

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

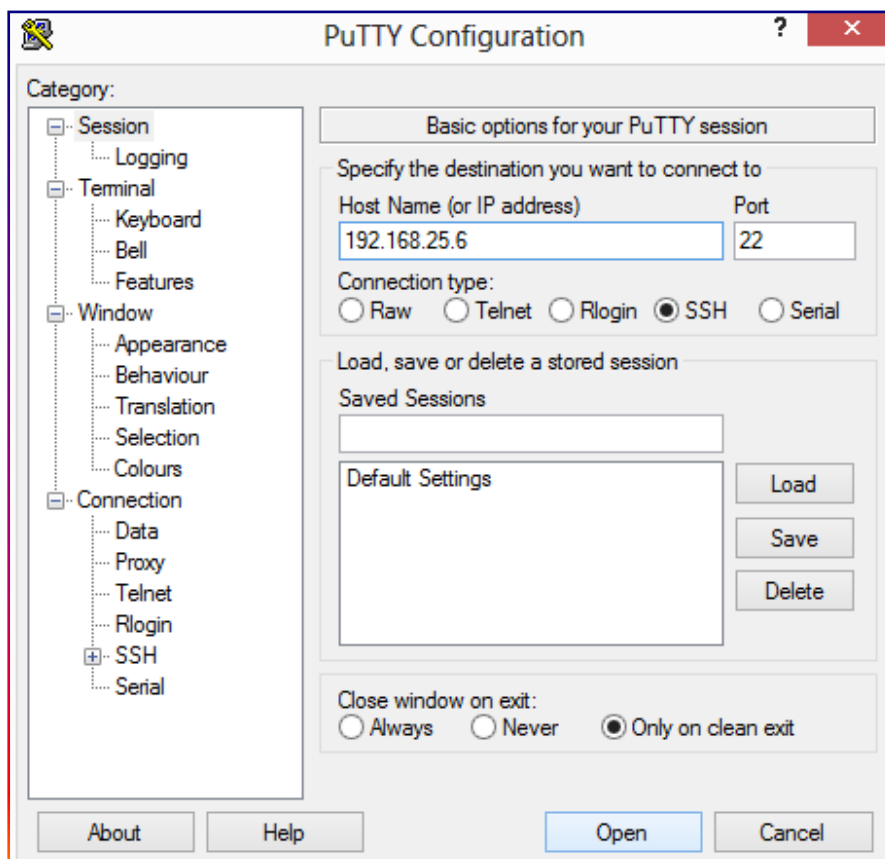
In order to access device using CLI, SSH supported utility is required. CLI access is operating system independent. You may use Windows® or MAC® or Linux®. The command terminal should support SSH. In Windows®, you may use third party application like Putty whereas the MAC® and Linux® command terminals 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}

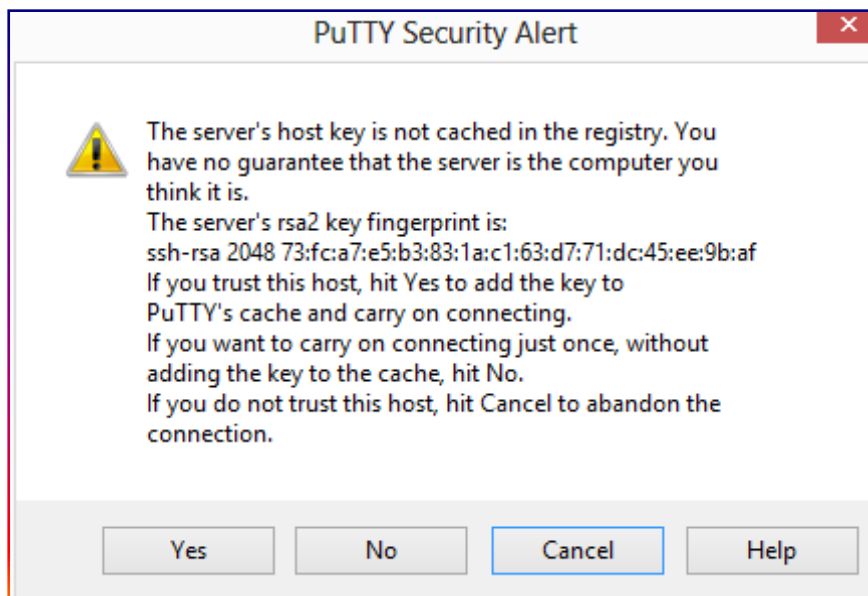
How to access CLI?

