CLI Reference

FortiExtender 7.6.4

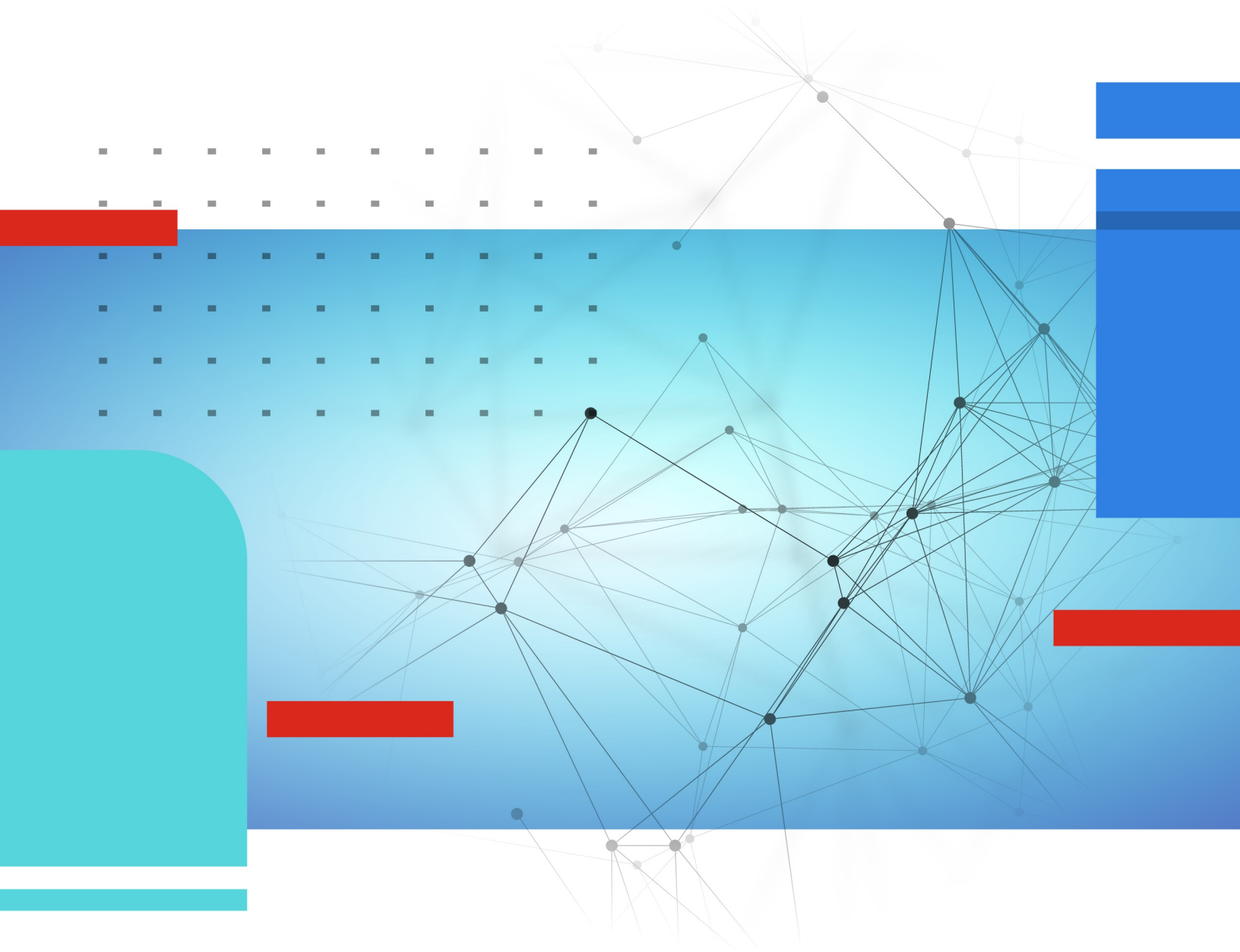

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TABLE OF CONTENTS

Change Log **6**
Introduction **7**
Connect to the CLI 7
Console connection 7
SSH access 8
Enable SSH access to the CLI using a local console connection: 8
Access the FortiExtender CLI using SSH 9
CLI commands **11**
Header **12**
config version 12
Firewall **13**
config firewall policy 13
config traffic-shaper 17
config shaping-policy 18
config vip 19
LTE **22**
config lte setting 22
config carrier 29
config simmap 30
config plan 31
Router **35**
config router policy 35
config router policy6 37
config router static 39
config router static6 41
config router target 42
config router target6 43
config multicast 44
config pim-sm-global 44
config rp-address 44
config interface 45
config OSPF 46
config area 47
config network 47
config ospf-interface 48
config redistribute 49
config prefix-list 50
config rule 51
config route-map 52
config rule 52
System **54**
config system global 55

config system accprofile ... 56
config admin ... 59
config system bluetooth ... 62
config management ... 62
  config fortigate ... 63
  config cloud ... 64
  config local ... 65
  config local-access ... 65
  config fortigate-backup ... 66
config system interface ... 67
  config VRRP ... 71
  config ipv6 ... 73
config system vxlan ... 77
config system aggregate-interface ... 78
  config members ... 78
config pppoe-interface ... 80
config dhcpserver ... 81
  config reserved-addresses ... 81
config dhcprelay ... 84
config dns ... 85
config dns-server ... 87
config dns-database ... 88
config dns-entry ... 89
config vwan-member ... 91
config sms-notification ... 94
  config receiver ... 94
  config alert ... 95
config sms-remote-diag ... 96
  config allowed-user ... 97
config syslog ... 98
  config remote-servers ... 99
  config statistic-report ... 99
config virtual-wire-pair ... 102
config api-user ... 102
config ntp ... 103
  config ntpserver ... 104
config settings ... 105
config system lan-switch ... 105
config system switch-interface ... 107
config system ipsec ... 109
config ssh-crypto ... 109
config system automation trigger ... 111
config system automation action ... 112
config system automation stitch ... 113
config system digital-io digital ... 115
config system digital-io alert ... 115

config system digital-io action ... 117
config system 802-1X-settings ... 118
config system ignition-sensing ... 118
SNMP ... 120
config sysinfo ... 120
config community ... 120
config user ... 123
config hosts ... 124
HMON ... 127
config interface-monitoring ... 127
config hchk ... 127
VPN ... 131
config ipsec ... 131
config phase1-interface ... 131
config phase2-interface ... 135
config vpn certificate ... 138
config vpn certificate ca ... 138
config vpn certificate local ... 139
Network ... 141
config network address ... 141
config service ... 142
config service-custom ... 142
config network address6 ... 143
Execute ... 145
execute SSH username serverip ... 145
execute vpn certificate local generate rsa ... 145
execute sim-switch ... 146
execute modem ... 146
WiFi ... 148
config vap ... 148
config ap-security ... 151
config wifi-networks ... 153
config radio-profile ... 155
config wifi-general ... 158
User ... 160
config user group ... 160
config user radius ... 160
config user security-exempt-list ... 162
config rule ... 162
DNS Filter ... 163
config dnsfilter domain-filter ... 163
config dnsfilter profile ... 164

Change Log

Date	Change Description
2025-09-22	Initial release.
2025-09-25	Updated config lte setting on page 22, execute sim-switch on page 146, and execute modem on page 146.

Introduction

This *Reference Guide* discusses the CLI command syntax of FortiExtender. It introduces the commonly used commands with sample commands for reference.

Connect to the CLI

You can connect to the CLI through the FortiExtender or FortiCloud GUI.

To access the FortiExtender CLI via FortiCloud GUI, go to the device page of a deployed FortiExtender device and click the ">_Console" section to open a new instance of the FortiExtender console.

To access the FortiExtender CLI via the FortiExtender GUI, click the ">_" tab on the left side of the GUI.

You can open only one console per GUI access.

You can also access the FortiExtender CLI outside of the GUI using:

- Console connection — connect your computer directly to the console port of your FortiExtender.
- SSH access — connect your computer through any network interface attached to one of the network ports of your FortiExtender.

Console connection

You can directly connect to the CLI by connecting your management computer or console to the FortiExtender through its RJ-45 console port.

Direct console access to a FortiExtender device may be necessary if:

• You are installing the device for the first time, and it is not configured to connect to your network.

• You are restoring the firmware using a boot interruption. Network access to the CLI will not be available until after the boot process has completed, making direct console access the only option.

To connect to the FortiExtender console, you need a console cable to connect the console port on the FortiExtender to the communications port on a computer. Depending on your device, this may require:

- A USB to RJ-45 cable
- A DB-9 to RJ-45 cable (a DB-9-to-USB adapter may be used)
- A computer with an available communications port
- A terminal emulation software app

To connect to the CLI through a direct console connection:

1. Using the console cable, connect the FortiExtender console port to the serial communications (COM) port on your management computer.
2. Start a terminal emulation program on your management computer, select the COM port, and set the Baud speed to 115200 Bits per second.
3. Press Enter on the keyboard to connect to the CLI.
4. Log into the CLI using your username and password ("admin" by default; you will be prompted to create a new password upon your first login).

You can now enter CLI commands, including configuring access to the CLI via SSH.

SSH access

You can establish SSH access to the CLI by connecting your computer to the FortiExtender using one of its network ports, either directly using a peer connection between the two or through any intermediary network.

SSH must be enabled on the network interface that is associated with the physical network port that is being used.

If your computer is not connected either directly or through a switch to the FortiExtender, you must also configure the FortiExtender using a static route that can forward packets from the FortiExtender to the computer. This can be done using a local console connection or in the GUI.

To connect to the FortiExtender using SSH, you need:

- A computer with an available serial communications (COM) port and an RJ-45 port
- An appropriate console cable
- A network cable
- Terminal emulation software
- Prior configuration of the operating mode, network interface, and static route.

Enable SSH access to the CLI using a local console connection:

1. Using the network cable, connect the FortiExtender network port either directly to the network port on your computer or to a network through which your computer can reach the FortiExtender.
2. Note down the port number of the physical network port.
3. Using the direct console connection, connect and log into the CLI.
4. Enter the following command:

```
config system interface
       edit <interface_str>
```

```
            set allowaccess ssh
    next
```

where <interface_str> is the name of the network interface associated with the physical network port, such as port4.

5. Confirm the configuration using the following commands to show the interface settings:

```
config system interface
edit port4
show
For example:
FX511FTQ22002638 # config system interface
FX511FTQ22002638 (interface) # edit port4
FX511FTQ22002638 (port4) # show
edit port4
    set type physical
    set status up
    set mode static
    set ip
    set gateway
    set mtu-override disable
    set distance 51
    set vrrp-virtual-mac enable
    config vrrp
        set status disable
    end
    set allowaccess ssh
next
```

Access the FortiExtender CLI using SSH

Once the FortiExtender is configured to accept SSH connections, use an SSH client on your management computer to connect to the CLI.

The following instructions use PuTTy. The steps may vary in other terminal emulators.

To connect to the CLI using SSH:

1. On your management computer, start PuTTy.
2. In the Host Name (or IP address) field, enter the IP address of the FortiExtender network interface that you are connected to and has SSH access enabled.
3. Set the port number to 22, if it is not automatically set.
4. Set the connection type to SSH.
5. Click Open. The SSH client starts to connect to the FortiExtender.

The SSH client may display a warning if this is the first time that you are connecting to the FortiExtender and its SSH key is not yet recognized by the SSH client, or if you previously connected to the FortiExtender using a different IP address or SSH key. This is normal if the management computer is directly connected to the FortiExtender with no network hosts in between.

6. Click Yes to accept the FortiExtender's SSH key.
   The CLI will display the login prompt.
7. Enter the administrator account name, such as admin, and press Enter.
8. Enter the administrator account password and press Enter.
   The CLI console shows the command prompt (the FortiExtender hostname followed by #). You can now enter CLI commands.

CLI commands

This *Reference Guide* introduces the syntax of the CLI commands to configure and manage a FortiExtender unit. The CLI syntax was created by processing the schema from FortiExtender models running FortiExtender OS version 7.2.0 and reformatting the resultant CLI output.

The commands cover the following topics:

- Header on page 12
- Firewall on page 13
- LTE on page 22
- Router on page 35
- System on page 54
- SNMP on page 120
- HMON on page 127
- VPN on page 131
- Network on page 141
- Execute on page 145

All CLI commands in this *Reference Guide* are based on FortiExtender 201E, a FortiExtender model that runs on the Sierra Modem EM7455.

Header

This section shows the syntax of the following command:

- config version on page 12

config version

Description: Configure header version settings.

```
config version
   set config {integer}
   set carrier {string}
   set simmap {integer}
   set certificate {integer}
   unset
   show
   end
```

Sample command:

```
   FX201E5919000057 (header) # show
   config header
         config version
               set config 10517384
               set carrier FEM_06-22-1-2-AMEU|4a29ea
               set simmap 92e21b
               set certificate 3876258
         end
   end
```

Parameter	Description	Type	Size	Default
config	Device configuration version.	integer	-	none
carrier	LTE carrier configuration version.	string	-	none
simmap	LTE SIM map configuration version.	string	-	none
certificate	VPN certificate version.	integer	-	none

Firewall

This section shows the syntax of the following commands:

- config firewall policy on page 13
- config traffic-shaper on page 17
- config shaping-policy on page 18
- config vip on page 19

config firewall policy

Description: Configure firewall policies.

```
config firewall policy
  edit <name>
    set *srcintf <name1>, <name2>, …
    set *dstintf <name1>, <name2>, …
    set *srcaddr <name1>, <name2>, …
    set dnat [enable | disable]
    set *dstaddr <name1>, <name2>, …
    set action [accept | deny]
    set status [enable | disable]
    set *service <name1>, <name2>, …
    set nat [enable | disable]
    set srcaddr6 <name1>, <name2>, …
    set dstaddr6 <name1>, <name2>, …
  next
delete <name>
move <name1> [after | before] <name2>
end
purge
show
```

Sample command:

```
config firewall policy
  edit all-nat
    set srcintf any
    set dstintf any
    set srcaddr lan
    set dnat disable
    set dstaddr all
    set srcaddr6 any
```

```
    set dstaddr6 any
    set action accept
    set status enable
    set service ALL
    set nat enable
  next
end
```

Parameter	Description	Type	Size	Default
srcintf	Incoming (ingress) interface.	option	-	none

Option	Description
lan	LAN as the incoming interface.
lo	Loopback as the incoming interface.
lte1	LTE 1 as the incoming interface.
wan	WAN as the incoming interface.
port4	Port 4 as the incoming interface.
any	Any port as the incoming interface.

dstintf	Outgoing (egress) interface.	option	-	none

Option	Description
lan	LAN as the outgoing interface.
lo	Loopback as the outgoing interface.
lte1	LTE 1 as the outgoing interface.
wan	WAN as the outgoing interface.
port4	Port 4 as the outgoing interface.
any	Any port as the outgoing interface.

srcaddr	Source address.	option	-	none

Option	Description
all	All network addresses.
none	None of the network addresses.
lan-src	LAN network address.
wan-src	WAN network address.

dnat	Destination NAT.	option	-	disable

Parameter	Description	Type	Size	Default
	Option / **Description** enable — Enable destination NAT. disable — Disable destination NAT.			
dstaddr	Destination address.	option	-	none
	Option / **Description** all — All network addresses. none — None of the network addresses. lan-src — LAN network address. wan-src — WAN network address.			
action	Policy action.	option	-	accept
	Option / **Description** accept — Accept policy. deny — Deny policy.			
status	Status of the policy.	option	-	enable
	Option / **Decription** enable — Enable this policy. disable — Disable this policy.			
service	Service/service group name.	option	-	none
	Option / **Description** ALL — All services. HTTP — HTTP service. etc — Refer to config network service list.			
nat	Source NAT.	option	-	disable
	Option / **Description** enable — Enable source NAT. disable — Disable source NAT.			
srcaddr6	Source IPv6 address	option	-	none

Parameter	Description	Type	Size	Default
	Option / **Description** all — All network addresses. none — None of the network addresses. lan-src — LAN network address. wan-src — WAN network address.			
dstaddr6	Destination IPv6 address	option	-	none
	Option / **Description** all — All network addresses. none — None of the network addresses. lan-src — LAN network address. wan-src — WAN network address.			

```
FX201E5919000057 (policy) # move test2 after all-pass
FX201E5919000057 (policy) <M> # show
config firewall policy
    edit test1
        set srcintf lo
        set dstintf any
        set srcaddr all
        set dnat disable
        set dstaddr all
        set action accept
        set status enable
        set service AH
        set nat enable
    next
    edit all-pass
        set srcintf any
        set dstintf any
        set srcaddr all
        set dnat disable
        set dstaddr all
        set action accept
        set status enable
        set service ALL
        set nat enable
    next
    edit test2
        set srcintf any
        set dstintf lan
        set srcaddr all
        set dnat disable
```

```
        set dstaddr all
        set action accept
        set status disable
        set service ALL
        set nat enable
    next
end

FX201E5919000057 (policy) <M> # end
```

config traffic-shaper

Description: Configure firewall shapers.

```
config traffic-shaper
      edit <name>
            set max-bandwidth (1 - 16776000)
            set *bandwidth-unit [kbps | mbps | gbps]
      delete <name>
      purge
      show
end
```

Sample command:

```
FX201E5919000057 (traffic-shaper) # show
config firewall shaper traffic-shaper
      edit 1
            set max-bandwidth 34
            set bandwidth-unit kbps
      next
end
```

Parameter	Description	Type	Size	Default
max-bandwidth	Upper bandwidth limit enforced by the shaper.	integer	1 - 16776000	100
bandwidth-unit	Unit of measurement for guaranteed and maximum bandwidth for the shaper.	option	-	none

Option	Description
kbps	Kilobits per second.
mbps	Megabits per second.
gbps	Gigabits per second.

config shaping-policy

Description: Configure firewall shaping policies.

```
config shaping-policy
      edit <name>
            set status [enable | disable]
            set *dstintf <name1>, <name2>, …
            set *traffic-shaper <name1>, <name2>, …
      delete <name>
      purge
      show
end
```

Sample command:

```
FX201E5919000057 (shaping-policy) # show
config firewall shaping-policy
      edit 1_policy
            set status enable
            set dstintf wan
            set traffic-shaper 1
      next
end
```

Parameter	Description	Type	Size	Default
status	Status of the traffic shaping policy.	option	-	enable

Option	Description
enable	Enable the policy.
disable	Disable the policy.

Parameter	Description	Type	Size	Default
dstintf	Outgoing (egress) interface.	option	-	none

Option	Description
lan	LAN as the outgoing interface.
lo	Loopback as the outgoing interface.
lte1	LTE 1 as the outgoing interface.
wan	WAN as the outgoing interface.
port4	Port 4 as the outgoing interface.
any	Any port as the outgoing interface.

