

Industrial Cellular VPN Router NR500 Series Command-Line Interface (CLI)



Overview-CLI

Command-line interface (CLI) is a software interface that provide another configurable way to set parameters on our router. We could use Telnet or SSH connect to our router for CLI input.

How to Configure the CLI

CONTEXT SENSITIVE HELP

[?] - Display context sensitive help. This is either a list of possible command completions with summaries, or the full syntax of the current command. A subsequent repeat of this key, when a command has been resolved, will display a detailed reference.

AUTO-COMPLETION

The following keys both perform auto-completion for the current command line. If the command prefix is not unique then the bell will ring and a subsequent repeat of the key will display possible completions.

[enter] - Auto-completes, syntax-checks then executes a command. If there is a syntax error then offending part of the command line will be highlighted and explained.

[space] - Auto-completes, or if the command is already resolved inserts a space.

MOVEMENT KEYS

[CTRL-A] - Move to the start of the line

[CTRL-E] - Move to the end of the line.

[up] - Move to the previous command line held in history.

[down] - Move to the next command line held in history.

[left] - Move the insertion point left one character.

[right] - Move the insertion point right one character.

DELETION KEYS

[CTRL-C] - Delete and abort the current line

[CTRL-D] - Delete the character to the right on the insertion point.

[CTRL-K] - Delete all the characters to the right of the insertion point.

[CTRL-U] - Delete the whole line.

[backspace] - Delete the character to the left of the insertion point.

ESCAPE SEQUENCES

!! - Substitute the the last command line.

!N - Substitute the Nth command line (absolute as per 'history' command)

!-N - Substitute the command line entered N lines before (relative)

Contents

1. General Commands	5
1.1 ping Detect The Network Connection.....	5
1.2 traceroute TraceRoute	5
1.3 version Show Firmware Version.....	6
1.4 upgrade Upgrade Firmware	6
1.5 telnet Telnet Client	7
1.6 reboot Reboot System	7
1.7 config Change to The Configuration Mode	7
1.8 exit Exit This CLI Session.....	8
1.9 apply Reload Running Configurations	8
1.10 loaddefault Restore Factory Settings	8
1.11 save Save System Configurations	9
1.12 help Display an Overview Of The CLI Syntax	9
2. Status Detection Commands	10
2.1 show Show Running Configurations or Running Status.....	10
2.2 show active_link Active_link Running Status.....	10
2.3 show cellular Cellular Running Status	11
2.4 show connection_manager Connection_manager Running Status	12
2.5 show digital_io Digital_io Running Status.....	13
2.6 show dyndns Dyndns Running Status	14
2.7 show ethernet Ethernet Running Status	14
2.8 show gre GRE Running Status	16
2.9 show interface Interfaces Running Status	16
2.10 show ipsec IPsec Running Status	17
2.11 show netstat Networking Running Status	17
2.12 show openvpn OpenVPN Running Status.....	18
2.13 show running-config Running Configurations.....	18
2.14 show serial Serial Running Status.....	19
2.15 show system System Running Status	20
2.16 show wifi Wi-Fi Running Status.....	20
3. Configuration Commands.....	22
3.1 set Set System Configuration	22
3.2 set account Accounts	22
3.3 set acl Firewall	22
3.4 set cellular Cellular.....	23
3.5 set connection_manager Connection Manager.....	25
3.6 set digital_io Digital IO	25
3.7 set dmz DMZ.....	26
3.8 set dyndns DDNS	26
3.9 set gre GRE.....	27
3.10 set ip_passthrough IP Passthrough	28
3.11 set ipsec IPsec	28

3.12 set lan LAN	29
3.13 set openvpn OpenVPN.....	30
3.14 set port_mapping Port Mapping.....	31
3.15 set route Static Route.....	32
3.16 set schedule_reboot Schedule Reboot.....	32
3.17 set security Security	33
3.18 set serial Serial Connection Settings	33
3.19 set sms SMS.....	34
3.20 set sms_gateway Gateway	34
3.21 set sms_notification Notification	35
3.22 set ssh SSH.....	36
3.23 set syslog Syslog.....	36
3.24 set system System.....	37
3.25 set telnet Telnet.....	37
3.26 set vlan VLAN	37
3.27 set vrrp VRRP.....	38
3.28 set wan WAN.....	39
3.29 set webserver Web Server	39
3.30 set wifi Wi-Fi	40

1. General Commands

1.1 ping Detect The Network Connection

The PING command is used to check the connectivity of the device network.