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).



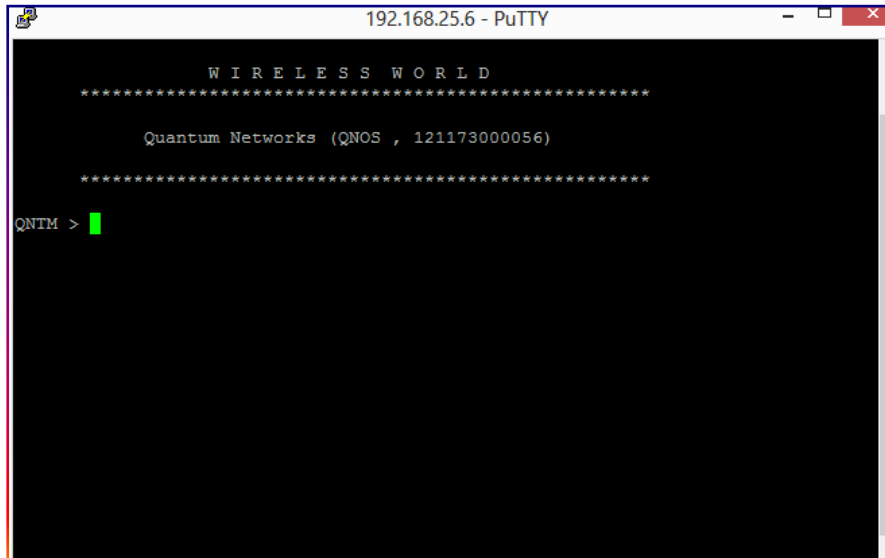
Step 2: On first connection from Windows® using Putty, click “Yes” to accept host key.



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.

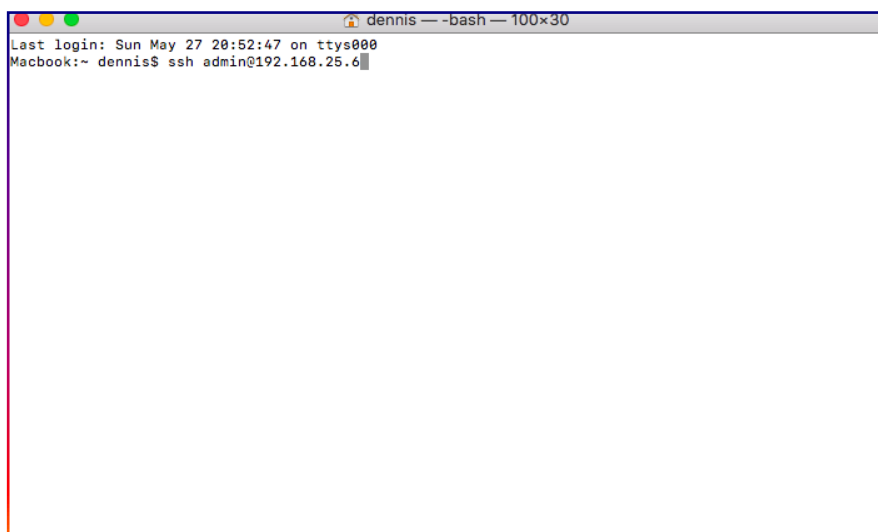


For Linux® and Apple® devices, SSH is, by default, supported. In usual cases any third party application is not required.

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).



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 — 100x30
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 — 100x30
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.