Parameter	Description	Type	Size	Default
traffic-shaper	Traffic shaper to apply to traffic forwarded by the firewall policy.	option	-	none

Option	Decription
1	Refer toconfig traffic-shaper on page 17.

config vip

Description: Configure firewall virtual IPs.

```
config vip
   edit <name >
         set comment [255]
         set *extip <name1>
         set *mappedip <name1>
         set *extintf <name1>, <name2>, …
         set portforward [enable | disable]
         set *protocol <name1>, <name2>, … *only accessible when portforward is enabled
         set *extport (1 – 65535) *only accessible when portforward is enabled
         set *mappedport (1 – 65535) *only accessible when portforward is enabled
         unset
         next
         show
         abort
         end
   delete <name >
   purge
   show
   end
```

Sample command:

```
   FX201E5919000057 (vip) # show
         config firewall vip
               edit 1
               set comment this is a test vip
               set extip 10.153.24.44
               set mappedip 10.153.24.36
               set extintf any
               set portforward enable
               set protocol tcp
               set extport 25
               set mappedport 33
         next
   end
```

Parameer	Description	Type	Size	Default
comment	Optional comments.	string	Up to 255 characters in length	none
extip	IP address on the external interface to be mapped to an address on the destination network.	IPv4 address	-	none
mappedip	IP address on the destination network to which the external IP address is mapped.	IPv4 address	-	none
extintf	Interface connected to the source network that receives packets to be forwarded to the destination network.	option	-	none

Option	Description
lan	LAN as the outgoing interface.
lo	Loopback as the outgoing interface.
lte1	LTE 1 as the outgoing interface.
wan	WAN as the outgoing interface.
port4	Port 4 as the outgoing interface.
any	Any port as the outgoing interface.

portforward	Port forwarding.	option	-	disable

Option	Decription
enable	Enable port forwarding.
disable	Disable port forwarding.

protocol	Protocol to use when forwarding packets.	option	-	tcp

Option	Description
tcp	TCP protocol.
udp	UDP Protocol.
icmp	ICMP protocol.

extport	Incoming port number to be mapped to a port number on the destination network.	number	1 - 65535	0

Parameer	Description	Type	Size	Default
mappedport	Port number on the destination network to which the external port number is mapped.	number	1 - 65535	0

LTE

This section shows the syntax of the following commands:

These commands are NOT applicable to the FortiExtender 200F platform.

- config lte setting on page 22
- config carrier on page 29
- config simmap on page 30
- config plan on page 31

config lte setting

Description: Configure LTE modem settings.

```
config lte setting
    config controller-report
        set status [enable | disable]
        set interval (30 – 86400)
        set signal-threshold (10 – 50)
end
    config modem1
        set pause-modem-manager [enable | disable]
        set default-sim [sim1 | sim2 | by-carrier | by-cost]
        set preferred-carrier {string}
        set esim [enable | disable]
        set session-down-detection (1 – 60)
        set gps [enable | disable]
        set sim1-pin [enable | disable]
        set sim1-pin-code {0, 4}
        set sim2-pin [enable | disable]
        set sim2-pin-code {0, 4}
        config auto-switch
            set by-disconnect [enable | disable]
            set by-signal [enable | disable]
            set by-data-plan [enable | disable]
            set by-health-monitor [enable | disable]
            config health-monitor
                set event <name>
                set fail-cnt (1 – 10)
                set recovery-cnt (1 – 10)
                set by-latency [enable |disable]
```

```
                set latency-threshold (0 - 10000000)
                set by-jitter [enable |disable]
                set jitter-threshold (0 - 10000000)
                set recover-by-reboot [enable | disable]
                set max-switches-allowed (1 - 20)
                set max-switches-interval (300 - 3600)
            end
            set disconnect-threshold (1 – 100)
            set disconnect-period (600 – 18000)
            set switch-back [by-timer | by-time ]
            set switch-back-time (HH:MM)
            set switch-back-timer (3600 – 2147483647)
        end
end
   config modem2
        set pause-modem-manager [enable | disable]
        set default-sim sim1 | sim2 | by-carrier | by-cost]
        set preferred-carrier {string}
        set session-down-detection (1 – 60)
        set gps [enable | disable]
        set sim1-pin [enable | disable]
        set sim1-pin-code {0, 4}
        set sim2-pin [enable | disable]
        set sim2-pin-code {0, 4}
        config auto-switch
            set by-disconnect [enable | disable]
            set by-signal [enable | disable]
            set by-data-plan [enable | disable]
            set by-health-monitor [enable | disable]
            config health-monitor
                set event <name>
                set fail-cnt (1 – 10)
                set recovery-cnt (1 – 10)
                set by-latency [enable |disable]
                set latency-threshold (0 - 10000000)
                set by-jitter [enable |disable]
                set jitter-threshold (0 - 10000000)
                set recover-by-reboot [enable | disable]
                set max-switches-allowed (1 - 20)
                set max-switches-interval (300 - 3600)
            end
            set disconnect-threshold (1 – 100)
            set disconnect-period (600 – 18000)
            set switch-back [by-timer | by-time ]
            set switch-back-time (HH:MM)
            set switch-back-timer (3600 – 2147483647)
        end
    end
    set advanced [enable | disable]
    config advanced-settings
        set sim-activation-delay (5 – 600)
        set force-ipv4 [enable | disable]
```

```
end
end
unset
show
```

Sample command:

```
config lte setting
    config controller-report
        set status enable
        set interval 300
        set signal-threshold 10
    end
    config modem1
        set pause-modem-manager disable
        set default-sim sim1
        set session-down-detection 3
        set gps enable
        set sim1-pin disable
        set sim2-pin disable
        config auto-switch
            set by-disconnect enable
            set by-signal disable
            set by-data-plan disable
            set by-health-monitor enable
            config health-monitor
                set event
                set fail-cnt 5
                set recovery-cnt 5
                set by-latency enable
                set latency-threshold 150
                set by-jitter enable
                set jitter-threshold 150
                set recover-by-reboot disable
            end
            set disconnect-threshold 3
            set disconnect-period 600
            set switch-back by-time by-timer
            set switch-back-time 00:01
            set switch-back-timer 86400
        end
    end
    set advanced enable
    config advanced-settings
        set sim-activation-delay 300
        set force-ipv4 disable
    end
end
```

Parameter	Description	Type	Size	Default
status	Status of controller reporting.	option	-	enable

Option	Description
enable	Enable LTE controller report.
disable	Disable LTE controller report.

Parameter	Description	Type	Size	Default
interval	Reporting interval.	integer	30 - 86400	300
signal-threshold	Signal threshold that needs to be reached before a report is sent.	integer	10 - 50	10

Parameter	Description	Type	Size	Default
pause-modem-manager	Delay the modem if the SIM needs a longer activation period.	option	-	disable

Option	Description
enable	Enable delayed modem activation.
disable	Disable delay of modem activation.

Parameter	Description	Type	Size	Default
default-sim	The first SIM card which the modem will try and connect with.	option	-	sim1

Option	Description
sim1	SIM card in SIM slot 1.
sim2	SIM card in SIM slot 2.
by-carrier	SIM card from the carrier specified in preferred-carrier.
by-cost	SIM card whose plan has the lowest cost.

Parameter	Description	Type	Size	Default
preferred-carrier	Preferred carrier which the modem will try and connect with.	string	-	none
esim	Enable or disable eSIM capabilities. Only available on supported platforms.	option	-	disable

Option	Description
enable	Enable eSIM capabilities.
disable	Disable eSIM capabilities.

Parameter	Description	Type	Size	Default
session-down-detection	Period to confirm a session has been disconnected.	integer	1 - 60	3

Parameter	Description	Type	Size	Default
gps	GPS location.	option	-	enable
	Option / **Description** enable: Enable GPS location. disable: Disable GPS location.			
sim1-pin	Whether or not SIM 1 requires a pin code.	option	-	disable
	Option / **Description** enable: SIM 1 requires a pin. disable: SIM 1 does not require a pin.			
sim1-pin-code	The 4-digit pin code provided by the carrier.	integer		none
sim2-pin	Whether or not SIM 2 requires a pin code.	option		disable
	Option / **Description** enable: SIM 2 requires a pin. disable: SIM 2 does not require a pin.			
sim2-pin-code	The 4-digit pin code provided by the carrier.	integer		none
by-disconnect	SIM switching occurs based on disconnects.	option		disable
	Option / **Description** enable: Enable SIM switching based on disconnects. disable: Disable SIM switching based on disconnects.			
disconnect-threshold	Number of disconnects that can happen before SIM switching is triggered.	integer	1 - 100	3
disconnect-period	Evaluation period in seconds for SIM switching.	integer	600 - 18000	600
by-signal	SIM switching occurs based on signal strength.	option		disable

Parameter	Description	Type	Size	Default
	Option / **Description** enable — Enable SIM switching based on signal strength. disable — Disable SIM switching based on signal strength.			
by-data-plan	SIM switching occurs when the data plan for the active SIM is used up.	option		disable
	Option / **Description** enable — Enable SIM switching based on data plan usage. disable — Disable SIM switching based on data plan usage.			
by-health-monitor	Sim switching occurs based on health checks like Ping/RTT.	option		disable
	Option / **Description** enable — Enable SIM switching based on health checks. disable — Disable SIM switching based on health checks.			
event	Hmon hchk member	string		none
fail-cnt	Number of failures before the member is considered dead.	integer	1 - 10	5
recovery-cnt	Number of successes before the member is considered alive.	integer	1 - 10	5
by latency	Latency monitoring on the active SIM.	option		disable
	Option / **Decription** enable — Enable SIM switching based on latency. disable — Disable SIM switching based on latency.			
latency-threshold	Latency in milliseconds for SLA to make decision.	integer	0 - 10000000	150
by jitter	Jitter monitoring on the active SIM.	option		disable
	Option / **Description** enable — Enable SIM switching based on jitter. disable — Disable SIM switching based on jitter.			

Parameter	Description	Type	Size	Default
recover-by-reboot	Reboot to recover the modem from excessive SIM switches.	option		disable

Option	Description
enable	Enable device reboot after excessive SIM switching.
disable	Disable device reboot after excessive SIM switching.

max-switches-allowed	Number of SIM switches allowed for a given duration.	integer	1 - 20	5
max-switches-interval	Duration to monitor SIM switches (in seconds).	integer	300 - 3600	1800
switch-back	Direct modem to switch back to a preferred SIM when the secondary SIM is active.	option		none

Option	Description
by-time	Switch back at a specified time using the HH:MM format.
by-timer	Switch back after the specified duration is over.

switch-back-time	Switch over to the preferred SIM/carrier at the specified UTC time in HH:MM format.	string		00:01
switch-back-timer	Switch over to the preferred SIM/carrier after the given duration.	integer	3600 - 2147483647	86400

Parameter	Description	Type	Size	Default
advanced	Advanced options for modem configuration.	option		disable

Option	Decription
enable	Enable advanced settings.
disable	Disable advanced settings.

sim-activation-delay	Period for SIM card activation.	integer	5 - 600	300
force-ipv4	Reconfigure the modem to use IPv4; register to ISP with IPv4 only; plan/PDN must be IPv4 only.	option		disable

Parameter	Description	Type	Size	Default

Option	Description
enable	Force the modem to use IPv4 only.
disable	Do not force the modem to use IPv4 only.

config carrier

Description: Configure LTE carriers.

```
config carrier
   edit <name>
         set firmware {string}
         set pri {string}
         set default-profile [enable | disable]
   delete <name>
   purge
   show
   end
```

Sample command:

```
config lte carrier
    edit AT&T
        set firmware SWI9X30C_02.33.03.00.cwe
        set pri SWI9X30C_02.33.03.00_GENERIC_002.072_001.nvu
        set default-profile disable
next
end
FX511FTQ22002638 (carrier) # show
config lte carrier
    edit AT&T
        set firmware RM502QAEAAR11A04M4G_01.001.01.001.zip
    next
```

Parameter	Description	Type	Size	Default
firmware	Mobile Country Code (the first three digits of the SIM card's IMSI).	integer	-	none
pri	Mobile Network Code (the two or three digits after the Mobile Country Code of the SIM card's IMSI, depending on the American or European standard).	integer	-	none

Parameter	Description	Type	Size	Default
default-profile	Carrier of the SIM card.	option	-	none

Option	Description
enable	The default profile will be selected from the available PDP contexts (e.g., profile 3 for Verizon).
disable	The default profile will not be selected.

config simmap

Description: Configure LTE SIM maps.

```
config lte simmap
    edit <name>
        set mcc {integer}
        set mnc {integer}
        set carrier <name1>
next
delete <name>
purge
show
end
end
```

Sample command:

```
config lte simmap
    edit testsim
        set mcc 276
        set mnc 02
        set carrier Generic
    next
end
```

Parameter	Description	Type	Size	Default
mcc	Mobile Country Code (the first three digits of the SIM card's IMSI).	integer	-	none

Parameter	Description	Type	Size	Default
mnc	Mobile Network Code (the two or three digits after the Mobile Country Code of the SIM card's IMSI).	integer	-	none
carrier	Carrier of the SIM card.	string	-	none

config plan

Description: Configure LTE plans for SIM cards.

```
config lte plan
    edit <name>
        set modem [all | modem1 | modem2]
        set type [by-iccid | by-slot | by-carrier | by-default]
        set *carrier {string}
        set *slot [sim1 | sim2]
        set *iccid {integer}
        set apn {string}
        set auth [NONE | PAP | CHAP]
        set user {string}
        set pwd {string}
        set pdn [ipv4-only | ipv-only | ipv4-ipv6]
        set signal-threshold (-100 - -50)
        set signal-period (600 – 18000)
        set capacity (0 – 102400000)
        set monthly-fee (0 – 1000000)
        set billing-date (1 – 31)
        set overage [enable | disable]
        set preferred-subnet (0 – 32)
        set private-network [enable | disable]
        set session-dial-timeout (0 – 180)
next
delete <name>
purge
show
end
```

Sample command:

```
config lte plan
    edit ATTPlan
        set modem modem1
        set type by-carrier
        set carrier AT&T
```

```
        set apn broadband
        set auth none
        set user
        set pwd
        set pdn ipv4-only
        set signal-threshold -100
        set signal-period 3600
        set capacity 1024
        set monthly-fee 0
        set billing-date 1
        set overage disable
        set preferred-subnet 0
        set private-network disable
        set session-dial-timeout 0
    next
end
```

Parameter	Description	Type	Size	Default
modem	Modem that will be using this plan.	option	-	all

Option	Description
all	All modems in the device.
modem1	Only modem 1 will be used.
modem2	Only modem 2 will be used. (This option applies to devices with two modems.)

Parameter	Description	Type	Size	Default
type	Method to assign the plan.	option	-	by-default

Option	Description
by-carrier	Assign the plan to the SIM card with the specified carrier.
by-iccid	Assign the plan to the SIM card with the specified iccid.
by-slot	Assign the plan to the SIM card in the specified SIM slot.
by-default	Assign the plan to the default SIM card as set in LTE settings.

Parameter	Description	Type	Size	Default
carrier	Carrier option if type is set to by-carrier.	string		none
slot	SIM slot to which the plan is assigned.	option		sim1

Option	Description
sim1	Assign the plan to the SIM card in SIM slot 1.
sim2	Assign the plan to the SIM card in SIM slot 2.

Parameter	Description	Type	Size	Default
iccid	The ICCID of the SIM card to which the plan is assigned.	integer	-	none

Parameter	Description	Type	Size	Default
apn	APN of the carrier.	string	-	none
auth	Authentication method	option	-	NONE
	Option / **Description** NONE: No authentication. PAP: Password authentication protocol. CHAP: Challenge-and-response authentication protocol.			
user	username.	string	-	none
pwd	password.	string	-	none
pdn	Request Packet Data Network (PDN) IP address family.	option	-	ipv4-only
	Option / **Definition** ipv4-only: Only the IPv4 protocol is used. ipv6-only: Only the IPv6 protocol is used. ipv4-ipv6: Both IPv4 and IPv6 are tried.			
signal-threshold	SIM switch if signal drops below the set threshold.	integer	-100 - -50	-100
signal-period	SIM switch if signal drops below the threshold for more than half of the set period.	integer	600 - 18000	3600
capacity	The amount of data allotted to the SIM card's plan.	integer	0 - 10240000	0
monthly-fee	The amount paid each month for the plan.	integer	0 - 1000000	0
billing-date	The day of the month when the payment for the plan is renewed.	integer	1 - 31	1
overage	Whether the SIM card can continue to use data once the allotted amount is used up.	option	-	disable
	Option / **Description** enable: Enable data usage over capacity. disable: Disable data usage once the capacity has been reached.			
preferred-subnet	DHCP address netmask overwriting with modem assignment.	integer	0 - 32	0

Parameter	Description	Type	Size	Default
private-network	Whether the cellular modem forwards DHCP packets to the WAN/Internet through the LTE/5G model interface.	option	-	disable
	Option / **Description** enable: Enable DHCP traffic on port UDP 67 so cellular modems can forward them from the internal to the external side. disable: Block DHCP traffic on port UDP 67, preventing them from passing from the internal to the external side.			
session-dial-timeout	Timeout value when dialing up a session.	integer	0 - 180	0

Router

This section shows the syntax of the following commands:

- config router policy on page 35
- config router static on page 39
- config router target on page 42
- config multicast on page 44
- config OSPF on page 46
- config prefix-list on page 50
- config route-map on page 52

config router policy

Description: Configure router policies.

```
config route policy
   edit <name>
         set input-device <name1>
         set srcaddr <name1>
         set dstaddr <name1>
         set service <name1>, <name2>, …
         set *target <name1>
         set status [enable | disable]
         set comment {string}
         unset
         next
         show
         abort
         end
   delete <name>
   purge
   move <name1> [before | after] <name2>
   show
   end
```

Sample command:

```
FX201E5919000057 (policy) # show
config router policy
    edit 1
        set input-device lan
        set srcaddr all
        set dstaddr all
```

```
        set service ALL
        set target target.lte1
        set status enable
        set comment this is a test policy
    next
end
```

Parameter	Description	Type	Size	Default
input-device	Incoming interface name.	option	-	none

Option	Description
lan	LAN as the input device.
lo	Loopback as the input device.
lte1	LTE 1 as the input device.
wan	WAN as the input device.
port4	Port 4 as the input device.
port1	Port 1 as the input device.

Parameter	Description	Type	Size	Default
srcaddr	Source address.	option	-	none

Option	Description
lan	LAN network address.
all	All the network addresses.
none	None of the network addresses.

Parameter	Description	Type	Size	Default
dstaddr	destination address.	option	-	none

Option	Description
lan	LAN network address.
all	All the network addresses.
none	None of the network addresses.

Parameter	Description	Type	Size	Default
service	Service/service group names.	option	-	none

Option	Description
ALL_ICMP	ICMP.
ALL	All.
etc	Refer to the different services in this command.

Parameter	Description	Type	Size	Default
target	The PBR's out-going interface and next-hop.	option	-	none

Option	Description
target.lan	LAN as the target.
target.lo	Loopback as the target.
target.lte1	LTE 1 as the target.
target.wan	WAN as the target.
target.port4	Port 4 as the target.
target.Port1	Port 1 as the target.

Parameter	Description	Type	Size	Default
status	Status of the policy based the routing rule.	option	-	enable

Option	Description
enable	Enable the policy.
disable	Disable the policy.

Parameter	Description	Type	Size	Default
comment	Comment on the policy.	string	1 - 255 characters in length	none

config router policy6

Description: Configure IPv6 router policies.

```
config router policy6
  edit <name>
    set input-device <name1>
    set srcaddr <name1>
    set dstaddr <name1>
    set service <name1>, <name2>, …
    set *target <name1>
    set status [enable | disable]
    set comment {string}
unset
next
show
abort
end
delete <name>
purge
```

```
move <name1> [before | after] <name2>
show
end
```

Sample command:

```
config router policy6
  edit 1
    set input-device lan
    set srcaddr all
    set dstaddr all
    set service ALL
    set target target.wan
    set status enable
    set comment
  next
end
```

Parameter	Description	Type	Size	Default
input-device	Incoming interface name.	option	-	none

Option	Description
lan	LAN as the input device.
lo	Loopback as the input device.
lte1	LTE 1 as the input device.
wan	WAN as the input device.
port4	Port 4 as the input device.
port1	Port 1 as the input device.

srcaddr	Source address.	option	-	none

Option	Description
lan	LAN network address.
all	All the network addresses.
none	None of the network addresses.

dstaddr	destination address.	option	-	none

Option	Description
lan	LAN network address.
all	All the network addresses.
none	None of the network addresses.