Command	Parameters Description
ping	-c: Specify the number of echo requests to be sent -s: Send SIZE data bytes in packets -t: Specify maximum number of ping timeout String: Host name or IP address

Example:

```
> ping -c 2 114.114.114.114 // ping destination with two packages
```

```
PING 114.114.114.114 (114.114.114.114): 56 data bytes
```

```
64 bytes from 114.114.114.114: seq=0 ttl=248 time=174.449 ms
```

```
64 bytes from 114.114.114.114: seq=1 ttl=249 time=31.143 ms
```

```
--- 114.114.114.114 ping statistics ---
```

```
2 packets transmitted, 2 packets received, 0% packet loss
```

```
round-trip min/avg/max = 31.143/102.796/174.449 ms
```

1.2 traceroute TraceRoute

The traceroute command will display the hop numbers to the destination host.

Command	Parameters Description
traceroute	-m: Specify maximum number of hops -w: Time to wait for a response (default 3) String: Remote system to trace

Example:

```
> traceroute -m 2 www.baidu.com //trace the destination host with two hops
```

```
traceroute to www.baidu.com (163.177.151.110), 2 hops max, 38 byte packets
```

```
1 * * bogon (172.29.4.5) 29.909 ms
```

2 * * *

1.3 version Show Firmware Version

Show the current firmware version of the router.

Command	Parameters Description
version	

Example:

> **version**

1.1.0 (ddcaac4) //Current firmware version of the router

>

1.4 upgrade Upgrade Firmware

Upgrade the router firmware under CLI

Command	Parameters Description
upgrade	Tftp: Upgrade firmware by TFTP url: Upgrade firmware by URL

Example:

> **upgrade tftp nr500-firmware.bin 192.168.5.19**

Downloading ...

Download firmware successful, start upgrading ...

checking successful

writing flash successful

verifying successful

upgrade successful

>

1.5 telnet Telnet Client

Telnet to the server host.

Command	Parameters Description
telnet	

Example: NA

1.6 reboot Reboot System

Reboot the router system.

Command	Parameters Description
reboot	

Example:

```
> reboot
```

```
OK
```

1.7 config Change to The Configuration Mode

Config command is used to changed to the configuration mode, so that can used the CLI command to setup the router.

Command	Parameters Description
config	

Example:

```
> config
```

```
config # //Go to configuration mode
```

1.8 exit Exit This CLI Session

The exit command will make the router exit current CLI session.

Command	Parameters Description
exit	

Example:

```
config # exit
```

```
Leaving configuration mode...
```

```
>
```

1.9 apply Reload Running Configurations

The current configuration will be taken effect while use apply command.

Command	Parameters Description
apply	

Example:

```
config # apply // To make the current configuration take effect.
```

```
OK
```

1.10 loaddefault Restore Factory Settings

Use loaddefault command will make the router reset to factory default settings.

Command	Parameters Description
loaddefault	

Example:

```
config # loaddefault
```

```
OK
```


1.11 save Save System Configurations

Save command used to save the current configuration when finishing the setup.

Command	Parameters Description
save	

Example:

```
config # save
```

```
OK
```

1.12 help Display an Overview Of The CLI Syntax

Help command will list the CLI syntax.

Command	Parameters Description
help	

Example: NA

2. Status Detection Commands

2.1 show Show Running Configurations or Running Status

Show command will display the current configurations or running status of the router.

Command	Parameters Description
show	

Example: NA

2.2 show active_link Active_link Running Status

Show active_link command will display the current active link information.

Command	Parameters Description
show active_link	

Example:

```
> show active_link
```

```
active_link
```

```
{
```

```
  "type": "WWAN1",
```

```
  "ip": "10.151.133.13",
```

```
  "netmask": "255.255.255.252",
```

```
  "gateway": "10.151.133.14",
```

```
  "dns1": "120.80.80.80",
```

```
  "dns2": "221.5.88.88"
```

```
}
```

2.3 show cellular Cellular Running Status

Show cellular command will return all the information of cellular status.

