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QUANTUM QN-I-220 Wireless Access Point User Guide

Contents

Command Line Interface Guide

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Document Abstract

This document describes the use of Command Line Interface, here in after referred as CLI through SSH to access the Access Point parameters, configuration and offers several troubleshooting tools.

Prerequisites

In order to access device using CLI, SSH supported utility is required. CLI access is operating system independent. You may use Windows® or MAC® or Linux®. The command terminal should support SSH. In Windows®, you may use third party application like Putty whereas the MAC® and Linux® command terminals already support SSH. Default port used by SSH is 22. **Please use the same device username and password as defined during Site creation in Quantum Rudder (https://cc.qntmnet.com)** and for standalone use preconfigured device login username and password. We used **admin** as the Device username and **192.168.25.6** is the Access Point IP address.

Example of a SSH command (IP Address 192.168.25.6 has been used in test scenario only):
command_prompt>**sshadmin@192.168.25.6** {press Enter Key}

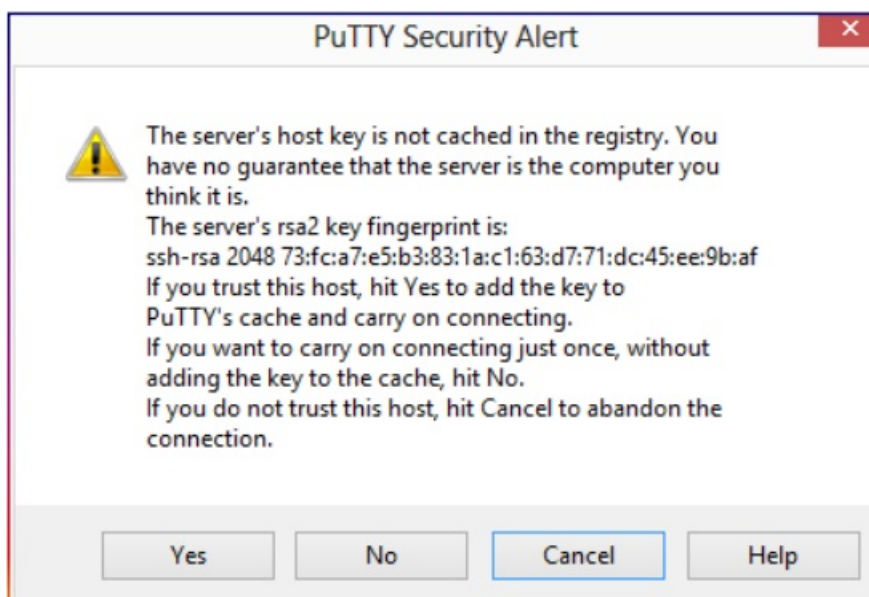**How to access CLI?**
Using Windows® platform?