Parameter	Description	Type	Size	Default
service	Service/service group names.	option	-	none
	Option / **Description** ALL_ICMP: ICMP. ALL: All. etc: Refer to the different services in this command.			
target	The PBR's out-going interface and next-hop.	option	-	none
	Option / **Description** target.lan: LAN as the target. target.lo: Loopback as the target. target.lte1: LTE 1 as the target. target.wan: WAN as the target. target.port4: Port 4 as the target. target.Port1: Port 1 as the target.			
status	Status of the policy based the routing rule.	option	-	enable
	Option / **Description** enable: Enable the policy. disable: Disable the policy.			
comment	Comment on the policy.	string	1 - 255 characters in length	none

config router static

Description: Configure static routes.

```
config router static
   edit <name>
         set status [enable | disable]
         set dst {ipv4-address}
         set gateway {ipv4-address}
         set distance [1 - 255]
         set *device <name1>
         set comment {string}
         unset
```

```
        next
        show
        abort
        end
    delete <name>
    purge
    show
```

Sample command:

```
FX201E5919000057 (static) # show
config router static
    edit 1
        set status enable
        set dst 10.124.23.0/24
        set gateway 192.168.200.99
        set distance 1
        set device wan
        set comment this is a sample static route
    next
end
```

Parameter	Description	Type	Size	Default
status	Status of the static route.	option	-	enable
	Option / **Description** enable: Enable static route. disable: Disable static route.			
dst	Destination IP and mask for the route.	Ipv4_address/netmask-	-	none
gateway	Gateway IP for the route.	Ipv4_address	-	none
distance	Administrative distance. (This field is the metric of the route item. Set the value carefully and ensure that this route item matches your application scenario without affecting other route items.)	integer	1 - 255	1
device	Gateway outgoing interface or tunnel.	option	-	none
comment	Comment on the route. (Optional)	string	Up to 255 characters in length	none

config router static6

Description: Configure IPv6 static routes.

```
config router static
  edit <name>
    set status [enable | disable]
    set dst {ipv6-address}
    set gateway {ipv6-address}
    set distance [1 – 255]
    set *device <name1>
    set comment {string}
    unset
    next
    show
    abort
    end
delete <name>
purge
show
```

Sample command:

```
config router static6
  edit 1
    set status enable
    set dst 0::0/0
    set gateway 2001::3
    set distance 10
    set device wan
    set comment
  next
end
```

Parameter	Description	Type	Size	Default
status	Status of the static route.	option	-	enable
	Option / **Description** enable: Enable static route. disable: Disable static route.			
dst	Destination IP and mask for the route.	Ipv6_ address/netmask-	-	none
gateway	Gateway IP for the route.	Ipv6_address	-	none

Parameter	Description	Type	Size	Default
distance	Administrative distance. (This field is the metric of the route item. Set the value carefully and ensure that this route item matches your application scenario without affecting other route items.)	integer	1 - 255	1
device	Gateway outgoing interface or tunnel.	option	-	none
comment	Comment on the route. (Optional)	string	Up to 255 characters in length	none

config router target

Description: Configure router targets.

```
config router target
   edit <name>
         set *target <name1>
         set next-hop <name1>
         unset
         next
         show
         abort
         end
   delete <name>
   purge
   show
   end
```

Sample command:

```
FX201E5919000057 # config router target
FX201E5919000057 (target) # show
config router target
    edit target.lo
        set interface lo
        set next-hop
next
```

Parameter	Description	Type	Size	Default
interface	Target interface.	option		none

Parameter	Description	Type	Size	Default
	Option / **Description** lan / LAN as the target interface. lo / Loopback as the target interface. lte1 / LTE 1 as the target interface. wan / WAN as the target interface. port4 / Port 4 as the target interface. port1 / Port 1 as the target interface.			
next-hop	Next-hop IP address in x.x.x.x format.	IPv4 address	-	none

config router target6

Description: Configure IPv6 router targets.

```
config router target
  edit <name>
    set interface <name1>
    set next-hop <name1>
    unset
    next
    show
    abort
    end
delete <name>
purge
show
end
```

Sample command:

```
config router target6
  edit ip6.test
    set interface wan
    set next-hop 2001::100
  next
end
```

Parameter	Description	Type	Size	Default
interface	Target interface.	option		none

Parameter	Description	Type	Size	Default
	Option / **Description** lan — LAN as the target interface. lo — Loopback as the target interface. lte1 — LTE 1 as the target interface. wan — WAN as the target interface. port4 — Port 4 as the target interface. port1 — Port 1 as the target interface.			
next-hop	Next-hop IPv6 address.	IPv6 address	-	none

config multicast

Description: Configure multicast router.

```
set join-prune-interval [1 - 65535]
set hello-interval [30 - 18724]
unset
```

- config pim-sm-global on page 44
- config rp-address on page 44
- config interface on page 45

config pim-sm-global

Description: Configure PIM sparse-mode interfaces.

config rp-address

Description: Configure static RP addresses.

```
config rp-address
      edit <rpaddressip>
            set *address <name1>
            set group <name1> *specified IPv4 subnet should be within 224.0.0.0/4 but not within
                  232.0.0.0/8
            unset
            next
            show
            abort
            end
      delete <rpaddressip>
```

```
        purge
        show
        end
show
end
```

config interface

Description: Configure Protocol Independent Multicast (PIM) interfaces.

There's no entry for the "set" command, although "set" is an available option.

```
config interface
      edit <name> *must be valid interface id in system interface list
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
show
end
```

Sample command:

```
FX201E5919000057 (multicast) # show
config router multicast
    config pim-sm-global
        set join-prune-interval 60
        set hello-interval 30
        config rp-address
            edit 1
                set address 192.168.200.23
                set group 224.0.0.0/4
            next
        end
    end
    config interface
    end
end
```

Parameter	Description	Type	Size	Default
join-prune-interval	Interval (in seconds) between sending PIM join/prune messages.	integer	1 - 65535	60

Parameter	Description	Type	Size	Default
hello-interval	Interval (in seconds) between sending PIM hello messages .	integer	30 - 18724	30
address	RP router address.	IPv4 address	-	none
group	Groups to use this RP. (Note: The specified IPv4 subnet should be within 224.0.0.0/4, but not within 232.0.0.0/8.)	IPv4 address/netmask	-	224.0.0.0/4
interface	PIM interfaces.	string	-	none

config OSPF

Description: Configure OSPF settings.

```
config ospf
      set status [enable | disable]
      set router-id <name1>
      unset
```

Sample command:

```
config router ospf
  set status enable
  set router-id 192.168.100.127
```

Parameter	Description	Type	Size	Default
status	Set the status of the OSPF:	option	-	disable
	Option / **Description**: enable — Enable OSPF; disable — Disable OSPF			
set router-id	The router-id is a unique identity to the OSPF router. If no router-id is specified, the system will automatically choose the highest IP address as the router-id.	IPv4 address	-	0.0.0.0

- config area on page 47
- config network on page 47
- config ospf-interface on page 48
- config redistribute on page 49

config area

Description: Configure OSPF area settings.

```
config area
      edit {ipv4-address}
            set
            unset
            next
            show
            abort
            end
      delete {ipv4-address}
      purge
      show
      end
```

Sample command:

```
config router ospf
  config area
    edit 0.0.0.0
```

Parameter	Description	Type	Size	Default
config area	OSPF area configuration. An area is a logical grouping of contiguous networks and routers in the same area with the same link-state database and topology. **Note:** The current release only supports Area 0 called the backbone area, and does not support multiple areas. All routers inside an area must have the same area ID to become OSPF neighbors. You can add Area 0 by editing Area 0.0.0.0	IPv4 address	-	none

config network

Description: Configure OSPF network settings.

```
config network
      edit <name>
            set *prefix {integer}
            set *area <name1>
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
```

```
        end
```

Sample command:

```
config router ospf
  config network
    edit 1
      set prefix 192.168.100.127/32
      set area 0.0.0.0
    next
    edit 2
      set prefix 192.168.100.0/30
      set area 0.0.0.0
    next
end
```

Parameter	Description	Type	Size	Default
config network	OSPF network configuration.	option	-	none

Option	Description
prefix	Prefix used to identify network/subnet address for advertising to the OSPF domain.
area	Attach the network to area.

CLI Command	Description
config network edit [id] set prefix [X.X.X.X/Y] set area 0.0.0. Prefix	• id—string • X.X.X.X—Network prefix • Y—Netmask

config ospf-interface

Description: Configure OSPF interface settings.

```
config ospf-interface
      edit <name>
            set status [enable | disable]
            set *interface <name1>
            set mtu-ignore [enable | disable]
            set cost [0 – 65535]
            unset
            next
            show
            abort
            end
      delete <name>
      purge
```

```
        show
        end
```

Sample command:

```
config ospf-interface
  edit 1
    set status enable
    set interface opaq
    set mtu-ignore enable
    set cost 5
end
```

Parameter	Description	Type	Size	Default
config ospf-interface	OSPF interface configuration.	option	-	none
status	Enable/Disable OSPF processing on the said interface.	option		-
	Option / **Description** enable — Enable OSPF processing on the said interface. disable — Disable OSPF processing on the said interface.			
set interface	Must be the VPN tunnel interface as OSPF is built over IPSEC VPN.			
set mtu-ignore	Prevents OSPF neighbor adjacency failure caused by mismatched MTUs.			
	Option / **Description** enable — OSPF will stop detecting mismatched MTUs before forming OSPF adjacency disable — OSPF will detect mismatched MTUs, and OSPF adjacency is not established if MTU is mismatched.			
set cost	Interface cost used to calculate the best path to reach other routers in the same area. 0 means auto-cost.	integer	0—65535	

config redistribute

Description: Configure redistribute settings.

```
config router ospf
  config redistribute
    config [connected | static]
```

```
      set status [enable | disable]
      set metric-type [1 | 2]
      set metric <value>
      set route-map <route-map name>
```

Sample command:

```
config router ospf
  config redistribute
    config connected
      set status enable
      set metric-type 2
      set metric 10
      set routemap redist-local-connected
  end
    config static
      set status enable
      set metric-type 2
      set metric 10
      set routemap redist-static
  end
```

Parameter	Description	Type	Size	Default
status	Enable/disable redistributing routes.			
set metric-type	Specify the external link type to be used for the redistributed routes. The options are E1 and E2 (default).			E2
set metric	Used for the redistributed routes.	integer	1 - 16777214	10
set routemap	Route map name.			

config prefix-list

Description: Configure IPv4 prefix lists.

```
edit <name>
      set
      unset
```

The "set" command is available, but there are no settings to "set" or "unset".

- config rule on page 51

config rule

Description: Configure IPv4 prefix list rule.

```
config prefix-list
      config rule
            edit <name>
                  set action [permit | deny]
                  set *prefix {ipv4-subnet}
                  set ge (0 – 32)
                  set le (0 – 32)
                  unset
                  next
                  show
                  abort
                  end
            delete <name>
            purge
            show
            end
      next
      show
      abort
      end
delete <name>
purge
show
end
```

Sample command:

```
FX201E5919000057 (prefix-list) # show
config router prefix-list
    edit 1
        config rule
            edit 1
                set action permit
                set prefix 192.168.200.0/24
                set ge 25
                set le 25
            next
        end
    next
end
```

Parameter	Description	Type	Size	Default
action	Action of the rule.	option	-	permit

Parameter	Description	Type	Size	Default
	Option / **Description** permit / Allow packets that match this rule. deny / Deny packets that match this rule.			
prefix	IPv4 prefix to define the regular filter criteria.	IPv4 address/netmask	-	none
ge	Minimum prefix length to be matched.	integer	0 - 32	none
le	Maximum prefix length to be matched.	integer	0 - 32	none

config route-map

Description: Configure route maps.

```
edit <name>
      set
      unset
```

- config rule on page 52

config rule

Description: Configure route map rule.

```
      config rule
            edit <name>
                  set action [permit | deny]
                  set match-ip-address {ipv4-address}
                  unset
                  next
                  show
                  abort
                  end
            delete <name>
            purge
            show
            end
      delete <name>
      purge
      show
      end
show
end
```

Sample command:

```
FX201E5919000057 (route-map) # show
config router route-map
    edit 1
        config rule
            edit 1
                set action permit
                set match-ip-address 1
            next
        end
    next
end
```

Parameter	Description	Type	Size	Default
action	Action of the rule.	option	-	permit
	Option / **Description** permit — Allow packets that match this rule. deny — Deny packets that match this rule.			
match-ip-address	Match IP address permitted by the prefix-list.	string	-	none

System

This section shows the syntax of the following commands:

- config system global on page 55
- config system accprofile on page 56
- config admin on page 59
- config system bluetooth on page 62
- config management on page 62
- config system interface on page 67
- config dhcpserver on page 81
- config dhcprelay on page 84
- config dns on page 85
- config dns-server on page 87
- config dns-database on page 88
- config dns-entry on page 89
- config vwan-member on page 91
- config sms-notification on page 94
- config sms-remote-diag on page 96
- config syslog on page 98
- config virtual-wire-pair on page 102
- config api-user on page 102
- config ntp on page 103
- config settings on page 105
- config system lan-switch on page 105
- config system switch-interface on page 107
- config system ipsec on page 109
- config ssh-crypto on page 109
- config system automation trigger on page 111
- config system automation action on page 112
- config system automation stitch on page 113
- config system digital-io digital on page 115
- config system digital-io alert on page 115
- config system digital-io action on page 117
- config system 802-1X-settings on page 118
- config system ignition-sensing on page 118

config system global

Description: Configure FortiExtender global settings.

```
config system global
  set hostname {string}
  set timezone [0 – 87]
  set auto-install-image [enable | disable]
  set default-image-file {string} *available when auto-install-image is enabled
  set mdm-fw-server {string}
  set os-fw-server {string}
  set admin-server-cert {string}
end
```

Sample command:

```
FX201E5919000057 (global) # show
config system global
  set hostname FX201E5919000057
  set timezone 80
  set auto-install-image disable
  set mdm-fw-server fortiextender-firmware.forticloud.com
  set os-fw-server fortiextender-firmware.forticloud.com
  set admin-server-cert my_fex_cert
end
```

Parameter	Description	Type	Size	Default
hostname	Device display name.	string	-	none
timezone	System timezone setting. (Note: Use the 'get timezone list' command to check the timezone ID.)	integer	0 - 87	80
auto-install-image	Automatically install image from USB.	option	-	disable
	Option / **Description** enable: Enable auto-install-image. disable: Disable auto-install-image.			
default-image-file	Image file from USB.	string	-	none

Parameter	Description	Type	Size	Default
mdm-fw-server	Cloud modem image upgrade URL.	string	-	fortiextender-firmware.forticloud.com
os-fw-server	Cloud OS image upgrade URL.	string	-	fortiextender-firmware.forticloud.com
admin-server-cert	Server certificate that the FortiExtender uses for HTTPS administrative connections.	string	-	Fortinet_Factory_Backup

config system accprofile

Description: Configure administration access profiles.

```
config system accprofile
  edit <name>
    set header [read-write | read | no-access]
    set firewall [read-write | read | no-access]
    set lte [read-write | read | no-access]
    set router [read-write | read | no-access]
    set dnsfilter [read-write | read | no-access]
    set system [read-write | read | no-access]
    set snmp [read-write | read | no-access]
    set hmon [read-write | read | no-access]
    set vpn [read-write | read | no-access]
    set network [read-write | read | no-access]
    set wifi [read-write | read | no-access]
    set user [read-write | read | no-access]
    unset
    next
    show
    abort
    end
  delete <name>
  purge
  show
  end
```

Parameter	Description	Type	Size	Default
header	Header settings.	option	-	read

Option	Description
read-write	Read-write access.

Parameter	Description	Type	Size	Default
	Option / **Description** read — Read access. no-access — No access.			
firewall	Firewall configuration.	option	-	read
	Option / **Description** read-write — Read-write access. read — Read access. no-access — No access.			
lte	LTE configuration.	option	-	read
	Option / **Description** read-write — Read-write access. read — Read access. no-access — No access.			
router	Router configuration.	option	-	read
	Option / **Description** read-write — Read-write access. read — Read access. no-access — No access.			
dnsfilter	DNS filter configuration.	option	-	read
	Option / **Description** read-write — Read-write access. read — Read access. no-access — No access.			
system	System configuration.	option	-	read
	Option / **Description** read-write — Read-write access. read — Read access. no-access — No access.			

Parameter	Description	Type	Size	Default
snmp	SNMP configuration.	option	-	read

Option	Description
read-write	Read-write access.
read	Read access.
no-access	No access.

Parameter	Description	Type	Size	Default
hmon	Health monitor configuration.	option	-	read

Option	Description
read-write	Read-write access.
read	Read access.
no-access	No access.

Parameter	Description	Type	Size	Default
vpn	VPN configuration.	option	-	read

Option	Description
read-write	Read-write access.
read	Read access.
no-access	No access.

Parameter	Description	Type	Size	Default
network	Network configuration.	option	-	read

Option	Description
read-write	Read-write access.
read	Read access.
no-access	No access.

Parameter	Description	Type	Size	Default
wifi	Wi-Fi configuration (on Wi-Fi capable models only)	option	-	read

Option	Description
read-write	Read-write access.
read	Read access.
no-access	No access.

