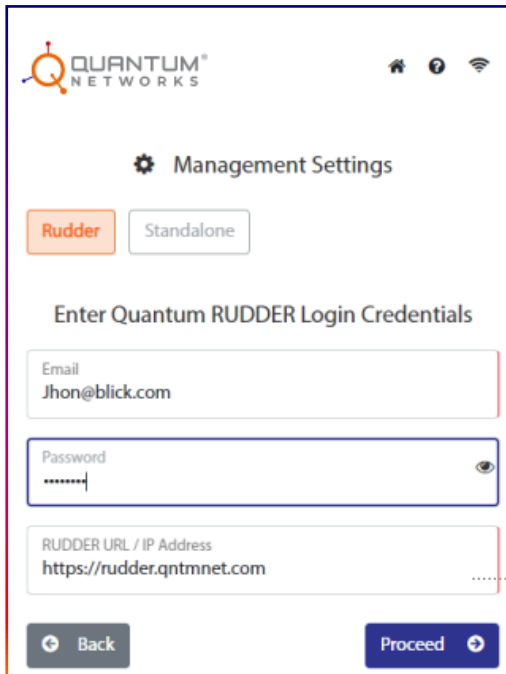
RUDDER URL / IP Address
https://rudder.qntmnet.com

Back Proceed

Figure 4

Step 5 - Access Point quick setup in RUDDER Mode

- Select “**Management Mode**” as “**RUDDER**”, enter Quantum® RUDDER login credentials and click “**Proceed**”.



In the case of on-premise RUDDER, mention the local server IP Address/URL assigned to RUDDER, here.

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.

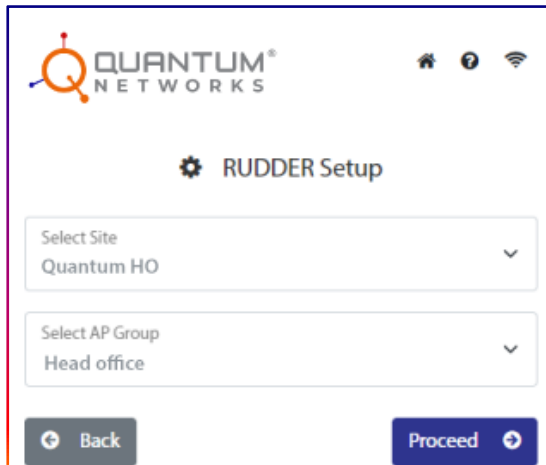
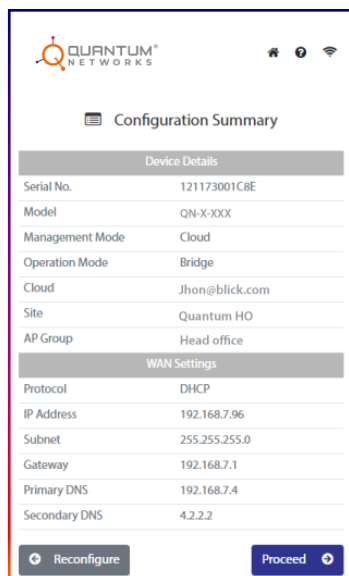


Figure 7

- 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)



Device Details	
Serial No.	121173001C8E
Model	QN-X-XXX
Management Mode	Cloud
Operation Mode	Bridge
Cloud	Jhon@blick.com
Site	Quantum HO
AP Group	Head office
WAN Settings	
Protocol	DHCP
IP Address	192.168.7.96
Subnet	255.255.255.0
Gateway	192.168.7.1
Primary DNS	192.168.7.4
Secondary DNS	4.2.2.2

Figure 8



Figure 9

Bridge

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

Parameter	Value
WLAN Name	Define a name for the network
SSID	Define visible wireless network name
Passphrase	Configure a passphrase for SSID



The screenshot shows the 'Configuration' screen for Quantum Networks. Under the 'WLAN' section, there are three input fields: 'WLAN Name' with the value 'Jhon', 'SSID' with the value 'Demo1', and 'Passphrase' with a masked value '*****'. At the bottom, there are three buttons: 'Back', 'Skip', and 'Proceed'.

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

Figure 10



The screenshot shows the 'Configuration Summary' screen. It is divided into three sections: 'Device Details', 'WAN Settings', and 'WLAN Details'. The 'Device Details' section includes fields for Serial No., Model, Management Mode, Operation Mode, Cloud, Site, and AP Group. The 'WAN Settings' section includes fields for Protocol, IP Address, Subnet, Gateway, Primary DNS, and Secondary DNS. The 'WLAN Details' section includes fields for WLAN, SSID, Radio, Encryption, Algorithm, and Passphrase. At the bottom, there are two buttons: 'Reconfigure' and 'Proceed'.