Command	Parameters Description
show cellular	

Example:

> show cellular

cellular

{

"status":[

{

"id":"1",

"modem_model":"EC25",

"firmware_version":"EC25EFAR02A09M4G",

"imei":"866758041785904",

"imsi":"460015196274508",

"modem_status":"Ready",

"phone_num":"+8613265143432",

"operator":"CHN-UNICOM",

"plmn_id":"46001",

"network_type":"LTE",

"csq_value":"22",

"csq":"22 (-69dBm)",

"ber":"99",

"reg":"1",

"registration":"Registered",

"lac":"25DC",

"cell_id":"60F720F",

"tx_bytes":"43449",

"rx_bytes":"44888"

}

```
]
}
```

2.4 show connection_manager Connection_manager Running Status

Show connection_manager command displays all the links information.

Command	Parameters Description
show connection_manager	

Example:

```
> show connection_manager
```

```
connection_manager
```

```
{
  "connection":[
    {
      "id":"1",
      "type":"WWAN1",
      "status":"Connected",
      "ip":"10.151.133.13",
      "netmask":"255.255.255.252",
      "gateway":"10.151.133.14",
      "dns1":"120.80.80.80",
      "dns2":"221.5.88.88"
    },
    {
      "id":"2",
      "type":"WWAN2",
      "status":"Disconnected"
    }
  ]
}
```

2.5 show digital_io Digital_io Running Status

Show digital_IO command will return the configuration and status of digital IO.

Command	Parameters Description
show digital_io	

Example:

```
> show digital_io
```

```
digital_io
```

```
{
```

```
  "input":[
```

```
    {
```

```
      "id":"1",
```

```
      "enable":"false",
```

```
      "status":"Alarm OFF",
```

```
      "level":"High"
```

```
    },
```

```
    {
```

```
      "id":"2",
```

```
      "enable":"false",
```

```
      "status":"Alarm OFF",
```

```
      "level":"High"
```

```
    }
```

```
  ],
```

```
  "output":[
```

```
    {
```

```
      "id":"1",
```

```
      "enable":"false",
```

```
      "level":"Low",
```

```
      "status":"Alarm OFF"
```

```

},
{
  "id":"2",
  "enable":"false",
  "level":"Low",
  "status":"Alarm OFF"
}
]
}

```

2.6 show dyndns Dyndns Running Status

Show dyndns command will display the DDNS update status and public IP address.

Command	Parameters Description
show dyndns	

Example:

> show dyndns

```
dyndns
```

```

{
  "status":"Updated",
  "public_ip":"112.96.66.202"
}

```

2.7 show ethernet Ethernet Running Status

show ethernet will display current status of ethernet port.

Command	Parameters Description
show ethernet	

Example:

> show ethernet

ethernet

```
{
  "interface":[
    {
      "id":"1",
      "name":"lan0",
      "mac":"A8:3F:A1:E1:01:16"
    }
  ],
  "port":[
    {
      "id":"1",
      "name":"ETH0",
      "status":"Down"
    },
    {
      "id":"2",
      "name":"ETH1",
      "status":"Up"
    },
    {
      "id":"3",
      "name":"ETH2",
      "status":"Down"
    },
    {
      "id":"4",
      "name":"ETH3",
      "status":"Down"
    }
  ]
}
```

```

}
]
}

```

2.8 show gre GRE Running Status

show gre command display the GRE connection status and GRE working mode.

Command	Parameters Description
show gre	

Example:

```
> show gre
```

```
gre
```

```
{
```

```
  "connection":[
```

```
    {
```

```
      "id":"1",
```

```
      "enable":"true",
```

```
      "mode":"Layer 3",
```

```
      "status":"Connected"
```

```
    }
```

```
  ]
```

```
}
```

2.9 show interface Interfaces Running Status

Show interface command will list all the interface running status of the router.

Command	Parameters Description
show interface	

Example: NA

2.10 show ipsec IPsec Running Status

Show IPsec command will display the connection status of IPsec VPN.