Parameter	Description	Type	Size	Default
user	User configuration.	option	-	read

Parameter	Description	Type	Size	Default

Option	Description
read-write	Read-write access.
read	Read access.
no-access	No access.

config admin

Description: Configure user access.

```
config admin
  edit <name>
    set *accprofile <name1>
    set remote-auth {enable | disable}
    set wildcard {enable | disable}
    set *password {string}
    set remote-group {group name}
    set trusthost1 {ipv4-address}
    set trusthost2 {ipv4-address}
    set trusthost3 {ipv4-address}
    set trusthost4 {ipv4-address}
    set trusthost5 {ipv4-address}
    set trusthost6 {ipv4-address}
    set trusthost7 {ipv4-address}
    set trusthost8 {ipv4-address}
    set trusthost9 {ipv4-address}
    set trusthost10 {ipv4-address}
  next
end
```

Sample command:

```
config system admin
  edit remote1
    set accprofile super_admin
    set remote-auth enable
    set wildcard enable
    set password ENC *
    set remote-group group1
    set trusthost1 192.168.200.110/24
    set trusthost2
    set trusthost3
    set trusthost4
```

```
    set trusthost5
    set trusthost6
    set trusthost7
    set trusthost8
    set trusthost9
    set trusthost10
  next
end
```

Parameter	Description	Typy	Size	Default
accprofile	Access profile.	string	-	none
remote-auth	Enable/disable authentication using a remote RADIUS server	option	-	disable
wildcard	Enable/disable wildcard RADIUS authentication **Note:** If `wildcard` is enabled, the remote user can share the account and log in without needing to create multiple user accounts. That means, you can use the user and password pair stored in the remote server without needing to match the table name. Only one wildcard remote account is allowed to exist under `system admin`.	option	-	disable
password	Admin user password **Note:** If `wildcard` is enabled, you cannot set a password.	string	-	none
remote-group	Enter the FortiExtender user group name you want to use for remote authentication. **Note:** If `remote-auth` is enabled, `remote-group` becomes mandatory. Otherwise `remote-group` is hidden. If `remote-auth` is enabled but `wildcard` is disabled, you must set a local `password`. If the RADIUS server is unreachable, FortiExtender uses the local password. For other situations, such as if FortiExtender receives a RADIUS reject message, the local password is omitted.	option	-	none
trusthost1	Address or subnet address and netmask from which the	IPv4 address	-	none

Parameter	Description	Typy	Size	Default
	administrator can connect to the device.			
Trusthost2	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost3	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost4	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost5	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost6	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost7	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost8	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost9	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
Trusthost10	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none

config system bluetooth

Description: Configure Bluetooth settings on BLE capable FortiExtenders.

```
config system bluetooth
  set status {enable | disable}
end
```

Sample command:

```
config system bluetooth
  set status enable
end
```

Parameter	Description	Type	Size	Default
status	Enable or disable the Bluetooth button on applicable FortiExtender models.	option	-	enable

Option	Description
enable	Enable the Bluetooth button. The Bluetooth button can be triggered to provide Bluetooth functionality.
disable	Disable the Bluetooth button. Pressing the Bluetooth button will not trigger anything.

config management

Description: Configure Extender management settings.

```
config management
   set discovery-type [auto | fortigate | cloud | local]
unset
```

Sample command

```
set discovery-type fortigate
```

Parameter	Description	Type	Size	Default
discovery-type	AC discovery type.	option	-	auto

Parameter	Description	Type	Size	Default
	Option / **Description** auto — Automatic. fortigate — FortiGate. cloud — FortiExtender Cloud. local — Local.			

- config fortigate on page 63
- config cloud on page 64
- config local on page 65
- config local-access on page 65
- config fortigate-backup on page 66

config fortigate

Description: Configure FortiGate settings.

```
set ac-discovery-type [static | broadcast]
  config static-ac-addr *only accessible when ac-discovery-type is static
     edit <name>
         set server <name>
      next
  end
set ac-ctl-port [1024 – 49150]
set ac-data-port [1024 – 49150]
set discovery-intf <name1>
set ingress-intf <name1>
unset
show
end
```

Parameter	Description	Type	Size	Default
ac-discovery-type	The method that the device uses to discover the AC, i.e., FortiGate.	option	-	broadcast
	Option / **Description** broadcast — Broadcast. static — Static IP address.			
server	IP address or hostname of the AC server.	string	-	none
ac-ctl-port	CAPWAP control port of the AC	integer	1024 - 49150	5246

Parameter	Description	Type	Size	Default
	server.			
ac-data-port	CAPWAP data port of the AC server.	integer	1024 - 49150	5246
discovery-intf	The physical port from which FortiExtender sends broadcast packets in search for FortiGate.	option	-	none

Option	Description
lan	LAN as the discovery interface.
lte1	LTE 1 as the discovery interface.
wan	WAN as the discovery interface.
port4	Port 4 as the discovery interface.

config cloud

Description: Configure Cloud settings.

```
config cloud
      set dispatcher {string}
      set dispatcher-port {integer}
      set mode [ip-passthrough | nat]
      set proxy [enable | disable]
      set proxy-server {ipv4-address} *available when proxy is enabled
      set proxy-port [1 – 65535] *available when proxy is enabled
      unset
      show
      end
```

Parameter	Description	Type	Size	Default
dispatcher	Cloud dispatch URL.	string	-	fortiextender-dispatch.forticloud.com
dispatcher-port	Cloud dispatch port.	integer	0 - 9223372036854775807	443
mode	Networking mode.	option	-	nat

Option	Description
nat	NAT.
ip-passthrough	IP-passthrough.

proxy	Status of proxy connection.	option	-	disable

Parameter	Description	Type	Size	Default
	Option **Description** enable Enable proxy. disable Disable proxy.			
proxy-server	Proxy server IP address.	IPv4 address	-	none
proxy-port	Socks5 proxy port.	integer	1 - 65535	1080

config local

Description: Configure local settings.

```
config local
      set mode [ip-passthrough | nat]
      unset
      show
      end
```

Parameter	Description	Type	Size	Default
mode	Networking mode.	option	-	nat
	Option **Decription** nat NAT. ip-passthrough IP-passthrough.			

config local-access

Description: Configure administrative access settings.

```
config local-access
  set http [1 - 65535]
  set https [1 - 65535]
  set ssh [1 - 65535]
  set telnet [1 - 65535]
  set idle-timeout [1 - 480]
unset
show
end
```

Parameter	Description	Type	Size	Default
http	HTTP port number.	integer	1 - 65535	80
https	HTTPS port number.	integer	1 - 65535	443
ssh	SSH port number.	integer	1 - 65535	22
telnet	Telnet port number.	integer	1 - 65535	23
idle-timeout	The number of minutes before an idle administrator session times out.	integer	1 - 480	5

config fortigate-backup

Description: Configure backup feature.

```
config fortigate-backup
  set vrrp-interface <name1>
  set status [enable | disable]
  unset
  show
  end
show
end
```

Parameter	Description	Type	Size	Default
vrrp-interface	VRRP interface.	option	-	none

Option	Description
lan	LAN as vrrp-interface.
lo	Loopback as vrrp-interface.
lte1	LTE 1 as vrrp-interface.
wan	WAN as vrrp-interface.

Parameter	Description	Type	Size	Default
status	Status of the VRRP interface.	option	-	disable

Option	Description
enable	Enable the VRRP interface.
disable	Disable the VRRP interface.

Sample command:

```
FX201E5919000057 (management) # show
config system management
  set discovery-type auto
    config fortigate
      set ac-discovery-type static
           edit 1
           set server 10.107.41.66
        next
      set ac-ctl-port 5246
      set ac-data-port 25246
      set discovery-intf lan
      set ingress-intf
end

config cloud
  set dispatcher fortiextender-dispatch.forticloud.com
  set dispatcher-port 443
  set mode nat
  set proxy enable
  set proxy-server 10.107.34.22
  set proxy-port 3453
end

config local
  set mode nat
end

config local-access
  set http 80
  set https 443
  set ssh 22
  set telnet 23
  set idle-timeout 5
end

config fortigate-backup
  set vrrp-interface wan
  set status enable
end
end
```

config system interface

Description: Configure system interface settings.

```
config system interface
  edit <name>
    set *type [loopback | virtual-wan | vlan | capwap | dummy]
    set status [up| down]
    set mode [static | dhcp]
    set ip {ipv4-address}
    set gateway {ipv4-address}
    set mtu-override [enable | disable]
    set mtu [512-1500] *available when mtu-override is set to enable
    set distance [1 - 512]
    set vrrp-virtual-mac [enable | disable]
    set allowaccess {option1}, {option2}, ...
    set security-mode [none|captive-portal]
    set security-external-web {string}
    set security-groups <name1>, <name2>, ...
    set security-exempt-list {string}
    set security-redirect-url {string}
    set defaultgw [enable | disable] *available when mode is set to dhcp
    set dns-server-override [enable | disable] *available when mode is set to dhcp
    set redundant-by [priority | cost] *available when type is set to virtual-wan
    set algorithm [redundant | WRR] *available when type is set to virtual-wan
    set FEC [source_ip | dest_ip | source_dest_ip_pair | connection] *available when type is set
to virtual-wan
    set session-timeout [0 - 86400] *available when type is set to virtual-wan
    set grace-period [0 - 10000000] *available when type is set to virtual-wan
    set members <name1>, <name2>, …*available when type is set to virtual-wan
    set rid [1 | 2] *available when type is set to capwap
    set *vid [1 - 4089] *available when type is set to vlan
    set *ingress-intf <name1>
unset
```

Parameter	Description	Type	Size	Default
type	Interface type.	option	-	none

Option	Description
loopback	Loopback interface.
virtual-wan	Virtual-WAN interface.
vlan	VLAN interface.
capwap	CAPWAP interface.
dummy	Dummy interface.

Parameter	Description	Type	Size	Default
status	Interface status.	option	-	up

Option	Description
up	Bring the interface up.
down	Bring the interface down.

Parameter	Description	Type	Size	Default
mode	Addressing mode.	option	-	static
	Option / **Description** static / Static mode. dhcp / DHCP mode.			
ip	Interface IP address and subnet mask (in x.x.x.x/24 format).	IPv4 address	-	none
gateway	Interface's connected gateway.	string	-	none
mtu-override	Status of MTU override.	option	-	disable
	Option / **Description** enable / Enable MTU override. disable / Disable MTU override.			
mtu	MTU value for the interface.	integer	512 - 1500	1500
distance	Route metric of the interface gateway.	integer	1 - 512	5
vrrp-virtual-mac	Use of virtual MAC for VRRP.	option	-	disable
	Option / **Description** enable / Enable VRRP virtual MAC. disable / Disable VRRP virtual MAC.			
allowaccess	Types of management access allowed to this interface.	option	-	none
security-mode	Turn on captive portal authentication for this interface.	option	-	none
	Option / **Description** none / No security option. captive-portal / Captive portal authentication.			
security-external-web	URL of external authentication web server.	string	Maximum length: 255	-
security-groups	Names of user groups that can authenticate with the captive portal.	options	-	-
security-exempt-list	Name of security-exempt-list.	options	-	-

Parameter	Description	Type	Size	Default
security-redirect-url	URL redirection after disclaimer/authentication.	string	Maximum length: 255	-
defaultgw	Ability to get the gateway IP from the DHCP server.	option	-	enable
	Option / **Description** enable: Enable getting the gateway IP from the DHCP server. disable: Disable getting the gateway IP from the DHCP server.			
dns-server-override	Use DNS acquired by DHCP.	option	-	enable
	Option / **Description** enable: Enable DNS server override. disable: Disable DNS server override.			
redundant-by	Use of the benchmark for redundant algorithm.	option	-	priority
	Option / **Description** priority: Redundant by priority. cost: Redundant by cost.			
algorithm	LLB algorithm.	option	-	redundant
	Option / **Description** redundant: Redundant as algorithm. WRR: WRR as algorithm.			
FEC	Forward equivalence class.	option	-	source_ip
	Option / **Description** source_ip: Forward equivalence class by source IP. dest_ip: Forward equivalence class by destination IP. source_dest_ip_pair: Forward equivalence class by source and destination IP pair. connection: Forward equivalence class by connection.			
session-timeout	FEC session timeout in seconds.	integer	0 - 86400	60

Parameter	Description	Type	Size	Default
grace-period	Grace period measured in seconds before failback.	integer	0 - 10000000	0
members	Link members of virtual WAN.	option	-	none
rid	CAPWAP virtual interface ID.	integer	1, 2	1
vid	VLAN ID.	integer	1 - 4089	0
ingress-intf	CAPWAP or VLAN interface's parent interface.	option	-	none

Option	Description
lan	LAN as the ingress interface.
lo	Loopback as the ingress interface.
lte1	LTE 1 as the ingress interface.
wan	WAN as the ingress interface.
port4	Port 4 as the ingress interface.

Parameter	Description	Type	Size	Default
Sfp-dsl	sfp-dsl status	option	-	disable

Option	Description
enable	Enable sfp-dsl.
disable	Disable sfp-dsl.

Parameter	Description	Type	Size	Default
Autodect	Enable/disable sfp-dsl auto-detect.	option	-	enable
Phy-mode	DSL physical mode.	option	-	vdsl

Option	Description
Vdsl	
Adsl	

- config VRRP on page 71
- config ipv6 on page 73

config VRRP

Description: Configure the VRRP settings.

```
config system interface
  edit <name>
    config vrrp
      set status [enable | disable]
```

```
      set version [2]
      set *ip {ipv4-address}
      set *id [1 - 255]
      set priority [1 - 255]
      set adv-interval [1 - 255]
      set start-time [1 - 255[
      set preempt [enable | disable]
unset
show
end
next
show
abort
end
delete <name>
purge
show
end
```

Sample command:

```
FX201E5919000057 (interface) # show
config system interface
    edit wan
        set type physical
        set status up
        set mode dhcp
        set mtu-override enable
        set mtu 1500
        set distance 5
        set vrrp-virtual-mac disable
        config vrrp
            set status enable
            set version 2
            set ip 192.168.100.25
            set id 5
            set priority 1
            set adv-interval 23
            set start-time 33
            set preempt enable
        end
        set allowaccess http https ping snmp ssh telnet
        set defaultgw enable
        set dns-server-override enable
    next
end
```

Parameter	Description	Type	Size	Default
status	Status of the VRRP configuration.	option	-	disable

Parameter	Description	Type	Size	Default
	Option / **Description** enable — Enable the VRRP configuration. disable — Disable VRRP configuration.			
version	VRRP version.	integer	2	2
ip	IP address of the virtual router.	IPv4 address	-	none
id	ID of the virtual router.	integer	1 - 255	0
priority	Priority of the virtual router.	integer	1 - 255	100
adv-interval	Advertisement interval.	integer	1 - 255	1
start-time	Start-up time.	integer	1 - 255	1
preempt	Preempt mode.	option	-	disable
	Option / **Description** enable — Enable preempt mode. disable — Disable preempt mode.			

config ipv6

Description: Configure the IPv6 interface settings.

```
config system interface
  edit <name>
    config ipv6
      set status [enable | disable]
      set ip6-mode [static | dhcp | pppoe | delegated]
      set autoconf [enable | disable]
      set ip6-send-adv [enable | disable]
      set ip6-manage-flag [enable | disable]
      set ip6-other-flag [enable | disable]
      set ip6-max-interval <4-1800>
      set ip6-min-interval <3-1350>
      set ip6-adv-rio [enable | disable]
      set ip6-address {ipv6-address}
      set ip6-gw {ipv6-address}
      set ip6-allowaccess [http | https | ping | snmp | ssh]
      set distance {number}
      config ip6-prefix-list
        edit <name>
          set ip6-prefix {ipv6-address}
```

```
        next
      end
      config ip6-rdnss-list
        edit <name>
          set ip6-rdnss {ipv6-address}
        next
      end
    end
  next
end
```

Sample command:

```
config system interface
  edit lan
    config ipv6
      set status enable
      set ip6-mode static
      set autoconf disable
      set ip6-send-adv enable
      set ip6-manage-flag disable
      set ip6-other-flag disable
      set ip6-max-interval 600
      set ip6-min-interval 198
      set ip6-adv-rio disable
      set ip6-address 2001:3:6:7::/64
      set ip6-gw ::
      set ip6-allowaccess http https ping snmp ssh
      set distance 10
      config ip6-prefix-list
        edit 1
          set ip6-prefix 2001:2:3::/64
        next
      end
      config ip6-rdnss-list
        edit 1
          set ip6-rdnss 3:5a:78::
        next
      end
    end
  next
end
```

Parameter	Description	Type	Size	Default
status	Status of the interface.	option	-	

Option	Description
enable	Enable the

Parameter	Description	Type	Size	Default
	Option **Description** disable Disable			
ip6-mode	Addressing mode (static, DHCP, delegated).	option	-	
	Option **Description** static Static setting. dhcp DHCPv6 client mode. pppoe IPv6 over PPPoE mode. delegated IPv6 address with delegated prefix.			
autoconf	Enable/disable address auto config.	option	-	disable
	Option **Description** enable Enable auto-configuration. disable Disable auto-configuration.			
ip6-send-adv	Enable/disable sending router advertisement (RA) messages about the interface.	option	-	disable
	Option **Description** enable Enable sending RA messages about this interface. disable Disable sending RA messages about this interface.			
ip6-manage-flag	Specify whether to set an M-flag	option		disable
	Option **Description** enable Enable the M-flag. disable Disable the M-flag.			
ip6-other-flag	Specify whether to set an O-flag.	option	-	disable
	Option **Description** enable Enable the O-flag. disable Disable the O-flag.			

Parameter	Description	Type	Size	Default
ip6-max-interval	Specify maximum RA sending interval.	integer	4-1800	600
ip6-min-interval	Specify minimum RA sending interval.	integer	3-1350	600
ip6-address	Primary IPv6 address prefix.	IPv6-prefix	-	::/0
ip6-adv-rio	Specify whether to enable router information option	option	-	disable

Option	Description
enable	Enable router information option.
disable	Disable router information option.

Parameter	Description	Type	Size	Default
ip6-route-pref	Specify router preference level. This option is hidden when `ip6-adv-rio disabled`.	option	-	medium

Option	Description
low	Set the router preference level to low.
medium	Set the router preference level to medium.
high	Set the router preference level to high.

Parameter	Description	Type	Size	Default
ip6-gw	IPv6 Gateway. Syntax: xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx.	string	ipv6-address	::
ip6-allowaccess	Allow management access to the interface.	option	-	

Option	Description
http	HTTP access.
https	HTTPS access.
ping	PING access.
snmp	SNMP access.
ssh	SSH access.