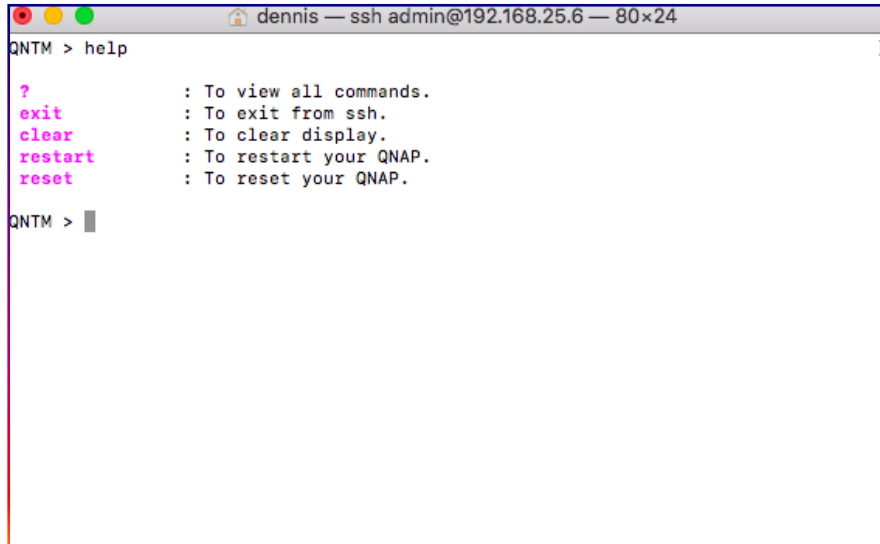
```
dennis — ssh admin@192.168.25.6 — 100x30
*****
WIRELESS WORLD
*****
Quantum Networks (QNOS , 121173000056)
*****
QNTM > |
```

Understanding Commands:

General Commands:

Command Prompt > help ↵

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

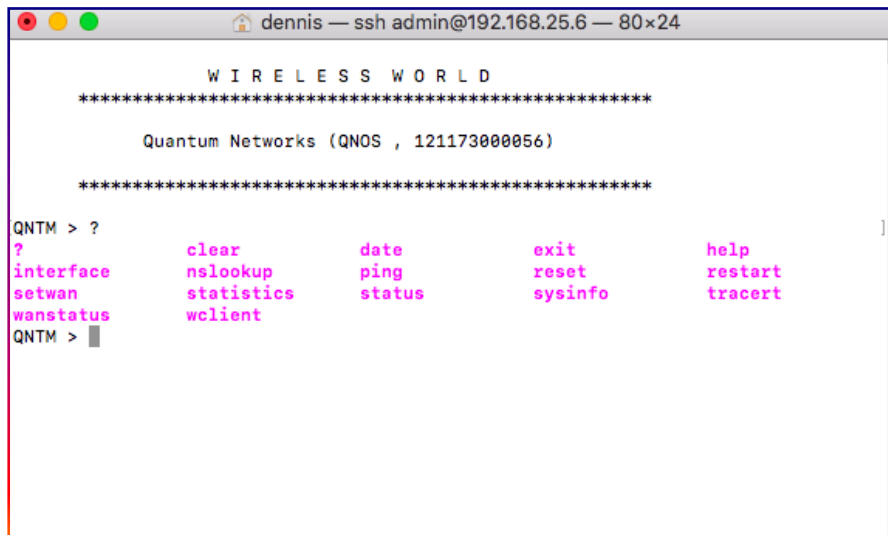


```

dennis — ssh admin@192.168.25.6 — 80x24
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 >
  