Step 1: Download Putty for windows and follow as below (For test scenario we used 192.168.25.6 as the assigned IP address to Access Point).
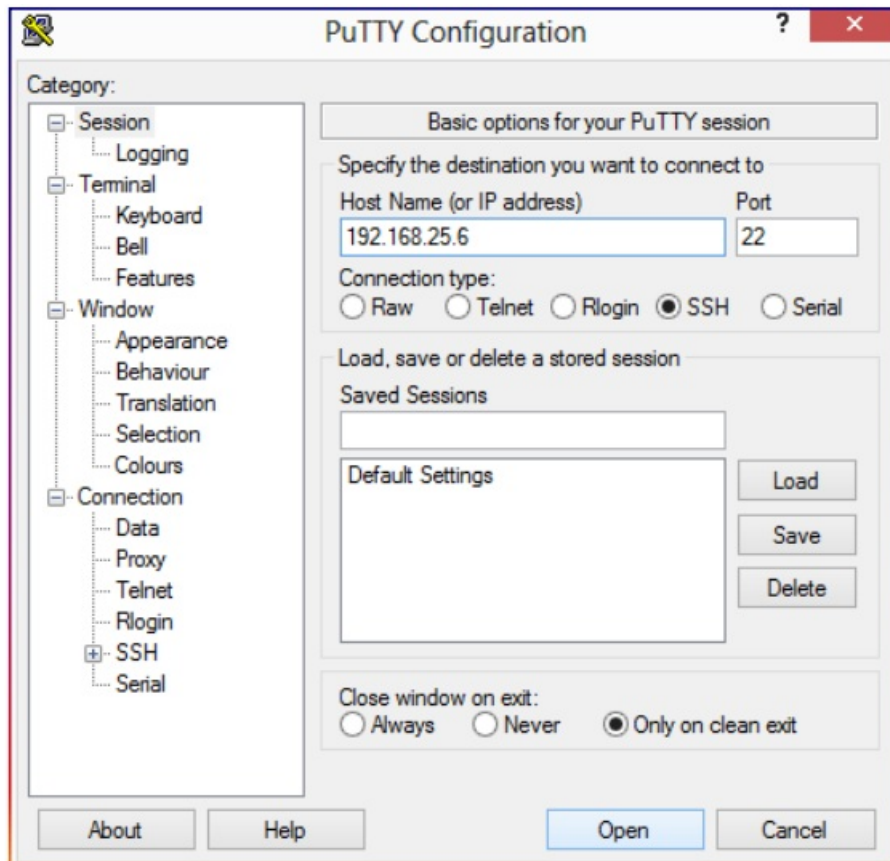
Step 2: On first connection from Windows® using Putty, click "Yes" to accept host key.
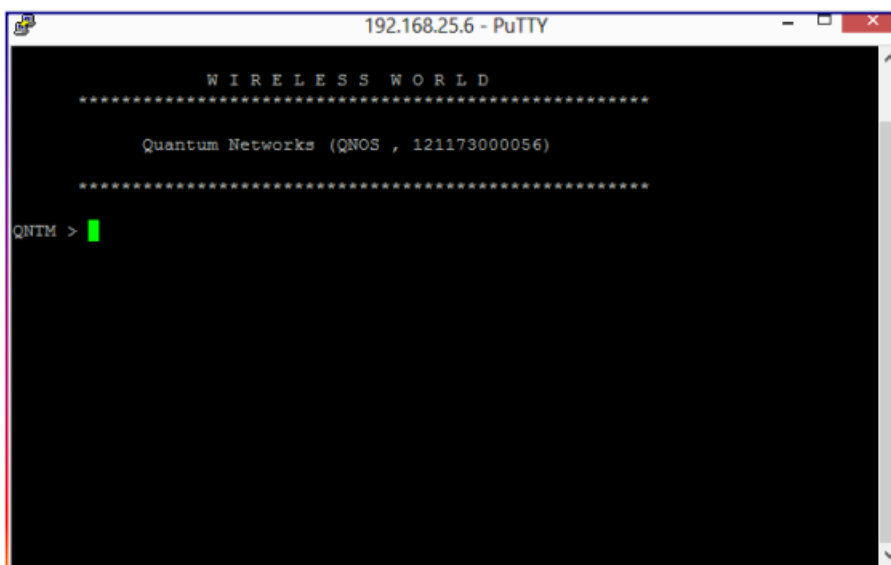
Step 3: Enter the username and password defined during Site creation in Quantum Rudder and press Enter.

Step 4: You are successfully logged into Access Point with command prompt as "QNTM". You may execute CLI commands now.

For Linux® and Apple® devices, SSH is, by default, supported. In usual cases any third party application is not required.

Using Apple® Platform?
We used an Apple® Macbook with macOS High Sierra Version 10.13.4 to brief commands ahead. Feel free to consult for updated versions issued ahead.

Step 1: Start Terminal and execute below SSH command followed by Enter key (For test scenario we used 192.168.25.6 as the assigned IP address to Access Point).

```
                          🖥 dennis — -bash — 100×30
Last login: Sun May 27 20:52:47 on ttys000
Macbook:~ dennis$ ssh admin@192.168.25.6█
```

Step 2: For first connection to the Access Point using SSH, you may be prompted to accept the host key. Do so by clicking "Yes" and press Enter.


```
                          🖥 dennis — ssh admin@192.168.25.6 — 100×30
Last login: Sun May 27 20:52:47 on ttys000
Macbook:~ dennis$ ssh admin@192.168.25.6
The authenticity of host '192.168.25.6 (192.168.25.6)' can't be established.
RSA key fingerprint is SHA256:PEQBSVJVjD9FJ+s3Ljn9Vd5toeCdLQHU+7CZqWH6MSI.
Are you sure you want to continue connecting (yes/no)? yes█
```

Step 3: Please enter the password as defined to access the Access Point during **Site** creation in Quantum Rudder and press Enter.


```
                          🖥 dennis — ssh admin@192.168.25.6 — 100×30
Last login: Sun May 27 20:52:47 on ttys000
Macbook:~ dennis$ ssh admin@192.168.25.6
The authenticity of host '192.168.25.6 (192.168.25.6)' can't be established.
RSA key fingerprint is SHA256:PEQBSVJVjD9FJ+s3Ljn9Vd5toeCdLQHU+7CZqWH6MSI.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.25.6' (RSA) to the list of known hosts.
admin@192.168.25.6's password: █
```

Step 4: You are successfully logged into Access Point with command prompt as "QNTM"(Device Name). You may execute CLI commands now.