Command	Parameters Description
show ipsec	

Example:

> show ipsec

```
ipsec
{
  "connection":[
    {
      "id":"1",
      "enable":"true",
      "status":"Connecting"
    }
  ]
}
```

2.11 show netstat Networking Running Status

Show netstat command will display the current networking status.

Command	Parameters Description
show netstat	sockets: Display networking sockets status route: Display networking routing table

Example:

> show netstat route

Kernel IP routing table

Destination	Gateway	Genmask	Flags	MSS	Window	irtt	Iface
default	bogon	0.0.0.0	UG	0	0	0	wwan1
10.84.62.0	*	255.255.255.240	U	0	0	0	wwan1

12.1.1.0	*	255.255.255.252	U	0 0	0 gretun1
192.168.5.0	*	255.255.255.0	U	0 0	0 lan0

2.12 show openvpn OpenVPN Running Status

Show openvpn command will display the connection status of OpenVPN.

Command	Parameters Description
show openvpn	

Example:

```
> show openvpn
```

```
openvpn
```

```
{
  "connection":[
    {
      "id":"1",
      "enable":"true",
      "status":"Connecting",
      "uptime":"00:00:00"
    }
  ]
}
```

2.13 show running-config Running Configurations

Show running-config command will display all the running configuration of the router.

Command	Parameters Description
show running-config	string: Function Name <cr>

Example: NA

2.14 show serial Serial Running Status

Show serial command will display configuration and connection status of serial port.

Command	Parameters Description
show serial	

Example:

```
> show serial
```

```
serial
```

```
{  
  "status": [  
    {  
      "id": "1",  
      "type": "RS485",  
      "enable": "false",  
      "method": "Transparent",  
      "protocol": "TCP Client",  
      "conn_status": "Disconnected"  
    },  
    {  
      "id": "2",  
      "type": "RS232",  
      "enable": "false",  
      "method": "Transparent",  
      "protocol": "TCP Client",  
      "conn_status": "Disconnected"  
    }  
  ]  
}
```

2.15 show system System Running Status

Show system command will display the current system information.

Command	Parameters Description
show system	

Example:

```
> show system
```

```
system
```

```
{
```

```
  model:NR500-S4G,
```

```
  time:2019-09-07 18:00:17,
```

```
  uptime:01:00:58,
```

```
  ram:20M Free/18M Shared/64M Total,
```

```
  firmware_version:1.1.0 (ddcaac4),
```

```
  kernel_version:4.4.92,
```

```
  serial_number:18105124330002
```

```
}
```

2.16 show wifi Wi-Fi Running Status

Show wifi command will display the current running status of Wi-Fi.

Command	Parameters Description
show wifi	

Example:

```
> show wifi
```

```
wifi
```

```
{
```

```
  "ssid":"wifi-a-p",
```

```
  "status":"Ready",
```

```
  "mac":"a8:3f:a1:e0:d4:84",
```

```
"channel":"6",  
"width":"40 MHz",  
"txpower":"20.00 dBm"  
}
```

3. Configuration Commands

3.1 set Set System Configuration

Set command is used to configure the router.

Command	Parameters Description
set	

Example: NA

3.2 set account Accounts

Set account is used to define the new account, password and visitor account.

Command	Parameters Description
set account	administrator: Administrator password: Password visitor: Visitor Settings

Example:

```
config # set account administrator test // set login account as: test
```

```
config # set account password test //set login password as: test
```

3.3 set acl Firewall

Set ACL is used to define the ACL rule of the router to filter some data packages to outside internet.

Command	Parameters Description
set acl	default_policy: Default Policy rule: ACL rule Settings

Example:

```
config # set acl default_policy accept //set the ACL policy as: accept
```

```
config # set acl rule 1 protocol tcp //set the protocol of ACL index 1 as: tcp
```

3.4 set cellular Cellular

Set cellular is used to define to cellular information, like SIM card setting, network type setting and band setting etc..