```

Command Prompt >? ↵

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

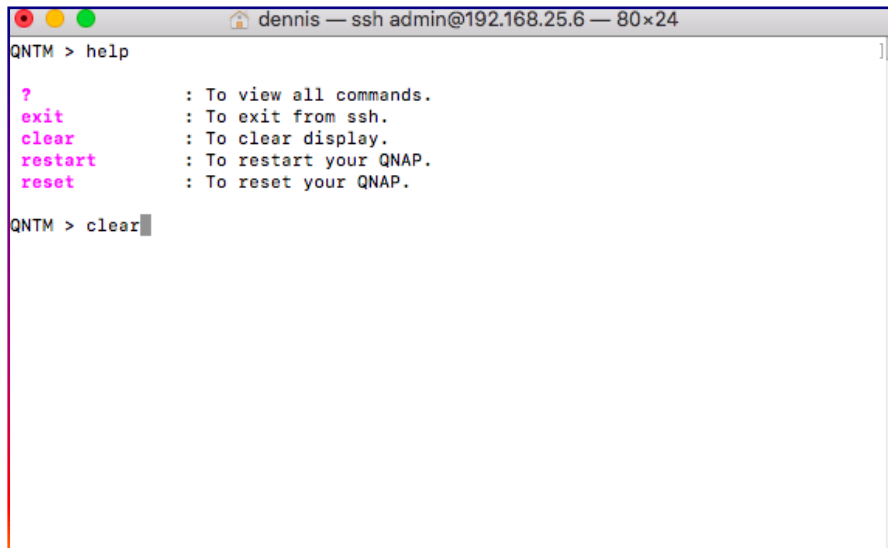


```

dennis — ssh admin@192.168.25.6 — 80x24
          W I R E L E S S   W O R L D
          *****
          Quantum Networks (QNOS , 12117300056)
          *****
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.

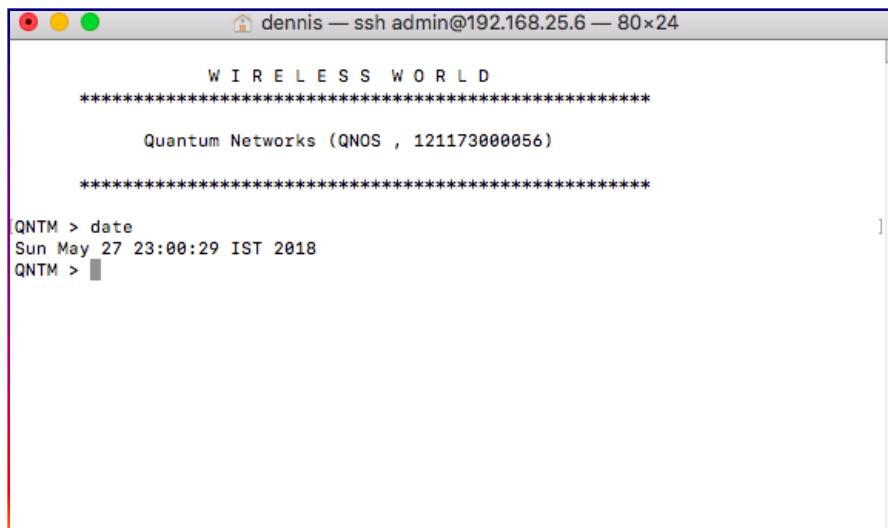


```

dennis — ssh admin@192.168.25.6 — 80x24
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 — 80x24
*****
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 — 100x30
WIRELESS WORLD
*****
Quantum Networks (QNOS , 12117300056)
*****
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 — 100x30
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 / hops from Access Point to the specified destination.

```

dennis — ssh admin@192.168.25.6 — 100x30
QNTM > tracert www.google.com
tracert 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.

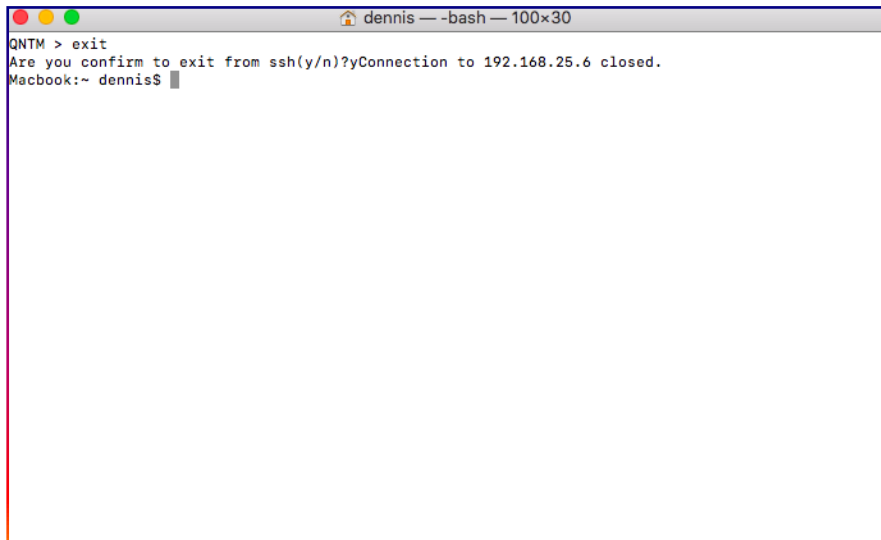
```

dennis — ssh admin@192.168.25.6 — 100x30
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.