Understanding Commands:

General Commands:

Command Prompt > help

Description: **help** command would display basic commands available through terminal.

Command Prompt >?

Description: **?** command would display all (except basic) commands available through terminal.

```
  ● ● ●                ⌂ dennis — ssh admin@192.168.25.6 — 80×24

              W I R E L E S S   W O R L D
        ****************************************************

           Quantum Networks (QNOS , 121173000056)

        ****************************************************

QNTM > ?
?               clear          date          exit          help
interface       nslookup       ping          reset         restart
setwan          statistics     status        sysinfo       tracert
wanstatus       wclient
QNTM > █
```

Command Prompt > clear

Description: **clear** command would clear the terminal screen.

```
  ● ● ●                ⌂ dennis — ssh admin@192.168.25.6 — 80×24
QNTM > help

?              : To view all commands.
exit           : To exit from ssh.
clear          : To clear display.
restart        : To restart your QNAP.
reset          : To reset your QNAP.

QNTM > clear█
```

Command Prompt > date

Description: **date** command would display current date and time in Access Point. Date and Time can't be modified from Terminal as they are automatically updated as per selected Country in Quantum Rudder or in standalone configuration.

```
●●●                    🔒 dennis — ssh admin@192.168.25.6 — 80×24                    ▤
              W I R E L E S S   W O R L D
      ****************************************************

          Quantum Networks (QNOS , 121173000056)


      ****************************************************

QNTM > date
Sun May 27 23:00:29 IST 2018
QNTM > ▊
```

Command Prompt > ping 🔀

Description: **ping** command can be used in trouble shooting network issues and helps to verify IP-level connectivity. When troubleshooting, you can use this command to send an ICMP echo request to a target host name or IP address. Use it whenever you need to verify that the Access Point can connect to the network resources.


```
●●●                    🔒 dennis — ssh admin@192.168.25.6 — 100×30
              W I R E L E S S   W O R L D
      ********************************************************

          Quantum Networks (QNOS , 121173000056)


      ********************************************************

QNTM > ping www.google.com
PING www.google.com (172.217.26.196): 56 data bytes
64 bytes from 172.217.26.196: seq=0 ttl=52 time=160.210 ms
64 bytes from 172.217.26.196: seq=1 ttl=52 time=276.442 ms
64 bytes from 172.217.26.196: seq=2 ttl=52 time=139.546 ms
64 bytes from 172.217.26.196: seq=3 ttl=52 time=1691.778 ms
64 bytes from 172.217.26.196: seq=4 ttl=52 time=265.342 ms

--- www.google.com ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 139.546/506.663/1691.778 ms
QNTM > ▊
```

Command Prompt > nslookup 🔀

Description: **nslookup** command can be used during trouble shooting to query domain name server and, if successful, replies with resolved IP Address.

```
● ● ●                    🔒 dennis — ssh admin@192.168.25.6 — 100×30
QNTM > nslookup
Input Host :   www.google.com

Name:       www.google.com
Address 1: 172.217.26.196 maa03s23-in-f196.1e100.net
Address 2: 2404:6800:4007:802::2004 maa03s23-in-x04.1e100.net
QNTM > ▮
```

Command Prompt > tracert

Description: **tracert** command can be used during trouble shooting to trace path / hopes from Access Point to the specified destination.

```
● ● ●                    🔒 dennis — ssh admin@192.168.25.6 — 100×30
QNTM > tracert www.google.com
traceroute to www.google.com (172.217.26.196), 30 hops max, 38 byte packets
 1  192.168.25.1 (192.168.25.1)  1.646 ms  4.286 ms  92.203 ms
 2  172.16.0.1 (172.16.0.1)  1.841 ms  1.683 ms  1.255 ms
 3  117.247.238.1 (117.247.238.1)  2.400 ms  3.501 ms  14.174 ms
 4  218.248.174.161 (218.248.174.161)  72.292 ms  3.068 ms  65.168 ms
 5  218.248.174.174 (218.248.174.174)  10.446 ms  4.301 ms  16.733 ms
 6  *  218.248.235.157 (218.248.235.157)  254.449 ms  *
 7  *  *  *
 8  74.125.48.138 (74.125.48.138)  126.109 ms  72.14.197.4 (72.14.197.4)  343.793 ms  72.14.198.73 (
72.14.198.73)  263.831 ms
 9  108.170.248.163 (108.170.248.163)  415.531 ms  108.170.248.194 (108.170.248.194)  222.392 ms  10
8.170.248.210 (108.170.248.210)  155.649 ms
10  216.239.41.147 (216.239.41.147)  197.315 ms  108.170.226.237 (108.170.226.237)  363.906 ms  216.
239.50.171 (216.239.50.171)  337.275 ms
11  108.170.253.113 (108.170.253.113)  251.743 ms  108.170.253.97 (108.170.253.97)  238.307 ms  53.7
29 ms
12  72.14.237.165 (72.14.237.165)  115.778 ms  178.533 ms  135.198 ms
13  maa03s23-in-f196.1e100.net (172.217.26.196)  83.698 ms  78.038 ms  226.087 ms
QNTM > ▮
```