Command	Parameters	Description
set cellular modem 1	card:	SIM Card
	auto_apn:	Auto APN
	apn:	APN
	username:	Username
	password:	Password
	dial_number:	Dial Number
	auth_type:	Authentication Type
	pin_code:	PIN Code
	monthly_data_limitation:	Monthly Data Limitation
	monthly_billing_day:	Monthly Billing Day
	data_roaming:	Data Roaming
	override_dns1:	Override Primary DNS
	override_dns2:	Override Secondary DNS
	network_type:	Network Type
	all_band:	Use All Bands
	gsm_850:	GSM 850
	gsm_900:	GSM 900
	gsm_1800:	GSM 1800
	gsm_1900:	GSM 1900
	wcdma_800:	WCDMA 800
wcdma_850:	WCDMA 850	
wcdma_900:	WCDMA 900	
wcdma_1700:	WCDMA 1700	
wcdma_1900:	WCDMA 1900	

wcdma_2100:	WCDMA 2100
wcdma_band19:	WCDMA Band 19
lte_band1:	LTE Band 1
lte_band2:	LTE Band 2
lte_band3:	LTE Band 3
lte_band4:	LTE Band 4
lte_band5:	LTE Band 5
lte_band7:	LTE Band 7
lte_band8:	LTE Band 8
lte_band13:	LTE Band 13
lte_band17:	LTE Band 17
lte_band18:	LTE Band 18
lte_band19:	LTE Band 19
lte_band20:	LTE Band 20
lte_band21:	LTE Band 21
lte_band25:	LTE Band 25
lte_band28:	LTE Band 28
lte_band31:	LTE Band 31
lte_band38:	LTE Band 38
lte_band39:	LTE Band 39
lte_band40:	LTE Band 40
lte_band41:	LTE Band 41

Example:

```
config # set cellular modem 1 card sim1 //setup the SIM1
```

OK

```
config # set cellular modem 1 apn internet.4G //define the APN as: internet.4G
```

OK

```
config # set cellular modem 1 network_type 4g_only //setup the router network to 4G
```

OK

3.5 set connection_manager Connection Manager

Set connection_manager is used to define some related parameters on connection links. Like enable the connection and enable the ICMP keepalive policy of the router etc.

Command	Parameters Description
set connection_manager connection	enable: Enable type: Connection Type desc: Description ping: ICMP Detection Settings

Example:

```
config # set connection_manager connection 1 enable true
OK      //enable connection 1

config # set connection_manager connection 1 type wwan1
OK      // specify the connection as wwan1 (SIM1)

config # set connection_manager connection 1 ping enable true
        //enable ICMP PING detection on wwan1

config # set connection_manager connection 1 ping primary_server 8.8.8.8
        //specify the ICMP PING detection ip address as 8.8.8.8
```

3.6 set digital_io Digital IO

Set digital_io is used to configure the DI or DO feature.

Command	Parameters Description
set digital_io	input: Digital IO output: Digital Output

Example:

```
config # set digital_io input 1 enable true
OK      //enable DI1

config # set digital_io input 1 alarm_mode high
OK      //define DI1 alarm mode as high
```

```
config # set digital_io input 1 alarm_on_content ON
OK //define the alarm on content as ON
```

3.7 set dmz DMZ

Set dmz is used to configure dmz feature.

Command	Parameters Description
set dmz	enable: Enable remote: Remote Address host: DMZ Host Address

Example:

```
config # set dmz enable true //enable dmz feature
config # set dmz remote 100.100.100.1 //define remote host
config # set dmz host 192.168.5.2 //define dmz local host
```

3.8 set dyndns DDNS

Set dyndns is used to configure the DDNS feature, so that it can work well with the public dynamic IP address.

Command	Parameters Description
set dyndns	enable: Enable provider: DDNS Provider checkip_interval: Check IP Interval ddns_server: DDNS Server ddns_path: DDNS Path checkip_server: Check IP Server checkip_path: Check IP Path enable_ssl: Enable SSL username: Username

	password:	Password
	hostname:	Hostname
	log_level:	Log Level

Example:

```
config # set dyndns enable true //enable DDNS
config # set dyndns provider no_ip //define DDNS provider as NOIP
```

3.9 set gre GRE

Set GRE is used to enable GRE and establish the GRE VPN tunnels.