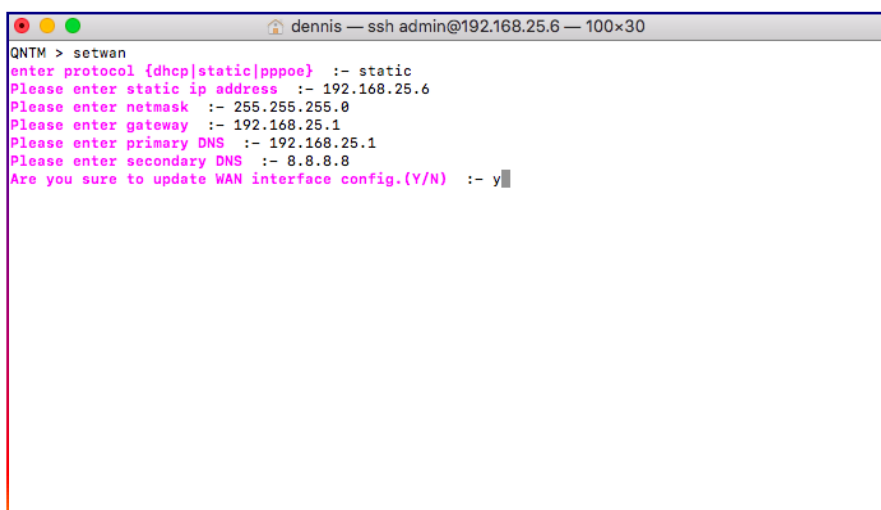
```

dennis — -bash — 100x30
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 — 100x30
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.

```

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

```

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.

```

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.

```

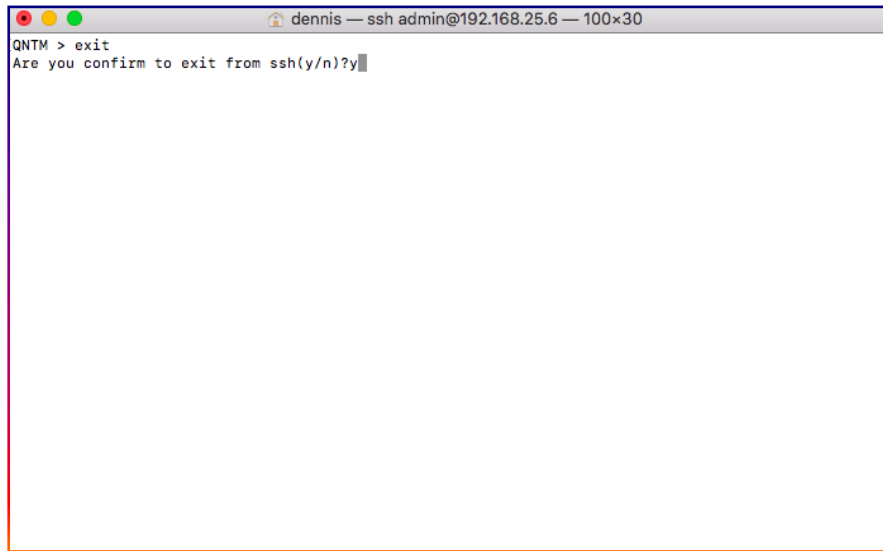
dennis — ssh admin@192.168.25.6 — 100x30
QNTM > wclient
192.168.27.40 VAI0
-----|-----|-----|-----|-----|
|RADIO|SSID|MAC|IP|HOSTNAME|
-----|-----|-----|-----|-----|
|2.4_Ghz|QNTM_STAFF|84:4B:F5:D2:9E:3B|192.168.27.40|VAIO|
|5_Ghz|QNTM_STAFF|14:20:5E:88:02:79|?|?|
-----|-----|-----|-----|-----|
QNTM >
  
```

| 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.



```

dennis — ssh admin@192.168.25.6 — 100x30
QNTM > exit
Are you confirm to exit from ssh(y/n)?y
  
```