Parameter	Description	Type	Size	Default
distance	Route metric of the interface gateway.	number	1-255	10
ip6-prefix-list	Specify the RA prefix info. You can create multiple prefixs.	table	-	null
ip6-rdnss-list	Specify the RA DNS service info. You can create multiple DNS entries.	table	-	null

config system vxlan

Description: Configure VXLAN devices

```
config system vxlan
      edit <name>
        set *vni [1 - 16777215]
        set *remote-ip {ipv4-address}
        set *local-ip {ipv4-address}
        set dstport [1 - 65535]
unset
next
show
abort
end
delete <name>
purge
show
end
```

Sample command:

```
FX201E5919000057 (vxlan) # show
config system vxlan
    edit 1
        set vni 500
        set remote-ip 192.168.201.1
        set local-ip 192.168.200.1
        set dstport 4789
    next
end
```

Parameter	Descripton	Type	Size	Default
vni	VXLAN network ID.	integer	1 - 1677721	0
remote-ip	IPv4 address of the VXLAN interface on the device at the remote end of the VXLAN.	IPv4 address	-	none
local-ip	IPv4 address of the VXLAN interface on the device at the local end of the VXLAN.	IPv4 address	-	none
dstport	VXLAN destination port.	integer	1 - 65535	4789

config system aggregate-interface

Description: Configure the aggregate interface. Each table entry indicates an aggregate interface to be created and one or more interfaces can be aggregated under this aggregate interface.

```
config system aggregate-interface
  edit <name>
    set mode [activebackup | loadbalance]
    config members
    next
    set mapping-timeout [0 – 86400] *available when mode is set to load balance
unset
```

Sample command:

```
config system aggregate-interface
    edit agg1
        set mode loadbalance
        set mapping-timeout 60
        config members
      end
    next
```

- config members on page 78

config members

Description: Configure interfaces to be aggregated.

```
config system aggregate-interface
  edit <name>
    config members
      edit <name>
        set *interface <name1>
        set weight [1 – 256]
        set health-check-event
        set health-check-fail-cnt [1 – 10]
        set health-check-recovery-cnt [1 – 10]
unset
next
show
abort
end
delete <name>
purge
show
end
next
```

```
show
abort
end
delete <name>
purge
show
end
```

Sample command:

```
FX201E5919000057 (aggregate-interface) # show
config system aggregate-interface
    edit agg1
        set mode loadbalance
        set mapping-timeout 244
        config members
            edit 23
                set interface port4
                set weight 1
                set health-check-event
                set health-check-fail-cnt 5
                set health-check-recovery-cnt 5
            next
        end
    next
end
```

Parameter	Description	Type	Size	Default
mode	Aggregate interface mode.	option	-	activebackup
	Option / **Description** activebackup — Active backup. loadbalance — Load balance.			
mapping-timeout	source-mac-to-member mapping timeout in seconds.	integer	0 - 86400	60
interface	Member interface.	option	-	none
weight	Member weight in load balancing.	integer	1 - 256	1
health-check-event	Member monitor.	option	-	none
health-check-fail-cnt	Number of failures before the member is considered dead.	integer	1 - 10	5

Parameter	Description	Type	Size	Default
health-check-recovery-cnt	Number of successes before the member is considered alive.	integer	1 - 10	5

config pppoe-interface

Description: Configure the aggregate interface.

```
config pppoe-interface
  edit <name>
    set status [up | down]
    set device <name1>
    set username {string}
    set password {string}
    unset
```

Sample command:

```
config system pppoe-interface
  edit pppoe1
    set status up
    set device port1
    set username test
    set password ******
  next
end
```

Parameter	Description	Type	Size	Default
status	Bring the PPPoE up or down	option	-	up
	Option / **Description** up — Set interface status up. down — Set interface status down.			
device	Name of the physical interface	option	-	none
username	The ISP provided username of the PPPoE account.	string	-	none
password	The PPPoE account's password.	string	-	none

config dhcpserver

Description: Configure DHCP servers.

```
config dhcpserver
      edit <name>
            set status [enable | disable]
            set lease-time [300 – 8640000]
            set dns-service [default | specify | wan-dns]
            set dns-server1 {ipv4-address} *available when dns-service is set to specify
            set dns-server2 {ipv4-address} *available when dns-service is set to specify
            set dns-server3 {ipv4-address} *available when dns-service is set to specify
            set ntp-service [specify]
            set ntp-server1 {ipv4-address}
            set ntp-server2 {ipv4-address}
            set ntp-server3 {ipv4-address}
            set *default-gateway {ipv4-address}
            set *netmask {netmask}
            set *interface <name1>
            set *start-ip {ipv4-address}
            set *end-ip {ipv4-address}
            set mtu [512 – 9000]
            set reserved-address [enable | disable]
            unset
```

config reserved-addresses

Description: Configure options for the DHCP server to assign IP settings to specific MAC addresses.

```
Config reserved-addresses
            edit <name>
                  set *ip {ipv4-address}
                  set *mac {mac-address}
                  set *action [block | reserved]
                  unset
                  next
                  show
                  abort
                  end
            delete <name>
            purge
            show
            end
   next
   show
   end
delete <name>
purge
show
end
```

Sample command:

```
FX201E5919000057 (dhcpserver) # show
config system dhcpserver
    edit 1
        set status enable
        set lease-time 86400
        set dns-service default
        set ntp-service specify
        set ntp-server1
        set ntp-server2
        set ntp-server3
        set default-gateway 192.168.200.99
        set netmask 255.255.255.0
        set interface port4
        set start-ip 192.168.200.110
        set end-ip 192.168.200.210
        set mtu 1500
        set reserved-address disable
    next
end
```

Parameter	Description	Type	Size	Default
status	Status of the DHCP configuration.	option	-	enable
	Option / **Decripton** enable: Enable the DHCP server. disable: Disable the DHCP server.			
lease-time	Lease time in seconds. 0 means unlimited.	integer	300 - 8640000	86400
dns-service	Options for assigning DNS servers to DHCP clients.	Option	-	default
	Option / **Description** default: Use the default DNS server. specify: Specify the DNS server to be used. wan-dns: Use the WAN port DNS server.			
dns-server1	DNS server 1.	IPv4 address	-	none
dns-server2	DNS server 2.	IPv4 address	-	none
dns-server3	DNS server 3.	IPv4 address	-	none

Parameter	Description	Type	Size	Default
ntp-service	Options for assigning Network Time Protocol (NTP) servers to DHCP clients.	option	-	specify
ntp-server1	NTP server 1.	string	-	none
ntp-server2	NTP server 2.	string	-	none
ntp-server3	NTP server 3.	string	-	none
default-gateway	Default gateway IP address assigned by the DHCP server.	IPv4 address	-	none
netmask	Network mask assigned by the DHCP server.	string	-	none
interface	DHCP server can assign IP configurations to clients connected to this interface.	option	-	none

Option	Description
lan	LAN as the DHCP server interface.
lo	Loopback as the DHCP server interface.
wan	WAN as the DHCP server interface.
port4	Port 4 as the DHCP server interface.

start-ip	The first IP address in the IP range.	IPv4 address	-	none
end-ip	The last IP address in the IP range.	IPv4 address	-	none
mtu	Client's MTU.	integer	512 - 9000	1500
reserved-address	Status of reserved address and MAC mapping.	Option	-	disable

Option	Description
enable	Enable reserved-address.
disable	Disable reserved-address.

ip	IP address to be reserved for the MAC address.	IPv4 address	-	none
mac	MAC address of the client that will get the reserved IP address.	string	-	none
action	Options for the DHCP server to configure the client with the reserved MAC address.	option	-	reserved

Parameter	Description	Type	Size	Default
	Option / **Description** block / Block the address. reserved / Reserve the address.			

config dhcprelay

Description: Configure DHCP relay.

```
config dhcprelay
      edit <name>
            set status [enable | disable]
            set *client-interfaces <name1>, <name2>, …
            set *server-interface <name1>
            set *server-ip {ipv4-address}
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

Sample command:

```
FX201E5919000057 (dhcprelay) # show
config system dhcprelay
    edit 1
        set status enable
        set client-interfaces lan
        set server-interface port4
        set server-ip 192.168.200.124
    next
end
```

Parameter	Description	Type	Size	Default
status	Status of the DHCP relay configuration.	option	-	enable

Parameter	Description	Type	Size	Default
	Option **Description** enable Enable DHCP relay. disable Disable DHCP relay			
client-interfaces	The interfaces connected to DHCP clients.	option	-	none
	Option **Description** lan LAN as client interfaces. lo Loopback as client interfaces. wan WAN as client interfaces. port4 Port 4 as client interfaces. lte LTE as client interfaces.			
server-interface	The interface used to reach out to the DHCP server.	option	-	none
	Option **Description** lan LAN as client interfaces. lo Loopback as client interfaces. wan WAN as client interfaces. port4 Port 4 as client interfaces. lte LTE as client interfaces.			
server-ip	IP address of the DHCP server.	IPv4 address	-	none

config dns

Description: Configure DNS settings used to resolve domain names to IP addresses.

```
config system dns
  set primary {ipv4-address}
  set secondary {ipv4-address}
  set ip6-primary {ipv6-address}
  set ip6-secondary {ipv6-address}
  set timeout [1 – 10]
  set retry [0 – 5]
  set dns-cache-limit [0 – 4294967295]
```

```
  set dns-cache-ttl [60 – 86400]
  set cache-notfound-response [enable | disable]
  set source-ip {ipv4-address}
  set server-select-method [least-rtt | failover]
  unset
  show
end
```

Sample command:

```
config system dns
  set primary 208.91.112.53
  set secondary 208.91.112.52
  set ip6-primary 2001:4860:4860::8888
  set ip6-secondary 2001:4860:4860::8844
  set timeout 5
  set retry 3
  set dns-cache-limit 5000
  set dns-cache-ttl 1800
  set cache-Tonotfound-responses disable
  set source-ip 0.0.0.0
  set server-select-method least-rtt
end
```

Parameter	Description	Type	Size	Default
primary	Primary static DNS server IPv4 address. The default is the FortiGuard primary DNS server IP.	IPv4 address	-	208.91.112.53
secondary	Secondary static DNS server IPv4 address. The default is the FortiGuard secondary DNS server.	IPv4 address	-	208.91.112.52
ip6-primary	Primary static DNS server IPv6 address. The default value is empty and will not add to the DNS server pool.	IPv6 address	-	::
ip6-secondary	Secondary static DNS server IPv6 address. The default value is empty and will not add to the DNS server pool.	IPv6 address	-	::
timeout	DNS query timeout interval in seconds.	integer	1 - 10	5
retry	Specify the number of retry attempts allowed for unsuccessful connections.	integer	0 - 5	3

Parameter	Description	Type	Size	Default
dns-cache-limit	Specify the maximum amount of records in the DNS cache that can be stored.	integer	0 - 4294967295	5000
dns-cache-ttl	Duration in seconds that DNS cache retains information.	integer	60 - 86400	1800
cache-notfound-responses	Specify whether or not to save the not-found response into cache. If enabled, no need to forward the not-found response to the DNS server in the future.	option	-	disable

Option	Description
enable	Enable cache-notfound-responses.
disable	Disable cache-notfound-responses.

Parameter	Description	Type	Size	Default
source-ip	IP address used by the DNS server as its source IP.	IPv4 address	-	0.0.0.0
server-select-method	Specify how configured servers are prioritized.	option	-	least-rtt

Option	Descrption
least-rtt	In the dns-server selection pool, the round-trip time of each dns-server ip is calculated and sorted from the shortest to the longest, picking from the shortest one.
failover	This algorithm is a relatively fixed order. The first pick doesn't change until it fails the first time. The order is primary DNS > secondary DNS > dynamic DNS (learned from DHCP).

config dns-server

Description: Configure DNS servers.

```
config dns-server
  edit <name>
    set interface <name1>
    set mode [recursive | non-recursive | forward-only]
    set dns-filter <name>
  next
end
```

Parameter	Description	Type	Size	Default
Name	Name of the DNS server.	string	1 - 35 characters	none
interface	A system interface enabled for DNS service.	option	-	none
mode	DNS server mode.	option	-	none

Option	Description
recursive	Shadow the DNS database and forward.
non-recursive	Public DNS database only.
forward-only	Forward only.

dns-filter	Enter a previously created DNS filter profile.	string	-	none

config dns-database

Description: Configure DNS databases.

```
config dns-database
      edit <name>
            set status [enable | disable]
            set *domain {string}
            set type [primary]
            set view [shadow | public]
            set primary-name {string}
            set contact {string}
            set ttl [1 – 2147483647]
            set authoritative [enable | disable]
            set forwarder {ipv4-address}, {ipv4-address}, …
            set source-ip {ipv4-address}
            config dns-entry {{{ see next for more info }}}
            unset
```

Parameter	Description	Type	Size	Default
name	Name of the DNS database.	string	-	none
status	Status of the DNS zone.	option	-	enable

Option	Description
enable	Enable the DNS zone.
disable	Disable the DNS zone.

domain	Domain zone name.	string	-	none

Parameter	Description	Type	Size	Default
type	Zone type.	option	-	primary
view	Zone view to serve internal or public DNS clients.	option	-	shadow
	Option / **Description** shadow: Shadow the DNS zone to serve internal clients. public: Public DNS zone to serve public clients.			
primary-name	Domain name of the default DNS server for the zone.	string	-	none
contact	Email address of the administrator of the zone. It could be a simple username or full email address.	string	-	host
ttl	Default time-to-live value (in seconds) for the entries of the DNS zone.	integer	1 - 2147483647	86400
authoritative	Status of the authoritative zone.	option	-	disable
	Option / **Description** enable: Enable authoritative zone. disable: Disable authoritative zone.			
forwarder	The list of DNS zone forwarder IP addresses, separate by white space.	IPv4 address	-	none
source-ip	Source IP for forwarding to the DNS server.	IPv4 address	-	none

config dns-entry

Description: Configure DNS entries.

```
config dns-entry
        edit <name>
            set status [enable | disable]
            set type [A | NS | CNAME | MX | PTR]
            set *hostname {string}
            set *ip {ipv4-address} *available when type is set to A or PTR
            set *canonical-name {string} *available when type is set to CNAME
            set preference [0 – 65535] *available when type is set to MX
            unset
            next
```

```
            show
            abort
            end
        delete <name>
        purge
        show
        end
        next
```

Sample command:

```
FX201E5919000057 (dns-database) # show
config system dns-database
    edit 1
        set status enable
        set domain example.com
        set type primary
        set view public
        set primary-name dns
        set contact host
        set ttl 86400
        set authoritative enable
        set forwarder 1.2.4.8 8.8.4.4
        set source-ip
        config dns-entry
            edit 1
                set status enable
                set type A
                set ttl 0
                set hostname host1
                set ip 172.30.145.225
            next
        end
    next
end
```

Parameter	Description	Type	Size	Default
name	The DNS entry ID number.	integer	1 - 4294967295	none
status	The resource record status.	option	-	enable
	Option / **Description** enable — Enable resource record. disable — Disable resource record.			
type	Resource record type.	option	-	A

Parameter	Description	Type	Size	Default
	Option / Description			
	A — Address record.			
	NS — Name server record.			
	CNAME — Canonical name record.			
	MX — Mail exchange record.			
	PTR — PTR resource record.			
ttl	The time-to-live value (in seconds) for the entry.	integer	0 - 2147483647	0
hostname	Name of the host.	string	-	none
ip	IP address of the host.	IPv4 address	-	none

config vwan-member

Description: Configure virtual VWAN interface members.

```
config vwan-member
      edit <name>
            set target <name1>
            set priority [1 – 7]
            set weight [1 – 256]
            set in-bandwidth-threshold [0 – 2147483647]
            set out-bandwidth-threshold [0 – 2147483647]
            set total-bandwidth-threshold [0 – 2147483647]
            set health-check <name1>
            set health-check-fail-threshold [1 – 10]
            set health-check-success-threshold [1 – 10]
            set link-cost-factor [latency | jitter | packet-loss]
            set latency-threshold [0 – 10000000, default = 5]
            set jitter-threshold [0 - 10000000, default = 5]
            set packetloss--threshold [0 - 100, default = 100]
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

Sample command:

```
config system vwan-member
   edit mb1
```

```
        set target target.wan
        set priority 1
        set weight 1
        set in-bandwidth-threshold 0
        set out-bandwidth-threshold 0
        set total-bandwidth-threshold 0
        set health-check vw_mb1_hc
        set health-check-fail-threshold 5
        set health-check-success-threshold 5
        set link-cost-factor packet-loss latency jitter
        set latency-threshold 5
        set jitter-threshold 5
        set packetloss-threshold 100
    next
    edit mb2
        set target target.lte1
        set priority 10
        set weight 1
        set in-bandwidth-threshold 0
        set out-bandwidth-threshold 0
        set total-bandwidth-threshold 0
        set health-check vw_mb2_hc
        set health-check-fail-threshold 5
        set link-cost-factor packet-loss latency jitter
        set latency-threshold 5
        set jitter-threshold 5
        set packetloss-threshold 100
```

Parameter	Decsription	Type	Size	Default
target	Forwarding target.	string	-	none
priority	Priority of the member. The lower the value, the higher the priority.	integer	1 - 7	1
weight	Weight of the member.	integer	1 - 256	1
in-bandwidth-threshold	Bandwidth threshold in MB for input traffic. 0 indicates infinity.	integer	0 - 2147483647	0
out-bandwidth-threshold	Bandwidth threshold in MB for output traffic. 0 indicates	integer	0 - 2147483647	0

Parameter	Decsription	Type	Size	Default
	infinity.			
health-check	Link health check of the virtual-wan member.	string	-	none
health-check-fail-threshold	The number of consecutive failed probes before the member is considered dead.	integer	1 – 10	5
health-check-success-threshold	The number of consecutive successful probes before the member is considered alive.	integer	1 – 10	5
link-cost-factor	Criteria by which link selection is made.	option	-	none
	Option / **Descri[ption**			
	latency / link-cost-factor based on latency.			
	jitter / link-cost-factor based on jitter.			
	packetloss / link-cost-factor based on packet-loss.			
latency-threshold	Latency in milliseconds for SLA to make decisions.	integer	0 - 10000000	5
jitter-threshold	Jitter in milliseconds for SLA to make decisions.	integer	0 - 10000000	5

Parameter	Decsription	Type	Size	Default
packetloss-threshold	Packet loss in percentage for SLA to make decisions.	integer	0 - 100	100

config sms-notification

Description: Configure Extender SMS notification settings.

```
config sms-notification
      set notification [enable | disable]
      unset
```

- config receiver on page 94
- config alert on page 95

config receiver

Description: Configure SMS receiver.

```
config receiver
      edit <name>
            set receiver [enable | disable]
            set *phone-number +{country code}{phone number}
            set alert <name1>, <name2>, …
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      move <name1> [before | after] <name2>
      show
      end
```

Parameter	Description	Type	Size	Default
phone-number	The phone number consists of an optional “+” and up to 20 digits. No alphabetical letters is allowed.	string	Up to 20 digits	none
alert	Predefined alert to send to the receivers. (System reboot and OS image fallback alerts will be sent to the first user only!)	option	-	none

Parameter	Description	Type	Size	Default

Option	Description
system-reboot	System reboot alert. Only the first user can receive this alert.
data-exhausted	Data plan exhausted alert.
session-disconnect	LTE data session disconnect alert.
low-signal-strength	Low LTE signal strength alert.
os-image-fallback	OS image fallback alert. Only the first user can receive this alert.
mode-switch	System networking mode switch alert.
fgt-backup-mode-switch	The number of consecutive successful probes before the member is considered alive.

config alert

Description: Configure alert type message setting.

```
config alert
      set system-reboot {string}
      set data-exhausted {string}
      set session-disconnect {string}
      set low-signal-strength {string}
      set os-image-fallback {string}
      set mode-switch {string}
      set fgt-backup-mode-switch {string}
      unset
      show
      end
show
end
```

Parameter	Description	Type	Size	Default
system-reboot	System reboot alert. Only the first user can receive this alert message.	string	Up to 127 characters in length.	system will reboot
data-exhausted	Data plan exhausted alert message.	string	Up to 127 characters in length.	data plan is exhausted
session-disconnect	LTE data session disconnect alert message.	string	Up to 127 characters in length.	LTE data session is disconnected

Parameter	Description	Type	Size	Default
low-signal-strength	Low LTE signal strength alert message.	string	Up to 127 characters in length.	LTE signal strength is too low
os-image-fallback	OS image fallback alert. Only the first user can receive this alert message.	string	Up to 127 characters in length.	system start to fallback OS image
mode-switch	System networking mode switch alert message.	string	Up to 127 characters in length.	system networking mode switched
fgt-backup-mode-switch	FortiGate backup work mode switching alert message.	string	Up to 127 characters in length.	FortiGate backup work mode switched

Sample command:

```
FX201E5919000057 (sms-notification) # show
config system sms-notification
    set notification disable
    config receiver
        edit rec1
            set receiver enable
            set phone-number +15082558657
            set alert data-exhausted fgt-backup-mode-switch low-signal-strength mode-switch os-
image-fallback session-disconnect
        next
    end
    config alert
        set system-reboot system will reboot
        set data-exhausted data plan is exhausted
        set session-disconnect LTE data session is disconnected
        set low-signal-strength LTE signal strength is too low
        set os-image-fallback system start to fallback OS image
        set mode-switch system networking mode switched
        set fgt-backup-mode-switch FortiGate backup work mode switched
    end
end
```

config sms-remote-diag

Description: Configure Extender SMS remote diagnosis settings.

```
config sms-remote-diag
      set remote-diag [enable | disable]
      unset
```

Parameter	Description	Type	Size	Default
remote-diag	Status of the SMS remote diagnose function.	option	-	disable

Option	Description
enable	Enable SMS remote diagnose.
disable	Disable SMS remote diagnose.