Command	Parameters	Description
set gre connection	enable:	Enable
	desc:	Description
	mode:	Mode
	remote:	Remote Gateway
	local_virtual_ip:	Local Virtual IP
	local_virtual_netmask:	Local Virtual Netmask
	tunnel_key:	Tunnel key
	interface:	Bridge Interface
nat_enable:	Enable NAT	

Example:

```
config # set gre connection 1 enable //enable GRE VPN
config # set gre connection 1 mode tunnel //define GRE working mode as tunnel
OK
config # set gre connection 1 remote 100.100.100.100 //define the remote gateway of GRE VPN
OK
```

3.10 set ip_passthrough IP Passthrough

Set ip_passthrough is used to enable ip passthrough feature, to forward to IP address from ISP to end device connected to the router.

Command	Parameters	Description
set ip_passthrough	enable:	Enable
	host_mac:	Passthrough Host MAC
	https_access:	Remote HTTPS Access Reserved
	telnet_access:	Remote Telnet Access Reserved
	ssh_access:	Remote SSH Access Reserved

Example:

```
config # set ip_passthrough enable true //enable IP Passthrough feature
config # set ip_passthrough https_access true //enable https access during ip passthrough
```

3.11 set ipsec IPsec

Set ipsec is used to enable IPsec VPN and make the router connect to remote IPsec responder.

Command	Parameters	Description
set ipsec connection	enable:	Enable
	desc:	Description
	remote:	Remote Gateway
	ike_version:	IKE Version
	type:	Connection Type
	negotiation_mode:	Negotiation Mode
	auth_type:	Authentication Method
	local_subnet:	Local Subnet
	local_key:	Local Pre-shared Key
	local_id_type:	Local ID Type
	local_id:	Local ID

xauth_identity:	Xauth Identity
xauth_key:	Xauth Password
remote_subnet:	Remote Subnet
remote_key:	Remote Pre-shared Key
remote_id_type:	Remote ID Type
remote_id:	Remote ID
ike_proposal:	IKE Proposal Settings
esp_proposal:	ESP Proposal Settings
dpd_interval:	DPD Interval
dpd_timeout:	DPD Timeout
additional_configs:	Additional Configurations

Example:

```
config # set ipsec connection 1 enable true
OK      //enable ipsec VPN

config # set ipsec connection 1 ike_version ikev1
OK      //define the ike version of ipsec VPN

config # set ipsec connection 1 remote 100.100.100.1
OK      //specify the remote ipsec responder
```

3.12 set lan LAN

Set lan is used to configure the LAN interface, such as assign the LAN port, specify the ip address, network, gateway, multi-ip address, DHCP and MTU etc..

Command	Parameters Description
set lan	network: LAN multi_ip: Multiple IP Settings

Example:

```
config # set lan network 1 ip 192.168.5.2
OK      //specify the LAN IP address

config # set lan multi_ip 1 ip 192.168.6.1
```

```
OK //define multi-ip on LAN
```

3.13 set openvpn OpenVPN

Set openvpn is used to enable openvpn feature and make it connection to the remote openvpn server.

Command	Parameters	Description
set openvpn connection	enable:	Enable
	desc:	Description
	mode:	Mode
	protocol:	Protocol
	type:	Connection Type
	server_ip:	Server Address
	server_port:	Server Port
	auth_method:	Authentication Method
	encryption_type:	Encryption Type
	username:	Username
	password:	Password
	local_ip:	Local IP Address
	local_netmask:	Local Netmask
	remote_ip:	Remote IP Address
	tap_bridge:	TAP Bridge
	reneg_sec:	Renegotiate Interval
	keepalive_interval:	Keepalive Interval
	keepalive_timeout:	Keepalive Timeout
	fragment:	Fragment
	private_key_password:	Private Key Password
verbosity_level:	Output Verbosity Level	
nat_enable:	Enable NAT	
pkcs12_enable:	Enable PKCS#12	

	ns_cert_type_enable:	Enable X.509 Attribute nsCertType
	hmac_firwall_enable:	Enable HMAC Firewall
	compression_lz0_enable:	Enable Compression LZ0
	additional_configs	Additional Configurations

Example:

```
config # set openvpn connection 1 enable true
OK //enable OpenVPN

config # set openvpn connection 1 mode client
OK //specify OpenVPN working mode as Client

config # set openvpn connection 1 protocol udp
OK // specify connection protocol as UDP
```

3.14 set port_mapping Port Mapping

Set port_mapping rule is used to enable port mapping feature, so that the outside access would be reached to the end device connected the router with special service.