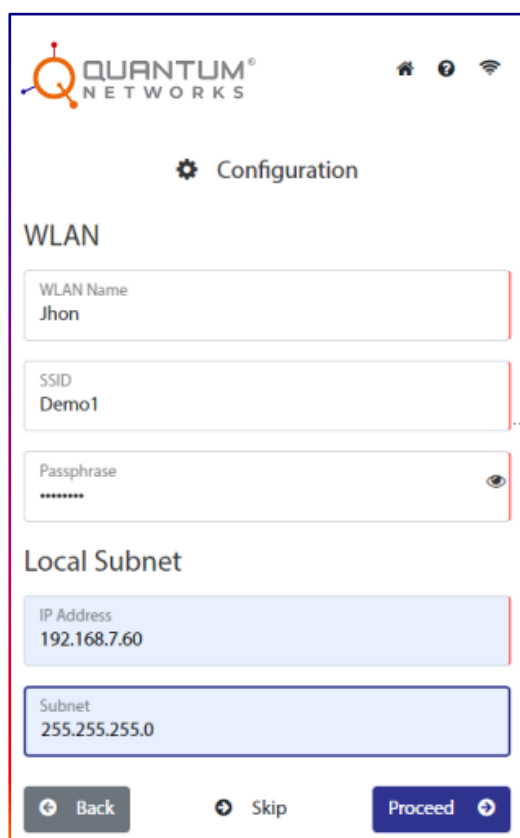
Review the Configuration Summary. Click “Reconfigure” if any changes are required or click “Proceed” to complete the configuration.

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



QUANTUM NETWORKS

Configuration

WLAN

WLAN Name
Jhon

SSID
Demo1

Passphrase

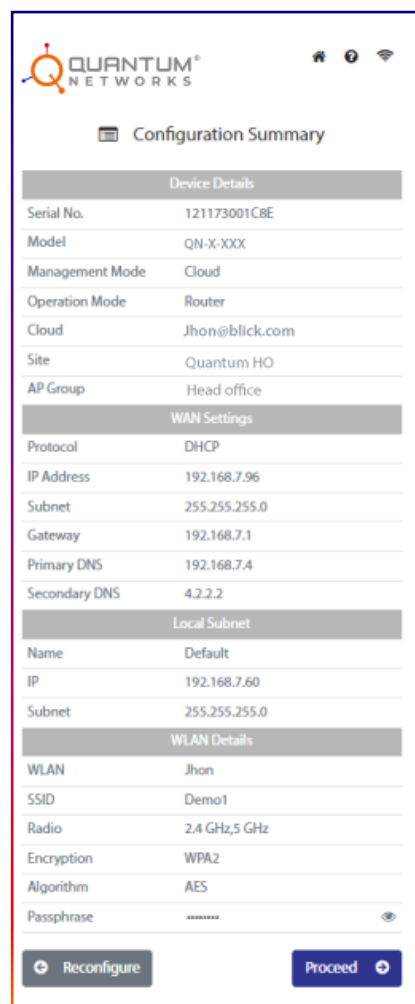
Local Subnet

IP Address
192.168.7.60

Subnet
255.255.255.0

Back Skip Proceed

Figure 12



QUANTUM NETWORKS

Configuration Summary

Device Details

Serial No.	121173001C8E
Model	QN-X-XXX
Management Mode	Cloud
Operation Mode	Router
Cloud	Jhon@blick.com
Site	Quantum HO
AP Group	Head office

WAN Settings

Protocol	DHCP
IP Address	192.168.7.96
Subnet	255.255.255.0
Gateway	192.168.7.1
Primary DNS	192.168.7.4
Secondary DNS	4.2.2.2

Local Subnet

Name	Default
IP	192.168.7.60
Subnet	255.255.255.0

WLAN Details

WLAN	Jhon
SSID	Demo1
Radio	2.4 GHz, 5 GHz
Encryption	WPA2
Algorithm	AES
Passphrase	*****