Command Prompt > restart

Description: **restart** command can be used to restart the Access Point through terminal. When prompted, enter **y** to continue reboot or **n** to cancel reboot.

```
● ● ●                    dennis — ssh admin@192.168.25.6 — 100×30
QNTM > restart
Are you confirm to reboot QNAP(y/n)?y
```

Command Prompt > exit

Description: **exit** command can be used to disconnect the terminal access. When prompted, enter **y** to exit or **n** to cancel.


```
● ● ●                        dennis — -bash — 100×30
QNTM > exit
Are you confirm to exit from ssh(y/n)?yConnection to 192.168.25.6 closed.
Macbook:~ dennis$
```

System Commands:

Command Prompt > **setwan**

Description: **setwan** command can be used to define Access Point's WAN Interface mode. Available options are DHCP / Static IP or PPPoE. To apply configuration, enter **y** or **n** to discard.

```
● ● ●                    🔒 dennis — ssh admin@192.168.25.6 — 100×30
QNTM > setwan
enter protocol {dhcp|static|pppoe}  :- static
Please enter static ip address  :- 192.168.25.6
Please enter netmask  :- 255.255.255.0
Please enter gateway  :- 192.168.25.1
Please enter primary DNS  :- 192.168.25.1
Please enter secondary DNS  :- 8.8.8.8
Are you sure to update WAN interface config.(Y/N)  :- y█
```

Command Prompt > wanstatus

Description: **wanstatus** command would display Ethernet Port status with operation mode (Static / DHCP / PPPoE) along with details.

```
● ● ●                    🔒 dennis — ssh admin@192.168.25.6 — 100×30
QNTM > wanstatus
Wan Port              :- ETH0
Proto                 :- static
IP                    :- 192.168.25.6
Subnet                :- 255.255.255.0
Gateway               :- 192.168.25.1
DNS                   :- 192.168.25.1 4.2.2.2
QNTM > █
```

Command Prompt > interface

interface command will display detail listed below

```
● ● ●                    🔒 dennis — ssh admin@192.168.25.6 — 100×30
QNTM > interface
Country            :- IN
Radio              :- 5 GHz
Channel Bandwidth  :- 80 MHz
Channel Range      :- auto
Max Tx Power       :- auto
Radio              :- 2.4 GHz
Channel Bandwidth  :- 20 MHz
Channel Range      :- auto
Max Tx Power       :- auto

wireless interface:-
|-------|---------------|--------|----------|---------|----------------|
|Radio  |SSID           |Enable  |Isolation |Roaming  |Encryption      |
|-------|---------------|--------|----------|---------|----------------|
|2.4GHz |QNTM_STAFF     |Yes     |No        |Yes      |psk2+aes        |
|5GHz   |QNTM_STAFF     |Yes     |No        |Yes      |psk2+aes        |
|2.4GHz |QNTM_GUEST     |Yes     |Yes       |Yes      |psk2+aes        |
|5GHz   |QNTM_GUEST     |Yes     |Yes       |Yes      |psk2+aes        |
|-------|---------------|--------|----------|---------|----------------|
QNTM > █
```

Parameter	Description
Country	Displays selected country in Access Point.
Radio	Displays type of Radio (2.4 GHz / 5 GHz)
Channel Bandwidth	Displays Channel bandwidth configured in Access Point
Channel Range	Displays configured channel range and Max Tx Power setting in Access Point
Max Tx Power	
Radio	Displays type of Radio(2.4 GHz / 5 GHz)
Channel Bandwidth	Displays Channel bandwidth configured in Access Point
Channel Range	Displays configured channel range and Max Tx Power setting in Access Point
Max Tx Power	

Command Prompt > statistics ⚡

Statistics command will display detail listed below

```
QNTM > statistics
Model No.:- QN-I-200
SrNo.:- 121173000056
MAC:- 58:61:63:00:00:56
Uptime:- 6days-3h:03min
Cloud Status:- Offline
Firmware:- QN.1.0.0.0.11
HostName:- admin
CPU Utilization(%):- 38.71
Memory Usage(%):- 85.61
Total Wireless Clients:- 0
Clients On 2.4 GHz:- 0
Clients On 5 GHz:- 0
Channel of 2.4 GHz :- auto(11)
Channel of 5 GHz :- auto(52)
QNTM >
```