Command	Parameters	Description
set port_mapping rule	desc:	Description
	protocol:	Protocol
	remote_addr:	Remote Address
	remote_port:	Remote Port
	local_addr:	Local Address
	local_port:	Local Port

Example:

```
config # set port_mapping rule 1 protocol tcp
OK //specify the protocol as TCP

config # set port_mapping rule 1 remote_addr 100.100.100.100
OK //specify remote address as 100.100.100.100
```

3.15 set route Static Route

Set route is used to setup the static route for the router to reach to destination.

Command	Parameters	Description
set route route_table	desc:	Description
	destination:	IP Address
	netmask:	Netmask
	gateway:	Gateway
	interface:	Interface

Example:

```
config # set route route_table 1 destination 192.168.6.0
OK //define the destination ip
config # set route route_table 1 netmask 255.255.255.0
OK //define the netmask
```

3.16 set schedule_reboot Schedule Reboot

Set schedule_reboot will make the router reboot automatically follow the special time or special day.

Command	Parameters	Description
set schedule_reboot	enable:	Enable
	time:	Time to Reboot
	day:	Day to Reboot

Example:

```
config # set schedule_reboot enable true //enable schedule reboot feature
config # set schedule_reboot time 08:00 //special the special time to reboot
config # set schedule_reboot day 0 //special the special day to reboot
```


3.17 set security Security

Set security is used to enable or disable the remote access via http, https, telnet and SSH.

Command	Parameters	Description
set security remote_access	http:	Remote HTTP Access
	https:	Remote HTTPS Access
	telnet:	Remote Telnet Access
	ssh:	Remote SSH Access

Example:

```
config # set security remote_access http true //enable remote http access
config # set security remote_access https true //enable remote https access
config # set security remote_access telnet true //enable remote telnet access
config # set security remote_access ssh true //enable remote ssh access
```

3.18 set serial Serial Connection Settings

Set serial will enable serial port RS232 or RS485 to send the data to the remote center from end serial device via TCP connection.

Command	Parameters	Description
set serial connection	enable:	Enable
	port:	Port
	baud_rate:	Baud Rate
	data_bits:	Data Bits
	stop_bits:	Stop Bits
	parity:	Parity
	transmission_method:	Transmission Method
	mtu:	MTU
	protocol:	Protocol
	local_ip:	Local IP Address
local_port:	Local Port	

	remote_addr:	Remote Address
	remote_port:	Remote Port

Example:

```
config # set serial connection 1 port com2 //setup RS232(com2)
OK
config # set serial connection 1 baud_rate 115200 //specify the baud rate
OK
```

3.19 set sms SMS

Set sms to allow someone to send the SMS to control the router or getting the running status of the router.

Command	Parameters	Description
set sms	enable:	Enable
	auth_type:	Authentication Type
	phone_book:	(null)

Example:

```
config # set sms enable true //enable sms control feature
config # set sms auth_type password //define the authentication type
config # set sms phone_book 1 phone_number 15915802170
OK //define the phone number to send the sms to the router
```

3.20 set sms_gateway Gateway

Set sms_gateway is used to enable sms gateway feature, the end equipment is able to connect to the router via serial port or ethernet port and send the special command to trigger the router to send out the SMS message.

Command	Parameters	Description
set sms_gateway	enable:	Enable

	auth_type:	Authentication Type
	source:	SMS Source
	port:	Serial Port
	baud_rate:	Baud Rate
	data_bits:	Data Bits
	stop_bits:	Stop Bits
	parity:	Parity

Example:

```
config # set sms_gateway enable true //enable SMS gateway feature
config # set sms_gateway source serial //define the SMS gateway source
```

3.21 set sms_notification Notification

Set sms_notification allow the router to send out the sms notification when some of router status changed.