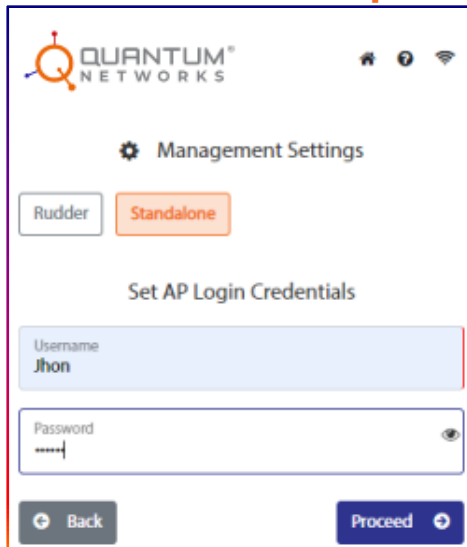
Reconfigure Proceed

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



The screenshot shows the 'Management Settings' page for a Quantum Networks device in 'Standalone' mode. The 'Rudder' button is disabled, and the 'Standalone' button is active. Below this, the 'Set AP Login Credentials' section has a 'Username' field containing 'Jhon' and a 'Password' field with masked characters. At the bottom, there are 'Back' and 'Proceed' buttons.

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**.



The screenshot shows the 'Operation Mode' page. The 'Bridge' button is active, and the 'Router' button is disabled. Below the buttons, a text description states: 'In Bridge Mode, device connects to the network by ethernet cable and extends the wireless coverage of existing network.' A diagram illustrates the connection: a globe (internet) connected to a router, which is connected to an access point, which is then connected to a laptop. At the bottom, there are 'Back' and 'Proceed' buttons.

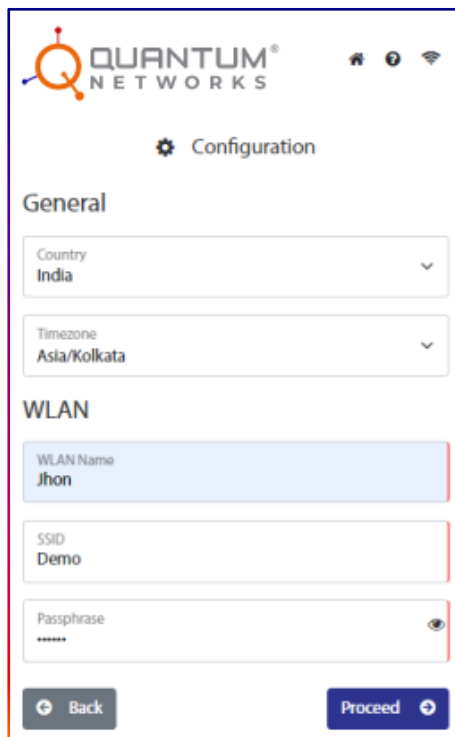
Figure 15

Bridge

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

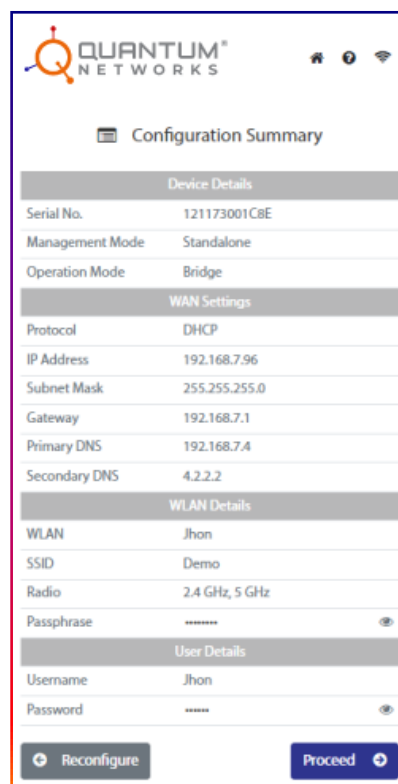
Parameter	Value
Country	Select country for radio management.
Timezone	Select timezone for RUDDER management.
WLAN Name	Define a name for the network.
SSID	Define visible wireless network name.
Passphrase	Configure a passphrase for SSID.

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



Quantum Networks Configuration screen. The screen shows the 'General' section with 'Country' set to 'India' and 'Timezone' set to 'Asia/Kolkata'. The 'WLAN' section is highlighted with a red border, showing 'WLAN Name' as 'Jhon', 'SSID' as 'Demo', and 'Passphrase' as '*****'. At the bottom, there are 'Back' and 'Proceed' buttons.

Figure 16



Quantum Networks Configuration Summary screen. The screen displays a summary of the configuration. It includes sections for 'Device Details' (Serial No. 121173001C8E, Management Mode Standalone, Operation Mode Bridge), 'WAN Settings' (Protocol DHCP, IP Address 192.168.7.96, Subnet Mask 255.255.255.0, Gateway 192.168.7.1, Primary DNS 192.168.7.4, Secondary DNS 4.2.2.2), 'WLAN Details' (WLAN Jhon, SSID Demo, Radio 2.4 GHz, 5 GHz, Passphrase *****), and 'User Details' (Username Jhon, Password *****). At the bottom, there are 'Reconfigure' and 'Proceed' buttons.