- config allowed-user on page 97

config allowed-user

Description: Configure SMS remote diagnosis-allowed SMS sender.

```
config allowed-user
      edit <name>
            set sender [enable | disable]
            set *phone-number +{country code}{phone number}
            set allowed-command-type <name1>, <name2>, …
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
show
end
```

Sample command:

```
FX201E5919000057 (sms-remote-diag) # show
config system sms-remote-diag
    set remote-diag disable
    config allowed-user
        edit user1
            set sender enable
            set phone-number +15082558567
            set allowed-command-type factory-reset get-extender-status get-modem-status get-
system-status
        next
    end
end
```

Parameter	Description	Type	Size	Default
sender	Status of the sender.	option	-	disable
	Option / **Decription** enable / Enable the sender. disable / Disable the sender.			
phone-number	The sender's phone number. Format: + (country code)(phone number)	phone number	-	none
allowed-command-type	Permitted command types from the sender.	options	-	none
	Option / **Description** reboot / Root the device. factory-reset / Reset the device to its factory settings. set-apn / Set the APN. modem-reset / Reset the modem. get-modem-status / Get the modem status. get-extender-status / Get the FortiExtender status. get-system-version / Get the system version. get-system-status / Get the system status.			

config syslog

Description: Configure syslog server settings.

```
config system syslog
      config remote-servers {string}
      edit <name>
         set ip* {ipv4-address}
         set port [1 – 65535]
      unset
      delete <name>
      purge
      show
      end
      config statistic-report
         set status [disable | enable]
```

```
        set interval [1 - 3600]
        config cpu-usage
           set threshold [0 - 100]
           thrset variance [0 - 100]
        end
        config memory-usage
           set threshold [0 - 100]
           set variance [0 - 100]
        end
        config cpu-temperature
           set threshold [0 - 120]
           set variance [0 - 120]
        end
     end
show
end
```

config remote-servers

Description: Configure syslog remote servers settings.

```
config remote-servers
      edit <name>
            set ip* {ipv4-address}
            set port [1 - 65535]
            unset
            end
            next
            show
            abort
      delete
      purge
      end
      show
```

Parameter	Description	Type	Size	Default
ip	The IP address of the remote server.	IPv4 address	-	none
port	The remote syslog server port.	integer	1 - 65535	514

config statistic-report

Description: Configure syslog statistic report settings.

```
config statistic-report
      set status [enable | disable]
      set interval [1 - 3600]
      unset
```

Parameter	Description	Type	Size	Default
status	Status syslog statistic report.	option	-	disable
	Option / **Description** enable — Enable syslog statistic report. disable — Disable Enable syslog statistic report.			
interval	The time interval (in seconds) of system status reports.	integer	1 - 3600	30

config cpu-usage

```
Description: Configures CPU usage rate statistic report settings.
config cpu-usage
      set threshold [0 – 100]
      set variance [0 – 100]
unset
show
end
```

Parameter	Description	Type	Size	Default
threshold	The percentage of CPU usage threshold for system abnormal event report. 0 means disabled.	integer	0 - 100	70
variance	The variance of the CPU usage report when it exceeds the threshold. 0 means report all the time.	integer	0 - 100	5

config memory-usage

Description: Configures memory usage statistic report settings.

```
config memory-usage
      set threshold [0 – 100]
      set variance [0 – 100]
unset
show
end
```

Parameter	Size	Type	Size	Default
threshold	The percentage of memory usage threshold for system abnormal event report. 0 means disabled.	integer	0 -1 00	50

Parameter	Size	Type	Size	Default
variance	The variance of the memory usage report when it exceeds the threshold. 0 means report all the time.	integer	0 - 100	5

config cpu-temperature

Description: Configures CPU temperature statistic report settings.

```
config cpu-temperature
      set threshold [0 – 120]
      set variance [0 – 120]
unset
show
end
```

Parameter	Description	Type	Size	Default
threshold	The CPU temperature threshold for system abnormal event report. 0 means disabled.	integer	0 - 120	80
variance	The variance of the CPU temperature report when it exceeds the threshold. 0 means report all the time.	integer	0 - 120	5

Sample command:

```
FX201E5919000057 (syslog) # show
config system syslog
    config remote-servers
        edit serv1
            set ip 192.148.200.193
            set port 514
        next
    end
    config statistic-report
        set status enable
        set interval 30
        config cpu-usage
            set threshold 70
            set variance 5
        end
        config memory-usage
            set threshold 50
            set variance 5
        end
```

```
        config cpu-temperature
            set threshold 80
            set variance 5
        end
    end
end
```

config virtual-wire-pair

Description: Configure LAN-to-LTE interface mapping.

```
config virtual-wire-pair
      set lte-mapping <name1>
      unset
      show
      end
```

Sample command:

```
FX201E5919000057 (virtual-wire-pair) # show
config system virtual-wire-pair
    set lte1-mapping lan
end
```

Parameter	Description	Type	Size	Default
lte1-mapping	LTE1 interface's LAN interface mapping.	option. (One of the physical or virtual system LAN side interfaces. Use the tab key to get the full list.)	-	none

config api-user

Description: Configure API user settings.

```
config api-user
      edit <name>
            set comment {string}
            unset
            next
            show
            abort
```

```
        end
    delete <name>
    purge
    show
    end
```

Sample command:

```
FX201E5919000057 (api-user) # show
config system api-user
    edit 1
        set comment this is a test api user
    next
end
```

Parameter	Descripton	Type	Size	Default
name	The name of the API user.	string	-	none
comment	A brief comment of the API user.	string	-	none

config ntp

Description: Configure NTP synchronization in local management mode.

```
config ntp
      set type [fortiguard | custom]
      unset
      config ntpserver
            edit <name>
            set *server {ipv4-address} OR {string}
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
show
end
```

Parameter	Decription	Type	Size	Default
type	Type of NTP server.	option	-	fortiguard

Parameter	Decription	Type	Size	Default

Option	Description
fortiguard	The FortiGuard NTP server.
custom	A custom NTP server.

- config ntpserver on page 104

config ntpserver

Description: Configure available third-party NTP servers (up to 4 servers).

```
config ntpserver
      edit <name>
            set *server {ipv4-address} OR {string}
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
show
end
```

Parameter	Description	Type	Size	Default
server	IP address or hostname of the NTP server.	string	-	none

Sample command:

```
FX201E5919000057 (ntp) # show
config system ntp
    set type custom
    config ntpserver
        edit 1
            set server 10.139.20.54
        next
    end
end
```

config settings

Description: Configure system settings.

```
config settings
      set ike-port [1024 – 65535]
      unset
      show
      end
```

Sample command:

```
FX201E5919000057 (settings) # show
config system settings
    set ike-port 500
end
```

Parameter	Description	Type	Size	Default
ike-port	IKE phase 1 port number.	integer	1024 - 65535	500

config system lan-switch

Description: Configure LAN switch settings.

```
config system lan-switch
  set stp {enable | disable}
  config ports
    edit <name>
      set security-8021x-member-mode {enable | disable}
    next
  end
  set wired-security-mode [802.1X]
  set wired-security-group <security group ID>
end
```

Sample command:

```
config system lan-switch
  set stp enable
  config ports
    edit port1
      set security-8021x-member-mode enable
```

```
    next
    edit port4
      set security-8021x-member-mode enable
    next
    edit port2
      set security-8021x-member-mode enable
    next
  end
  set wired-security-mode 802.1X
  set wired-security-group test
end
```

Parameter	Description	Type	Size	Default
stp	Enable/disable spanning tree protocol.	option	-	
wired-security-mode	Turn on 802.1x authentication for this interface. Only available on FortiExtender IPQ4019 platforms.	option	-	
wired-security-group	Names of user groups that can authenticate with the 802.1X	option	-	

config ports

Description: Configure LAN switch ports.

Parameter	Description	Type	Size	Default
config ports	Interfaces within the virtual switch.	option (Any of the physical LAN port IDs)	-	none

Option	Description
port1	LAN port 1.
port2	LAN port 2.
port3	LAN port 3.
port4	LAN port 4.
security-8021x-member-mode	Enable/disable 802.1x authentication on a port. Only available on FortiExtender IPQ4019 platforms.

config system switch-interface

Description: When the FortiExtender is in standalone mode, you can configure your switch interface settings.

When the FortiExtender is being managed from the FortiGate, you can view LAN extension settings synced from the FortiGate. You cannot configure these settings directly on the FortiExtender; you must make them through the FortiGate LAN extension profile first.

```
config system switch-interface
  edit <name>
    set vlan-support [enable | disable]
    config member
      edit <name1>
        set type [ aggregate | physical | vap]
        set port
        set vids {1-4089}
        set pvid {1-4089}
        set security-8021x-member-mode [enable | disable]
      next
    end
    set stp [enable | disable]
    set td-mode [disable | include]
    set wired-security-mode [802.1X]
    set wired-security-group <security group ID>
  next
end
```

Sample syntax:

```
config system switch-interface
  edit lan
    set vlan-support disable
    config member
      edit port4
        set type physical
        set port port4
        set vids
        set pvid 1
        set security-8021x-member-mode enable
      next
    end
    set stp disable
    set ts-mode disable
    set wired-security-mode 802.1X
    set wired-security-group test
  next
end
```

Parametrer	Description	Type	Size	Default
vlan-support	Enable/disable VLAN support.	option	-	
stp	Spanning Tree Protocol.	option	-	disable
	Option / **Description** enable / Enable Spanning Tree Protocol. disable / Disable Spanning Tree Protocol.			
ts-mode	Read-only: Split tunnel mode.	option	-	disable
	Option / **Description** include / Enable Split tunnel mode disable / Disable Split tunnel mode.			
wired-security-mode	Turn on 802.1x authentication for this interface. Only available on FortiExtender Branch platforms.	option	-	
wired-security-group	Names of user groups that can authenticate with the 802.1X.	option	-	
dst-mac	Read-only: MAC address of the remote gateway pushed from FortiOS.	string	-	none
dst-addr	Read-only: Destination IP addresses	string	-	none
services	Read-only: Internet services.	options	-	none

config members

Parameter	Description	Type	Size	Default
config member	Interfaces within the virtual switch.	option	-	none
name	The LAN port ID.	string	-	none
type	Interface type.	option	-	
port	Interface within the virtual switch.	option	-	
vap	Virtual Access Point, which must NOT be configured as a WLAN bridge, will be added as a member of the switch-interface.	option	-	
vids	VLAN ID list.	integer	1 to 4089	
pvid	Port VLAN ID.	integer	1 to 4089	

Parameter	Description	Type	Size	Default
security-8021x-member-mode	Enable/disable 802.1x authentication on a port. Only available on FortiExtender Branch platforms.	option	-	

config system ipsec

Description: Configure IPsec VPN settings.

config ssh-crypto

Description: Configure system SSH crpyto.

```
config system ssh-crpyto
  set strong-crypto [enable | disable]
end
```

Sample command:

```
config system ssh-crypto
  set strong-crypto enable
  set ssh-enc-algo aes256-ctr aes256-gcm@openssh.com
  set ssh-hsk-algo ecdsa-sha2-nistp256 ecdsa-sha2-nistp384 ecdsa-sha2-nistp521 rsa-sha2-256 rsa-
sha2-512 ssh-ed25519
  set ssh-kex-algo curve25519-sha256@libssh.org diffie-hellman-group-exchange-sha256 diffie-
hellman-group14-sha256 diffie-hellman-group16-sha512 diffie-hellman-group18-sha512
  set ssh-mac-algo hmac-sha2-256 hmac-sha2-256-etm@openssh.com hmac-sha2-512 hmac-sha2-512-
etm@openssh.com
end
```

Parameter	Description	Type	Size	Default
strong-crypto	Enable/disable strong encryption for SSH	option	-	disable

Option	Description
enable	Enable strong encryption for SSH
disable	Disable strong encryption for SSH

Parameter	Description	Type	Size	Default
set ssh-enc-algo	Set supported ciphers for ssh-enc-algo.	option	-	aes256-ctr aes256-gcm@openssh.com

Option	Description
aes256-ctr	aes256-ctr
aes256-gcm@openssh.com	aes256-gcm@openssh.com

Parameter	Description	Type	Size	Default
set ssh-hsk-algo	Set supported ciphers for ssh-hsk-algo.	option	-	ecdsa-sha2-nistp521 ecdsa-sha2-nistp384 ecdsa-sha2-nistp256 rsa-sha2-256 rsa-sha2-512 ssh-ed25519

Option	Description
ecdsa-sha2-nistp256	ecdsa-sha2-nistp256
ecdsa-sha2-nistp384	ecdsa-sha2-nistp384
ecdsa-sha2-nistp521	ecdsa-sha2-nistp521
rsa-sha2-256	rsa-sha2-256
rsa-sha2-512	rsa-sha2-512
ssh-ed25519	ssh-ed25519

Parameter	Description	Type	Size	Default
set ssh-kex-algo	Set supported ciphers for ssh-kex-algo.	option	-	diffie-hellman-group14-sha256 diffie-hellman-group16-sha512 diffie-hellman-group18-sha512 diffie-hellman-group-exchange-sha256 curve25519-sha256@libssh.org ecdh-sha2-nistp256 ecdh-sha2-nistp384 ecdh-sha2-nistp521

Option	Description
curve25519-sha256@libssh.org	curve25519-sha256@libssh.org

Parameter	Description	Type	Size	Default
	Option / **Description** *diffie-hellman-group-exchange-sha256* / diffie-hellman-group-exchange-sha256 *diffie-hellman-group14-sha256* / diffie-hellman-group14-sha256 *diffie-hellman-group16-sha512* / diffie-hellman-group16-sha512 *diffie-hellman-group18-sha512* / diffie-hellman-group18-sha512			
set ssh-mac-algo	Set supported ciphers for ssh-mac-algo.	option	-	hmac-sha2-256 hmac-sha2-256-etm@openssh.com hmac-sha2-512 hmac-sha2-512-etm@openssh.com
	Option / **Description** *hmac-sha2-256* / hmac-sha2-256 *hmac-sha2-256-etm@openssh.com* / hmac-sha2-256-etm@openssh.com *hmac-sha2-512* / hmac-sha2-512 *hmac-sha2-512-etm@openssh.com* / hmac-sha2-512-etm@openssh.com			

config system automation trigger

Description: Configure a trigger for automation stitches.

```
config system automation trigger
  edit <Automation Trigger Name>
    set description <string>
    set trigger-type <event-based>
    set event-type <digital-io-alert>
    set digital-io-alert-id <digital I/O alert ID>
  next
end
```

Sample command:

```
config system automation trigger
  edit digital-io-low
    set description digital io in low
    set trigger-type event-based
    set event-type digital-io-alert
    set digital-io-alert-id alert-in-low
  next
end
```

Parameter	Description	Type	Size	Default
description	Describe the automation trigger.	string	-	none
trigger-type	Set a trigger type.	option	-	event-based
	Option / **Description** event-based / Set to trigger at specific system events or conditions, for example a digital I/O alert.			
event-type	If `trigger-type` is set to `event-based`, you must configure an event type.	option	-	none
	Option / **Description** digital-io-alert / A digital I/O alert is detected.			
digital-io-alert-id	If `event-type` is set to `digital-io-alert`, you must configure a digital I/O alert ID.	option	-	none

config system automation action

Description: Configure an action for automation stitches.

```
config system automation action
  edit <Automation Action Name>
    set description <string>
    set action-type {digital-output | sim-switch | modem-reset}
    set digital-io-action-id <digital IO action ID>
    set minimum-interval {integer}
    set modem-id <modem ID>
  next
end
```

Sample command:

```
config system automation action
  edit digital-io-low
    set description digital out low
    set action-type digital-output
    set digital-io-action-id action-out-low
    set minimum-interval 0
  next
end
```

Parameter	Description	Type	Size	Default
description	Describe the automation action.	string	-	none
action-type	Set an action type.	option	-	none

Option	Description
digital-output	Output a digital signal via the digital out pin.
sim-switch	Change the currently active SIM card to an alternate one, enabling the device to connect through a different network or carrier as needed.
modem-reset	Perform a reboot or reset operation on the modem to reinitialize its settings and restore connectivity in case of issues.

digital-io-action-id	If `action-type` is set to `digital-output`, you must configure a digital I/O action ID	option	-	none
modem-id	If `action-type` is set to `sim-switch` or `modem-reset`, you must configure a modem ID.	option	-	none
minimum-interval	Limit performing this action to no more than once in this interval (in seconds).	integer	[0 - 2592000], max value 30 days	0

config system automation stitch

Description: Configure automation stitches.

```
config system automation stitch
  edit <Automation Stitch Name>
    set description <string>
```

```
    set status {enable | disable}
    set trigger <trigger ID>
    config actions
      edit <name>
        set action <string>
        set delay <integer>
        set required {enable | disable}
      next
    end
  next
end
```

Sample command:

```
config system automation stitch
  edit digital-io-st-low
    set description digital st low
    set status disable
    set trigger digital-io-low
    config actions
      edit 1
        set action digital-io-low
        set delay 0
        set required enable
      next
    end
  next
end
```

Parameter	Description	Type	Size	Default
description	Describe the automation stitch.	string	-	none
status	Enable or disable the automation stitch.	option	-	disable

Option	Description
enable	Enable the automation stitch.
disable	Disable the automation stitch.

Parameter	Description	Type	Size	Default
trigger	Enter the automation trigger ID.	option	-	none

config actions

Parameter	Description	Type	Size	Default
action	Enter the automation action name.	string	-	none

Parameter	Description	Type	Size	Default
delay	Set the delay before execution (in seconds).	integer	[0-3600]	0
required	Set if this is required or not in the action chain.	option	-	disable

Option	Description
enable	Required in the action chain.
disable	Not required in the action chain.

config system digital-io digital

Description: List the supported digitals on FEV models.

Sample command:

```
config system digital-io digital
  edit in
    set direction in
  next
  edit out
    set direction out
  next
end
```

config system digital-io alert

Description: Configure digital I/O alerts on FEV models.

```
config system digital-io alert
  edit <name>
    set poll-period <integer>
    set input-digital <digital name>
    set alert-trigger-state {no-alert | high | low | both}
    set report [enable | disable]
    set report-type [snmp syslog]
    set gpio-name <string>
    set low-state-name <string>
    set high-state-name <string>
```

```
  next
end
```

Sample command:

```
config system digital-io alert
  edit alert-in-high
    set poll-period 100
    set input-digital in
    set alert-trigger-state high
    set report enable
    set report-type snmp syslog
    set gpio-name in
    set low-state-name low
    set high-state-name high
  next
end
```

Parameter	Description	Type	Size	Default
poll-period	The interval between general purpose input output (GPIO) status checks, in milliseconds.	integer	[10-3600000]	100
input-digital	Enter the digital name.	option	-	none
alert-trigger-state	The changing state that will trigger the GPIO alert report and action.	option	-	no-alert

Option	Description
no-alert	No alert.
high	The state is changed from low to high.
low	The state is changed from high to low.
both	The state is changed.

Parameter	Description	Type	Size	Default
report	Enable or disable reporting.	option	-	enable

Option	Description
enable	Enable reports.
disable	Disable reports.

Parameter	Description	Type	Size	Default
report-type	Select a report type.	option	-	none

Option	Description
snmp	The event will be reported by the SNMP trap.