Command	Parameters	Description
set sms_notification channel	desc:	Description
	phone_number:	Phone Number
	startup:	Startup Notify
	reboot:	Reboot Notify
	ntp_updated:	NTP Update Notify
	lan:	LAN Port Status Notify
	wan:	WAN Port Status Notify
	wwan:	WWAN Port Status Notify
	active_link:	Active Link Status Notify
	di:	Digital Input Status Notify
	do:	Digital Output Status Notify
	ipsec:	IPSec Connection Status Notify
	openvpn:	Openvpn Connection Status Notify

Example:

```

config # set sms_notification channel 1 startup true //enable startup notify
OK
config # set sms_notification channel 1 openvpn true //enable openvpn notify
OK
config # set sms_notification channel 1 di true //enable DI notify
OK

```

3.22 set ssh SSH

Set ssh allow outside network access to the router via SSH protocol.

Command	Parameters	Description
set ssh	port:	SSH Port
	allow_password_login:	Allow Password Authentication
	public_key:	Public Key

Example:

```

config # set ssh port 22 //specify SSH port
config # set ssh allow_password_login true //enable SSH login password

```

3.23 set syslog Syslog

Set syslog command is used to enable syslog feature, so that the syslog is able to send to the remote UDP server and define the location to save syslog.

Command	Parameters	Description
set syslog	location:	Log Location
	level:	Log Level
	remote_syslog:	Enable Remote Syslog
	remote_syslog_server:	Remote Syslog Server
	remote_syslog_port:	Remote Syslog Port

Example:

```
config # set syslog location flash //define syslog location to save
config # set syslog remote_syslog true //enable remote syslog
config # set syslog remote_syslog_server 100.100.100.100 //define remote server to save syslog
```

3.24 set system System

Set system command is used to configure some of the system features.

Command	Parameters	Description
set system	hostname:	Hostname
	user_led_type:	User LED Type
	time_zone:	Time Zone
	custom_time_zone:	Customized Time Zone
	time_sync:	Time Synchronisation

Example:

```
config # set system hostname navigateworx.com //define the hostname
config # set system user_led_type wifi //define the USR LED type
config # set system time_zone +8 //define the time zone
```

3.25 set telnet Telnet

Set telnet command will specify the access port for telnet.

Command	Parameters	Description
set telnet	port:	Telnet Port

Example:

```
config # set telnet port 23 //define the telnet port
```

3.26 set vlan VLAN

Set vlan command is used to configure the vlan trunk feature.

Command	Parameters	Description
set vlan trunk	interface: vid: ip: netmask:	Interface VID IP Address Netmask

Example:

```
config # set vlan trunk 1 interface lan0 //define vlan trunk on lan0
OK
config # set vlan trunk 1 ip 192.168.6.1 //define ip address on vlan trunk
OK
```

3.27 set vrrp VRRP

Set vrrp command is used to enable the VRRP feature for router communication backup.

Command	Parameters	Description
set vrrp network	enable: interface: virtual_router_id: auth_type: auth_pass: priority: interval: virtual_ip:	Enable Interface Virtual Router ID Authentication Type Password Priority Interval Virtual IP Address

Example:

```
config # set vrrp network 1 enable true //enable VRRP
OK
config # set vrrp network 1 priority 100 //specify priority for VRRP
OK
```

3.28 set wan WAN

Set wan command is used to configure the WAN interface.

Command	Parameters	Description
set wan	connection_type:	Connection Type
	static:	Static IP
	pppoe:	PPPoE
	nat_enable:	NAT Enable
	mtu:	MTU
	override_dns1:	Override Primary DNS
	override_dns2:	Override Secondary DNS

Example:

```
config # set wan connection_type static //define wan connection type
config # set wan nat_enable true //enable NAT on WAN
config # set wan mtu 1500 //define the MTU on WAN
```

3.29 set webserver Web Server

Set webserver command is used to define the port number for http and https.

Command	Parameters	Description
set webserver	http_port:	HTTP Port
	https_port:	HTTPS Port

Example:

```
config # set webserver http_port 80 //define http port
config # set webserver https_port 443 //define https port
```

3.30 set wifi Wi-Fi

Set wifi allow to define the Wi-Fi working mode(Wi-Fi AP or Wi-Fi Client) and configure the Wi-Fi feature.

Command	Parameters	Description
set wifi	mode:	Running Mode
	country_code:	Country Code
	ap:	WiFi AP
	client:	WiFi Client

Example:

```
config # set wifi mode ap //define Wi-Fi mode
config # set wifi country_code cn //define country code
config # set wifi client enable true //enable Wi-Fi client
```