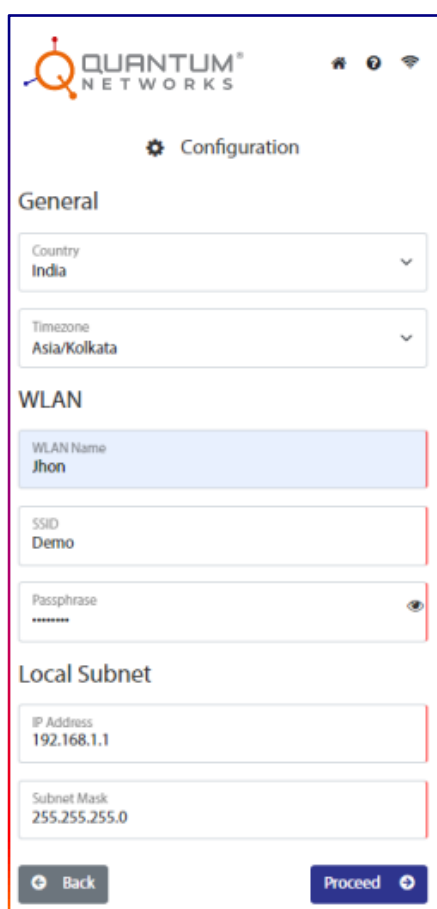
Figure 17

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.

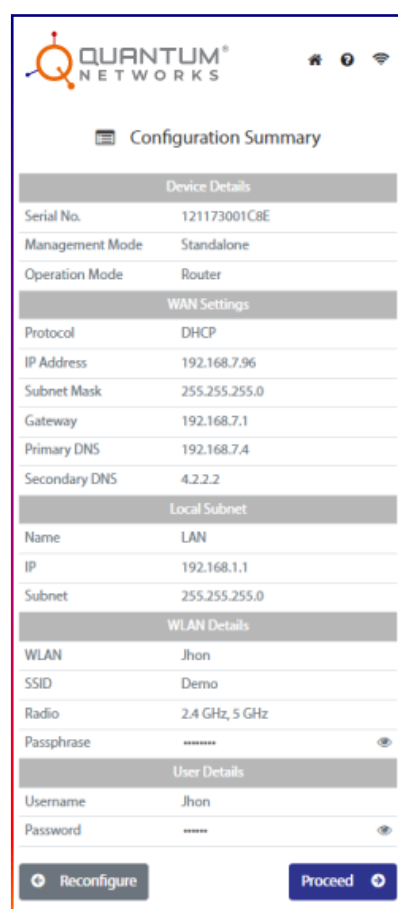


Quantum Networks Configuration screen showing the following settings:

- General**
 - Country: India
 - Timezone: Asia/Kolkata
- WLAN**
 - WLAN Name: Jhon
 - SSID: Demo
 - Password: [Redacted]
- Local Subnet**
 - IP Address: 192.168.1.1
 - Subnet Mask: 255.255.255.0

Buttons: Back, Proceed

Figure 18



Quantum Networks Configuration Summary screen showing the following details:

- Device Details**
 - Serial No.: 121173001C8E
 - Management Mode: Standalone
 - Operation Mode: Router
- WAN Settings**
 - Protocol: DHCP
 - IP Address: 192.168.7.96
 - Subnet Mask: 255.255.255.0
 - Gateway: 192.168.7.1
 - Primary DNS: 192.168.7.4
 - Secondary DNS: 4.2.2.2
- Local Subnet**
 - Name: LAN
 - IP: 192.168.1.1
 - Subnet: 255.255.255.0
- WLAN Details**
 - WLAN: Jhon
 - SSID: Demo
 - Radio: 2.4 GHz, 5 GHz
 - Password: [Redacted]
- User Details**
 - Username: Jhon
 - Password: [Redacted]

Buttons: Reconfigure, Proceed

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
- Frequently Asked Questions (FAQ)
- Download area for the latest software, user documentation and product updates.

FCC statement

FCC Class B

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 which 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



AT	BE	BG	CH	CY	CZ
DE	DK	EE	EL	ES	FI
FR	HR	HU	IE	IS	IT
LI	LT	LU	LV	MT	NL
NO	PL	PT	RO	SE	SI
SK	TR	UK			

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 Directive 2014/35/EU.

The Declaration of Conformity (DoC) can be obtained from www.qntmnet.com> downloads.