Parameter	Description	Type	Size	Default
	Option **Description** syslog The event will be recorded by the syslog.			
gpio-name	The input digital name that will be generated in the report log.	string	-	none
low-state-name	The low state name that will be generated in the report log.	string	-	none
high-state-name	The high state name that will be generated in the report log.	string	-	none

config system digital-io action

Description: Configure digital I/O actions on FEV models.

```
config system digital-io action
  edit <name>
    set output-digital <digital name>
    set output-digital-state {high | low}
  next
end
```

Sample command:

```
config system digital-io action
  edit action-out-high
    set output-digital out
    set output-digital-state high
  next
end
```

Parameter	Description	Type	Size	Default
output-digital	The digital that will run the alert action on.	option	-	none
output-digital-state	The digital state that will be set when the alert is detected.	option	-	none
	Option **Description** high Change the state to high. low Change the state to low.			

config system 802-1X-settings

Description: Configure global 802.1X settings.

Any change to the 802.1X setting may cause the supplicant to reauthenticate if wired security with 802.1x is enabled.

```
config system 802-1X-settings
  set reauth-period {integer}
  set retry-primary-interval {integer}
  set radius-client-failover-wait {integer}
end
```

Parametrer	Description	Type	Size	Default
reauth-period	Period of time to allow for reauthentication in seconds (0 = disable reauthentication).	integer	1 - 1440	60
retry-primary-interval	Retry interval for attempting to switch back to the primary RADIUS server, specified in seconds. The default value is 0, which disables switching back to the primary server.	integer	-	0
radius-client-failover-wait	RADIUS force failover timeout (seconds). Time to wait for a response before triggering failover (15, 30, and 45 seconds, default 45 seconds).	integer	-	45

config system ignition-sensing

Description: Configure ignition sensing on FEV 211/212F models.

```
config system ignition-sensing
  set status {enable | disable}
  set poweroff-delay <integer>
end
```

Sample command:

```
config system ignition-sensing
  set status enable
  set poweroff-delay 60
end
```

<table>
<tr><th>Parameter</th><th>Description</th><th>Type</th><th>Size</th><th>Default</th></tr>
<tr><td>status</td><td>The digital state that will be set when the alert is detected.</td><td>option</td><td>-</td><td>enable</td></tr>
<tr><td></td><td colspan="4">
<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td>enable</td><td>The device will automatically shut down under the following conditions:
The power supply voltage is 12V and the ignition sense pin on the power supply is not connected to 12V.
The power supply voltage is 24V and the ignition sense pin on the power supply is not connected to 24V.</td></tr>
<tr><td>disable</td><td>The device will not automatically shut down, and will automatically turn on if already shut down under the following conditions:
If connected to a 12V power supply:
When the power voltage is over 13.5V, or
If the ignition sense pin on the power supply is connected to a positive terminal.
If connected to a 24V power supply:
When the power voltage is over 26.5V, or
If the ignition sense pin on the power supply is connected to a positive terminal.</td></tr>
<tr><td colspan="2">  If you are using a cigarette lighter socket to power the device and encounter an unexpected shutdown, set the status to <code>disable</code>.</td></tr>
</table>
</td></tr>
<tr><td>poweroff-delay</td><td>Delay powering off the device after this interval (in seconds).</td><td>integer</td><td>0 - 86400</td><td>600</td></tr>
</table>

SNMP

This section shows the syntax of the following commands:

- config sysinfo on page 120
- config community on page 120
- config user on page 123
- config hosts on page 124

config sysinfo

Description: Configure SNMP system info settings.

```
config sysinfo
      set status [enable | disable]
      set description {string}
      set contact-info {string}
      set location {string}
      unset
      show
      end
```

Parameter	Description	Type	Size	Default
status	The status of sysinfo configuration.	option	-	disable
	Option / **Description** enable: Enable the sysinfo configuration. disable: Disable the sysinfo configuration.			
description	A brief description of the system.	string	1 - 127 characters in length	none
contact-info	Contact information.	string	1 - 127 characters in length	none
location	System location.	string	1 - 127 characters in length	none

config community

Description: Configure SNMP v1/v2 community settings.

```
config community
      edit <name>
            set *name {string}
            set status [enable | disable]
            set hosts <name1>, <name2>, …
            set query-v1-status [enable | disable]
            set query-v1-port [1 – 65535]
            set query-v2-status [enable | disable]
            set query-v2-port [1 – 65535]
            set trap-v1-status [enable | disable]
            set trap-v1-lport [1 – 65535]
            set trap-v1-rport [1 – 65535]
            set trap-v2c-status [enable | disable]
            set trap-v2c-lport [1 – 65535]
            set trap-v2c-rport [1 – 65535]
            set events <name1>, <name2>, …
            unset
            next
            show
            end
      delete <name>
      purge
      show
      end
```

Parameter	Description	Type	Size	Default
name	Name of the SNMP community.	string	-	none
status	The status of the SNMP community configuration.	option	-	disable
	Option / **Description** enable: Enable the SNMP community configuration. disable: Disable the SNMP community configuration.			
hosts	SNMP community host names.	option	-	none
query-v1-status	Status of SNMP v1 queries.	option	-	disable
	Option / **Description** enable: Enable SNMP v1 queries. disable: Disable SNMP v1 queries.			
query-v1-port	SNMP v1 query port number.	integer	1 - 65535	161
query-v2-status	Status of SNMP v2 queries.	option	-	disable

Parameter	Description	Type	Size	Default
	Option / **Description** enable — Enable SNMP v2 queries. disable — Disable SNMP v2 queries.			
query-v2-port	SNMP v2 query port number.	integer	1 - 65535	161
trap-v1-status	Status of SNMP v1 traps.	option	-	disable
	Option / **Description** enable — Enable SNMP v1 traps. disable — Disable SNMP v1 traps.			
trap-v1-lport	SNMP v1 trap local port.	integer	1 - 65535	162
trap-v1-rport	SNMP v1 trap remote port.	integer	1 - 65535	162
trap-v2-status	Status of SNMP v2 traps.	option	-	disable
	Option / **Description** enable — Enable SNMP v2 traps. disable — Disable SNMP v2 traps.			
trap-v2-lport	SNMP v2 trap local port.	integer	1 - 65535	162
trap-v2-rport	SNMP v2 trap remote port.	integer	1 - 65535	162
events	SNMP trap events.	option	-	none
	Option / **Description** system-reboot — System reboot events. data-exhausted — Data usage exhaustion events. session-disconnect — Modem data session disconnect events. low-signal-strength — Modem low signal strength events. os-image-fallback — System OS image fallback events. mode-switch — System mode switch events. fgt-backup-mode-switch — System FGT VRRP backup mode switch events.			

config user

Description: Configure SNMP v3 user settings.

```
config user
      edit <name>
            set *name {string}
            set status [enable | disable]
            set notify-hosts <name1>, <name2>, …
            set trap-status [enable | disable]
            set trap-lport [1 – 65535]
            set trap-rport [1 – 65535]
            set queries [enable | disable]
            set query-port [1 – 65535]
            set events <name1>, <name2>, …
            set security-level [no-auth-no-priv | auth-no-priv | auth-priv]
            set auth-proto [md5 | sha1] *available when security level includes auth
            set *auth-pwd {string} *available when security level includes auth
            set priv-proto [aes | des] *available when security level includes priv
            set *priv-pwd {string}*available when security level includes priv
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

Parameter	Description	Type	Size	Default
name	Username of the SNMP user.	string	-	none
status	Status of the SNMP user configuration.	option	-	disable

Option	Description
enable	Enable the SNMP user.
disable	Disable the SNMP user.

Parameter	Description	Type	Size	Default
notify-hosts	SNMP managers to which notifications (traps) are sent.	option	-	none
trap-status	Status of the traps for the SNMP user.	option	-	disable

Option	Description
enable	Enable the traps for the SNMP user.
disable	Disable the traps for the SNMP user.

Parameter	Description	Type	Size	Default
trap-lport	SNMPv3 trap local port.	integer	1 - 65535	162
trap-rport	SNMPv3 trap remote port.	integer	1 - 65535	162
queries	Status of SNMP queries for the user.	option	-	disable
query-port	SNMPv3 query port.	integer	1 - 65535	161
events	SNMP trap events.	option	-	none

Option	Description
system-reboot	System reboot events.
data-exhausted	Data usage is exhaustion events.
session-disconnect	Modem data session disconnect events.
low-signal-strength	Modem low signal strength events.
os-image-fallback	System OS image fall back events.
mode-switch	System mode switch events.
fgt-backup-mode-switch	System FGT VRRP backup mode switch events.

Security-level	Security level for message authentication and encryption.	option	-	no-auth-no-priv

Option	Description
no-auth-no-priv	No authentication and no encryption.
auth-no-priv	Authentication and no encryption.
auth-priv	Authentication and encryption.

config hosts

Description: Configure SNMP hosts settings.

```
config hosts
      edit <name>
            set *host-ip {ipv4-address}
            set host-type [any | query | trap]
            unset
            next
            show
            abort
            end
            delete <name>
            purge
```

```
            show
        end
show
end
```

Parameter	Description	Type	Size	Default
host-ip	IPv4 address of the SNMP manager (host) in x.x.x.x/24 format.	IPv4 address	-	none
host-type	Whether the SNMP manager sends SNMP queries, or receives SNMP traps, or both.	option	-	none

Option	Description
any	Any type.
query	SNMP queries only.
trap	SNMP traps only.

Sample command:

```
FX201E5919000057 (snmp) # show
config snmp
    config sysinfo
        set status enable
        set description this is a test comment
        set contact-info +15082558567
        set location
    end
    config community
        edit comm1
            set name 1
            set status enable
            set hosts host1
            set query-v1-status enable
            set query-v1-port 161
            set query-v2c-status disable
            set query-v2c-port 161
            set trap-v1-status disable
            set trap-v1-lport 162
            set trap-v1-rport 162
            set trap-v2c-status disable
            set trap-v2c-lport 162
            set trap-v2c-rport 162
            set events data-exhausted fgt-backup-mode-switch
        next
    end
    config user
        edit user1
```

```
            set name user1
            set status enable
            set notify-hosts host1
            set trap-status enable
            set trap-lport 162
            set trap-rport 162
            set queries disable
            set query-port 161
            set events data-exhausted fgt-backup-mode-switch low-signal-strength
            set security-level auth-priv
            set auth-proto sha1
            set auth-pwd ******
            set priv-proto aes
            set priv-pwd ******
        next
    end
    config hosts
        edit host1
            set host-ip 192.168.1.100/24
            set host-type any
        next
    end
end
```

HMON

This section shows the syntax of the following commands:

- config interface-monitoring on page 127
- config hchk on page 127

config interface-monitoring

Description: Configure monitoring interfaces.

```
config interface-monitoring
      edit <name>
            set interval [1 - 3600]
            set *interface <name1>, <name2>, …
            set filter <name1>, <name2>, …
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

config hchk

Description: Configure measuring latency/loss/jitter.

```
config hchk
```

```
edit <name>
               set protocol [ping | http | dns]
               set interval [1 - 3600]
               set probe-cnt [1 - 10]
               set probe-tm [1 - 10]
               set *probe-target {ipv4-address}
               set port [1 - 65535] *available when protocol is set to http
               set http-get {string} *available when protocol is set to http
               set interface <name1>
               set src-type [none | interface | ip]
               set *stc-iface <name1> *available when src-type is set to interval
```

```
                set *src-ip {ipv4-address} *available when src-type is set to ip
                set filter <name1>, <name2>, …
                unset
                next
                show
                abort
                end
        delete <name>
        purge
        show
        end
show
end
```

Sample command:

```
FX201E5919000057 (hmon) # show
config hmon
    config interface-monitoring
        edit 1
            set interval 30
            set interface wan
            set filter rx-bps rx-bytes rx-dropped rx-packets
        next
    end
    config hchk
        edit 1
            set protocol ping
            set interval 5
            set probe-cnt 1
            set probe-tm 2
            set probe-target 8.8.8.8
            set interface wan
            set src-type interface
            set src-iface wan
            set filter rtt loss
        next
    end
end
```

Parameter	Description	Type	Size	Default
interval	Monitoring interval in seconds.	integer	1 - 3600	30
interface	Interface to be monitored.	option	-	none

Option	Description
lan	LAN as the outgoing interface.

Parameter	Description	Type	Size	Default
	Option / **Description** lo — Loopback as the outgoing interface. lte1 — LTE 1 as the outgoing interface. wan — WAN as the outgoing interface. port4 — Port 4 as the outgoing interface.			
filter	Filter types.	option	-	none
	Option / **Description** tx-bytes — Transmitter bytes. rx-bytes — Receiver bytes. tx-packets — Transmitter packets. rx-packets — Receiver packets. tx-dropped — Transmitter dropped bytes. rx-dropped — Receiver dropped bytes. tx-bps — Transmitter bytes per second. rx-bps — Receiver bytes per second. tx-pps — Transmitter packets per second. rx-pps — Receiver packets per second.			
protocol	The protocol to use for status checks.	option	-	ping
	Option / **Description** ping — Use PING to test the link with the probe-target. http — Use HTTP-GET to test the link with the probe-target. dns — Use DNS-Query to test the link with the probe-target.			
interval	Monitoring Interval in seconds.	integer	1 - 3600	5
probe-cnt	Number of probes sent within an interval.	integer	1 - 10	1
probe-tm	Timeout for a probe in seconds.	integer	1 - 10	2
interface	The outbound interface of probe packets.	option	-	none

Parameter	Description	Type	Size	Default
	Option / **Description** lan — LAN as the outgoing interface. lo — Loopback as the outgoing interface. lte1 — LTE 1 as the outgoing interface. wan — WAN as the outgoing interface. port4 — Port 4 as the outgoing interface.			
src-type	The way to set the source address for probes.	option	-	none
	Option / **Description** none — Do not set the source address. interface — Set the source address as the address derived from a specific interface. ip — Set the source address as a specific IP.			
filter	Filter type.	option	-	rtt loss
	Option / **Description** rtt — Round trip time. loss — Packet loss.			

VPN

This section shows the syntax of the following commands:

- config ipsec on page 131
- config vpn certificate on page 138

config ipsec

Description: Configure IPsec settings.

- config phase1-interface on page 131
- config phase2-interface on page 135

config phase1-interface

Description: Configure the VPN remote gateway.

```
config vpn ipsec phase1-interface
  edit <name>
    set ike-version [1 | 2]
    set keylife [120 – 172800]
    set proposal [des-md5 | des-sha1 | des-sha256 | 3des-md5 | 3des-sha1 | 3dessha256 | aes128-md5
| aes128-sha1 | aes128-sha256 | aes256-md5 | aes256-sha1 | aes256-sha256]
    set dhgrp [1 | 2 | 5 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 27 | 28| 29 | 30 | 31 | 32 ]
    set *interface <name1>
    set type [static | ddns]
    set *remote-gw {ipv4-address}
    set *remotegw-ddns {string} *available when type is set to ddns
    set authmethod [psk | signature]
    set *psksecret {string}
    set localid {string}
    set peerid {string}
    set add-gw-route [enable | disable]
    set dev-id-notification [enable | disable]
    set dev-id <name1> *available when dev-id-notification is enabled
    set monitor <name>
  next
end
```

Sample command:

```
config vpn ipsec phase1-interface
  edit phase1_1
    set ike-version 2
    set keylife 86400
    set proposal aes128-sha256 aes256-sha256 3des-sha256 aes128-sha1 aes256-sha1 3dessha1
    set dhgrp 14 5 31 20
    set interface wan
    set type static
    set remote-gw 207.102.148.196
    set authmethod psk
    set psksecret ******
    set localid 92
    set peerid 22
    set add-gw-route disable
    set dev-id-notification disable
    set monitor pri
  next
end
```

Parameter	Description	Type	Size	Default
ike-version	IKE protocol version.	option	-	2
	Option / **Description** 1 / Version 1 2 / Version 2			
keylife	Time to wait in seconds before the phase 1 encryption key expires.	integer	120 - 172800	86400
proposal	Phase1 proposal.	option	-	aes128-sha256 aes256-sha256 3des-sha256 aes128-sha1 aes256-sha1 3des-sha1
	Option / **Description** des-md5 des-sha1 des-sha256 3des-md5 3des-sha1			

Parameter	Description	Type	Size	Default
	Option **Description** 3des-sha256 aes128-md5 aes128-sha1 aes128-sha256 aes256-md5 aes256-sha1 aes256-sha256			
dhgrp	DH group.	option	-	14, 5
	Option **Description** 1 2 5 14 15 16 17 18 19 20 21 27 28 29 30 31 32			
interface	The outgoing interface.	option	-	none

Parameter	Description	Type	Size	Default
	Option / **Description** lan — LAN as the outgoing interface. lo — Loopback as the outgoing interface. lte1 — LTE 1 as the outgoing interface. wan — WAN as the outgoing interface. port4 — Port 4 as the outgoing interface.			
remote-gw	The IPv4 address of the remote gateway's external interface.	IPv4 address	-	none
authmethod	Authentication method.	option	-	psk
	Option / **Description** psk — Preshared key. signature — Signature certificate.			
psksecret	Pre-shared secret for PSK authentication (ASCII string or hexadecimal encoded with a leading 0x).	string	-	none
localid	Local ID.	string	-	none
peerid	Peer identity.	string	-	none
add-gw-route	Whether to automatically add a route to the remote gateway.	option	-	disable
	Option / **Description** enable — Enable automatically adding a route to the remote gateway. disable — Disable automatically adding a route to the remote gateway.			
dev-id-notification	Whether to enable device ID notification for the first IKE message.	option	-	disable
	Option / **Description** enable — Enable device ID notification. disable — Disable device ID notification.			
dev-id	The Device ID carried by the device ID notification.	string	-	none

Parameter	Description	Type	Size	Default
monitor	Specify the IPsec phase1 interface as primary.	string	-	none

config phase2-interface

Description: Configure VPN autokey tunnel.

```
config phase2-interface
edit <name>
set *phase1name
set pfs [enable | disable]
set dhgrp [1 | 2 | 5 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 27 | 28| 29 | 30 | 31 | 32 ]
set keylife-type [seconds | kbs]
set keylifeseconds [120 – 172800]
set encapsulation [tunnel-mode | transport-mode]
set protocol [0 – 255]
set src-addr-type [subnet | range | ip | name]
set src-subnet {ipv4-subnet}
set *src-start-ip {ipv4-address} *available when src-addr-type is range and ip
set *src-end-ip {ipv4-address} *available when src-addr-type is range
set *src-name {string} *available when src-addr-type is name
set src-port [0 – 65535]
set dst-addr-type [subnet | range | ip | name]
set dst-subnet {ipv4-subnet}
set *dst-start-ip {ipv4-address} *available when dst-addr-type is range and ip
set *dst-end-ip {ipv4-address} *available when dst-addr-type is range
set *dst-name {string} *available when dst-addr-type is name
set dst-port [0 – 65535]
unset
next
show
abort
end
delete <name>
purge
show
end
show
end
```

Sample command:

```
FX201E5919000057 (phase2-interface) # show
config vpn ipsec phase2-interface
edit phase2_1
set phase1name phase1_1
set proposal aes128-sha1 aes256-sha1 3des-sha1 aes128-sha256 aes256-sha256 3dessha256
```

```
set pfs enable
set dhgrp 14 5 31 20
set keylife-type seconds
set keylifeseconds 43200
set encapsulation tunnel-mode
set protocol 0
set src-addr-type subnet
set src-subnet 0.0.0.0/0
set src-port 0
set dst-addr-type subnet
set dst-subnet 107.204.148.0/24
set dst-port 234
next
end
```

Parameter	Description	Type	Size	Default
phase1name	Phase 1 name (which determines the options required for phase 2).	string	-	none
proposal	Phase 2 proposal.	option	-	aes128-sha1 aes256-sha1 3des-sha1 aes128-sha256 aes256-sha256 3des-sha256
pfs	Status of the PFS feature.	option	-	enable

Option	Description
enable	Enable PFS.
disable	Disable PFS.

dhgrp	Phase 2 DH group.	option	-	14, 5

Option	Description
1	
2	
5	
14	
15	
16	

Parameter	Description	Type	Size	Default
	Option / **Description** 17 18 19 20 21 27 28 29 30 31 32			
keylife-type	Keylife type	option	-	seconds
	Option / **Description** seconds: Seconds. kbs: Kbs.			
keylifeseconds	Phase 2 key life in seconds.	integer	120 – 172800	43200
keylifekbs	Phase 2 key life in the number of bytes of traffic.	integer	5120 - 4294967295	5120
encapsulation	ESP encapsulation mode.	option	-	tunnel-mode
	Option / **Description** tunnel-mode: Tunnel mode. transport-mode: Transport mode.			
protocol	Quick mode protocol selector.	integer	1 - 255	0
src-addr-type	Local proxy ID type.	option	-	subnet
	Option / **Description** subnet: IPv4 subnet. range: IPv4 range.			