Parameter	Description
Model No	Displays Access Point model number
Sr. No	Displays Access Point serial number
MAC	MAC Address of Access Point
Uptime	Displays since what time Access Point has been Up
Firmware	Displays current Access Point Firmware detail
CPU Utilization (%)	Displays Access Point CPU utilization in percentage
Memory Usage (%)	Displays Access Point Memory utilization in percentage
Total Wireless Clients	Provides detail of total number of connected clients
Clients On 2.4 GHz	Displays number of clients connected on 2.4 GHz
Clients On 5 GHz	Displays number of clients connected on 5 GHz
Channel 2.4	Displays 2.4 GHz, selected channel detail
Channel 5	Displays 5 GHz, selected channel detail

Command Prompt > status ⏎

status command will display detail listed below.

```
●● ●                    ⚮ dennis — ssh admin@192.168.25.6 — 100×30
QNTM > status
Uptime                    :- 6days-3h:08min
Cloud Status              :- Offline
Total Wireless Clients    :- 0
Clients On 2.4 GHz        :- 0
Clients On 5 GHz          :- 0
Channel of 2.4 GHz        :- Auto(11)
Channel of 5 GHz          :- Auto(52)
ETH0                      :- Up
ETH1                      :- Down
ETH2                      :- Down
QNTM > █
```

Parameter	Description
Uptime	Displays since what time Access Point has been Up.
Cloud status	Displays Access Point status on Quantum Rudder whether it is online or offline. (If configured in Quantum Rudder)
Total Wireless Clients	Provides detail of total number of connected clients. (2.4 GHz / 5 GHz both)
Clients on 2.4GHz	Displays number of clients connected on 2.4 GHz.
Clients on 5 GHz	Displays number of clients connected on 5 GHz.
Channel 2.4	Displays 2.4 GHz, selected channel detail.
Channel 5	Displays 5 GHz, selected channel detail.
ETH0	Displays reference ethernet port status.
ETH1	Displays reference ethernet port status.
ETH2	Displays reference ethernet port status.

Command Prompt > wclient ⚑

wclient command will display detail listed below.

```
● ● ●                        🏠 dennis — ssh admin@192.168.25.6 — 100×30
QNTM > wclient
192.168.27.40 VAIO
|--------|-------------|-------------------|----------------|------------------------|
|RADIO   |SSID         |MAC                |IP              |HOSTNAME                |
|--------|-------------|-------------------|----------------|------------------------|
|2.4_Ghz |QNTM_STAFF   |84:4B:F5:D2:9E:3B  |192.168.27.40   |VAIO                    |
|5_Ghz   |QNTM_STAFF   |14:20:5E:88:02:79  |?               |?                       |
|--------|-------------|-------------------|----------------|------------------------|
QNTM > ▌
```

Parameter	Description
Radio	Displays radio detail on which reference client is connected.(2.4 GHz / 5 GHz)
SSID	Display SSID with which client is connected.
MAC	MAC address of client device.
IP	IP Address of the client device.
HOSTNAME	Displays Client device hostname.

Command Prompt > reset ⚡

The **reset** command is used Access Point to factory setup if it's in standalone mode. The terminal will logout from session.

Note: If the access point is managed by Quantum Rudder, reset command will not work. It will give warning.

```
QNTM > wclient
192.168.27.40 VAIO
|--------|-------------|-------------------|----------------|------------------------|
|RADIO   |SSID         |MAC                |IP              |HOSTNAME                |
|--------|-------------|-------------------|----------------|------------------------|
|2.4_Ghz |QNTM_STAFF   |84:4B:F5:D2:9E:3B  |192.168.27.40   |VAIO                    |
|5_Ghz   |QNTM_STAFF   |14:20:5E:88:02:79  |?               |?                       |
|--------|-------------|-------------------|----------------|------------------------|
QNTM > ▌
```

```
● ● ●                    👤 dennis — ssh admin@192.168.25.6 — 100×30
QNTM > exit
Are you confirm to exit from ssh(y/n)?y█
```

Documents / Resources

Command Line Interface Guide	**QUANTUM QN-I-220 Wireless Access Point** [pdf] User Guide QN-I-220 Wireless Access Point, QN-I-220, Wireless Access Point, Access Point, Point

References

- 🌐 **Quantum Network**
- **User Manual**