Parameter	Description	Type	Size	Default
	Option **Description** ip IPv4 IP. name IPv4 network address name.			
src-subnet	Local proxy ID subnet.	IPv4 address	-	0.0.0.0/0
src-port	Quick mode source port.	integer	1 - 65535, or 0 for all	0
dst-addr-type	Remote proxy ID type.	option	-	subnet
	Option **Description** subnet IPv4 subnet. range IPv4 range. ip IPv4 IP. name IPv4 network address name.			
dst-subnet	Remote proxy ID subnet.	IPv4 address	-	0.0.0.0/0
dst-port	Quick mode source port.	integer	1 - 65535, or 0 for all	0
src-start-ip	Local proxy ID start.	IPv4 address	-	none
src-end-ip	Local proxy ID end.	IPv4 address	-	none
dst-start-ip	Remote proxy ID start.	IPv4 address	-	none
dst-end-ip	Remote proxy ID end	IPv4 address	-	none
src-name	Local proxy ID name.	string	-	none
dst-name	Remote proxy ID name.	string	-	none

config vpn certificate

Description: Configure VPN certificates.

- config vpn certificate ca on page 138
- config vpn certificate local on page 139

config vpn certificate ca

Description: Configure CA certificates.

```
config ca
      edit <name>
            set comment {string}
            set *source [factory | user]
            unset
            next
            abort
            show
            end
      delete <name>
      purge
      show
      end
```

Sample command:

```
config vpn certificate ca
  edit Fortinet_CA
    set comment
    set source factory
  next
end
```

config vpn certificate local

Description: Configure local keys and certificates.

```
config vpn certificate local
      edit <name>
            set comment {string}
            set source [factory | user]
            set enroll-protocol [none | scep]
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

Sample command:

```
config vpn certificate local
  edit Fortinet_Factory
    set comment
    set source factory
    set enroll-protocol scep
  next
end
```

Parameter	Description	Type	Size	Default
comment	Optional comments.	string	Up to 255 characters in length.	none
source	Source of CA certificate.	option	-	factory

Option	Description
factory	From the manufacturer.
user	From the user.

Parameter	Description	Type	Size	Default
enroll-protocol	Certificate enrollment protocol.	option	-	

Option	Description
None	None.
scep	Use SCEP.

Network

This section shows the syntax of the following commands:

- config network address on page 141
- config service-custom on page 142
- config network address6 on page 143

config network address

Description: Configure IPv4 addresses.

```
config network address
      edit <name>
            set type [ipmask | iprange]
            set subnet {ipv4-address}
            set start-ip {ipv4-address} *available when type is set to iprange
            set end-ip {ipv4-address} *available when type is set to iprange
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

Sample command:

```
FX201E5919000057 (address) # show
config network address
    edit lan
        set type ipmask
        set subnet 192.168.200.0/24
    next
```

Parameter	Description	Type	Size	Default
type	Type of address.	option	-	ipmask

Parameter	Description	Type	Size	Default
	Option: Description ipmask: IP address and subnet mask. iprange: IP range.			
subnet	IP address and subnet mask.	IPv4 address	-	none
start-ip	The first IP address (inclusive) in the range of IP addresses.	IPv4 address	-	none
end-ip	The last IP address (inclusive) in the range of IP addresses.	IPv4 address	-	none

config service

Description: Configure firewall service.

config service-custom

Description: Configure custom services.

```
config service-custom
      edit <name>
            set protocol [TCP | UDP | ICMP | IP]
            set protocol number (0 – 254)
            set tcp-portrange <dstport_low>[-<dstport_high>:<srcport_low>-<srcport_high>] *available
                  when protocol is set to TCP
            set udp-portrange <dstport_low>[-<dstport_high>:<srcport_low>-<srcport_high>] *available
                  when protocol is set to UDP
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
show
end
```

Sample command:

```
FX201E5919000057 (service) # show
config network service
```

```
    config service-custom
        edit ALL
            set protocol IP
            set protocol-number 0
        next
```

Parameter	Size	Type	Size	Default
protocol	Protocol type based on IANA numbers.	option	-	ip

Option	Description
tcp	TCP protocol.
udp	UDP protocol.
icmp	ICMP protocol.
ip	IP protocol.

protocol-number	IP protocol number.	integer	0 - 254	0

config network address6

Description: Configure IPv6 addresses.

```
config network address6
      edit <name>
            set type [ipmask | iprange]
            set subnet {ipv6-address}
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

Sample command:

```
config network address6
  edit all
    set type ipmask
    set subnet 0::0/0
  next
  edit none
```

```
    set type ipmask
    set subnet 0::0/128
  next
end
```

Parameter	Description	Type	Size	Default
type	Type of address.	option	-	ipmask
	Option / **Description** ipmask — IP address and subnet mask. iprange — IP range.			
subnet	IP address and subnet mask.	IPv6 address	-	none

Execute

This section shows the syntax of the following command:

- execute SSH username serverip on page 145
- execute vpn certificate local generate rsa on page 145
- execute sim-switch on page 146
- execute modem on page 146

execute SSH username serverip

Description: Configure SSH client log into other devices from FortiExtender.

```
#execute ssh username serverip
```

Sample command:

```
execute ssh admin 192.168.1.115
```

execute vpn certificate local generate rsa

Description: Generate a Certificate Signing Request.

```
# execute vpn certificate local generate rsa <cert_name> <key_size> <subject> <country name>
<state> <city> <org> <Units> <email> <subject_alter_name> <URL> <challenge>
```

Sample command:

```
# execute vpn certificate local generate rsa test1 1024 cert US CA Sunnyvale Fortinet
102,203,303 test@fortinet.com null http://192.168.100.99/app/cert/scep/ fortinet
```

Field	Description	Mandatory	Type	Value Range
cert_name	Specify the certificate name.	Yes	String	

Field	Description	Mandatory	Type	Value Range
key_size	Specify the key size.	Yes	Number	1024, 1536, 2048, 4096
subject	Specify the subject(Host-IP/Domain Name/E-Mail).	Yes	String	
country name	Specify the country name.	No	String	
state	Specify the state name.	No	String	
city	Specify the city name.	No	String	
org	Specify the organization name.	No	String	
Units	Specify the unit name. If there are multiple units, use ',' as a delimiter.	No	String	
email	Specify the email address.	No	String	
subject_ alter_name	Specify the subject alternative name.	No	String	
URL	Specify the URL.	Yes	String	
challenge	Specify the challenge password.	No	String	

execute sim-switch

Description: Immediately switches the inactive SIM to the active SIM; two SIMs need to be inserted for the command to work (or if eSIM is enabled, then an eSIM profile needs to be active). Modem2 is only available if the FortiExtender platform has two modems.

```
#execute sim-switch [modem1 | modem2]
```

Sample command:

```
execute sim-switch modem1
```

execute modem

Description: Configure the modem to manage eSIM.

```
#execute modem <modem> <field>
```

Sample command:

```
execute modem modem1 esim-enable-access
```

Field	Description
sim1	SIM1 specific operations.
sim2	SIM2 specific operations.
esim-enable-access	Enable access to the eSIM chip.
esim-disable-access	Disable access to eeSIM chip.
esim-details	eSIM details. This is solely for the device's EID.
esim-display-profile	Display stored eSIM profile numbers.
esim-delete-profile	Delete the eSIM with ICCID.
esim-disable-profile	Disable the eSIM with ICCID.
esim-enable-profile	Enable the eSIM with ICCID.
esim-download-profile	Download the eSIM profile from the LPA server.

WiFi

This section presents the CLI commands for configuring Wi-Fi network settings.

```
config wifi
  config vap
    edit <WiFi Access Point Name>
      config ap-security
        ...
      end
       next
  end
  config wifi-networks
    ...
  end
  config radio-profile
    ...
  end
  config wifi-general
    ...
  end
end
```

WiFi settings are only available on Wi-Fi capable platforms.

- config vap on page 148
  - config ap-security on page 151
- config wifi-networks on page 153
- config radio-profile on page 155
- config wifi-general on page 158

config vap

Description: Configure WiFi virtual access point.

```
config wifi
  config vap
    edit <WiFi Access Point Name>
      set ssid <string>
      set broadcast-ssid [enable | disable]
      set dtim {integer}
```

```
      set rts-threshold {integer}
      set max-clients {integer}
      set target-wake-time [enable | disable]
      set bss-color-partial [enable | disable]
      set mu-mimo [enable | disable]
      set wlan-bridge [yes |no ]
      set wlan-members
      config ap-security
        set security-mode <encryption mode>
      end
    next
  end
end
```

Sample command:

```
config wifi
  config vap
    edit fev-home-2g-1
      set ssid fev-home-2g-1
      set broadcast-ssid enable
      set dtim 1
      set rts-threshold 2347
      set max-clients 9
      set target-wake-time enable
      set bss-color-partial enable
      set mu-mimo enable
      set wlan-bridge no
      set wlan-members
      config ap-security
        set security-mode WPA2-Enterprise
        set auth-server-addr 192.168.11.99
        set auth-server-port 1812
        set auth-server-secret ******
        set pmf optional
      end
    next
    edit fev-home-5g-1
      set ssid fev-home-5g-1
      set broadcast-ssid enable
      set dtim 1
      set rts-threshold 2347
      set max-clients 9
      set target-wake-time enable
      set bss-color-partial enable
      set mu-mimo enable
      set wlan-bridge yes
      set wlan-members
      config ap-security
        set security-mode WPA2-Personal
        set pmf required
```

```
        set passphrase ******
      end
    next
  end
end
```

Parameter	Description	Type	Size	Default
ssid	IEEE 802.11 service set identifier (SSID) for the wireless interface. Users who wish to use the wireless network must configure their computers to access this SSID name.	string	-	
broadcast-ssid	Enable/disable broadcasting the SSID	option	-	
	Option / **Description** enable: Enable broadcasting the SSID. disable: Disable broadcasting the SSID.			
dtim	Wi-Fi Delivery Traffic Indication Map (DTIM)	integer	1-255	
rts-threshold	Maximum packet size for RTS transmissions.	integer	256-2347	
max-clients	Maximum number of clients that can connect simultaneously to the VAP.	integer	0-512	
target-wake-time	Enable/disable 802.11ax target wake time.	option		
	Option / **Description** enable: Enable 802.11ax target wake time. disable: Disable 802.11ax target wake time.			
bss-color-partial	Enable/disable 802.11ax partial BSS color.	option		
	Option / **Description** enable: Enable 802.11ax partial BSS color. disable: Disable 802.11ax partial BSS color.			
mu-mimo	Enable/disable Multi-user MIMO.	option		

Parameter	Description	Type	Size	Default
	Option / **Description** enable — Enable Multi-user MIMO. disable — Disable Multi-user MIMO.			
wlan-bridge	Select if you want the SSID to act as a bridge between wireless and wired networks, integrating wireless devices into the same network.	option		
	Option / **Description** yes — Allow the SSID to act as a WLAN bridge. no — Do not allow the SSID to act as a WLAN bridge.			
wlan-members	When WLAN Bridge is enabled, you can add WLAN members to the SSID configuration.			

- config ap-security on page 151

config ap-security

Description: Configure security mode for WiFi access point.

```
config wifi
  config vap
    edit <WiFi Access Point Name>
      config ap-security
        set security-mode <encryption mode>
        set pmf <option>
        set passphrase <password>
        set auth-server-addr <url>
        set auth-server-port <port number>
        set auth-server-secret <password>
      end
    next
  end
end
```

Sample command

```
config wifi vap
    edit fev-home-2g-1
        set ssid fev-home-2g-1
```

```
        set broadcast-ssid enable
        set wlan-members
        config ap-security
            set security-mode WPA2-Enterprise
            set auth-server-addr 192.168.11.99
            set auth-server-port 1812
            set auth-server-secret ******
            set pmf optional
        end
    next
edit fev-home-5g-1
        set ssid fev-home-5g-1
        set broadcast-ssid enable
        set wlan-members
        config ap-security
            set security-mode WPA2-Personal
            set pmf disabled
            set passphrase ******
        end
    next
end
```

Parameter	Description	Type	Size	Default
security-mode	Select which security mode to use.	option	-	

Option	Description
OPEN	Wi-Fi security OPEN
WPA2-Personal	Wi-Fi security WPA2 Personal
WPA-WPA2-Personal	Wi-Fi security WPA-WPA2 Personal
WPA3-SAE	Wi-Fi security WPA3 SAE
WPA3-SAE-Transition	Wi-Fi security WPA3 SAE Transition
WPA2-Enterprise	Wi-Fi security WPA2 Enterprise
WPA3-Enterprise-Only	Wi-Fi security WPA3 Enterprise only
WPA3-Enterprise-Transition	Wi-Fi security WPA3 Enterprise Transition
WPA3-Enterprise-192-bit	Wi-Fi security WPA3 Enterprise 192-bit

pmf	Protected Management Frames (PMF) support.	option	-	

Parameter	Description	Type	Size	Default
	This option is available if `security-mode` is set to OPEN, WPA2-Personal, WPA-WPA2-Personal, WPA3-SAE, or WPA3-SAE-Transition.			
	Option / **Description** disabled — Disable PMF completely. required — Enable PMF and deny clients without PMF. optional — Enable PMF and allow clients without PMF.			
passphrase	WPA pre-shared key (PSK) to be used to authenticate WiFi users. This option is available if `security-mode` is set to WPA2-Personal, WPA-WPA2-Personal, WPA3-SAE, or or WPA3-SAE-Transition.	password		
auth-server-addr	Wi-Fi Authentication Server Address (IPv4 format). This option is available if `security-mode` is set to WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-Enterprise-Transition, or WPA3-Enterprise-192-bit.	string		
auth-server-port	Wi-Fi Authentication Server Port. This option is available if `security-mode` is set to WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-Enterprise-Transition, or WPA3-Enterprise-192-bit.	integer		1812
auth-server-secret	Wi-Fi Authentication Server Secret. This option is available if `security-mode` is set to WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-Enterprise-Transition, or WPA3-Enterprise-192-bit.	string		

config wifi-networks

Description: Configure WiFi networks for Station Mode.

```
config wifi
  config wifi-networks
    edit <name>
      set ssid <id>
      set security-mode <encryption mode>
      set pmf <option>
      set identity <string>
      set password <string>
      set sae-password <string>
    next
  end
end
```

Sample command:

```
config wifi wifi-networks
    edit 2g-Network
        set ssid Network
        set security-mode WPA3-Enterprise-Only
        set pmf required
        set identity ******
        set password ******
    next
    edit 5g-Dream
        set ssid Dream
        set security-mode WPA3-SAE
        set pmf
        set sae-password ******
    next
    edit 5g-Hope
        set ssid Hope
        set security-mode WPA2-Enterprise
        set pmf
        set identity ******
        set password ******
    next
end
```

Parameter	Description	Type	Size	Default
ssid	IEEE 802.11 service set identifier (SSID) for the wireless interface. Users who wish to use the wireless network must configure their computers to access this SSID name.	string		
security-mode	Select which security mode to use.	option	-	

Parameter	Description	Type	Size	Default
	Option / **Description** OPEN — Wi-Fi security OPEN WPA-Personal — Wi-Fi security WPA Personal WPA2-Personal — Wi-Fi security WPA2 Personal WPA-WPA2-Personal — Wi-Fi security WPA-WPA2 Personal WPA3-SAE — Wi-Fi security WPA3 SAE WPA3-SAE-Transition — Wi-Fi security WPA3 SAE Transition WPA-Enterprise — Wi-Fi security WPA Enterprise WPA2-Enterprise — Wi-Fi security WPA2 Enterprise WPA-WPA2-Enterprise — Wi-Fi security WPA-WPA2 Enterprise WPA3-Enterprise-Only — Wi-Fi security WPA3 Enterprise only WPA3-Enterprise-Transition — Wi-Fi security WPA3 Enterprise Transition			
pmf	Protected Management Frames (PMF) support.	option	-	
	Option / **Description** disabled — Disable PMF completely. required — Enable PMF and deny clients without PMF. optional — Enable PMF and allow clients without PMF.			
identity	Wi-Fi identity	string		
password	Wi-Fi passphrase.	string		
sae-password	WPA3 SAE password to be used to authenticate WiFi users.	string		

config radio-profile

Description: Configure WiFi Radio profile.

```
config wifi
  config radio-profile
    edit <radio profile name>
      set band <2GHz/5GHz>
      set status <enable/disable>
```

```
      set role <lan/wan>
      set operating-standards [auto|11A-N-AC-AX|...]
      set beacon-interval {100-3500}
      set 80211d [ enable | disable]
      set max-clients {0-512}
      set power-mode auto
      set channel {option1}, {option2}, ...
      set bandwidth [auto|20MHz|...]
      set extension-channel [auto|higher|...]
      set guard-interval [auto|400ns|...]
      set vap <ap names>
    next
  end
end
```

Sample command:

```
FVA21FTF22000003 (wifi) # config radio-profile
config wifi radio-profile
    edit 2g-profile
        set band 2GHz
        set enable enable
        set role lan
        set operating-standards auto
        set power-mode auto
        set channel
        set bandwidth auto
        set extension-channel auto
        set guard-interval auto
        set vap fev-home-2g-1 fev-home-2g-3 fev-home-2g-4
    next
edit 5g-profile
        set band 5GHz
        set enable enable
        set role wan
        set wifi-networks 5g-Dream
    next
end
```

Parameter	Description	Type	Size	Default
band	Wi-Fi band selection 2.4GHz / 5GHz.	option		

Option	Description
2GHz	Wi-Fi 2.4GHz
5GHz	Wi-Fi 5GHz

status	Enable/disable Wi-Fi radio.	option	-	

Parameter	Description	Type	Size	Default
	Option / **Description** enabled — Enable Wi-Fi radio. disabled — Disable Wi-Fi radio.			
role	Set the radio role to LAN or WAN interface.	option	-	
	Option / **Description** lan — Set the radio role to LAN. If the role is set as LAN, you can configure additional parameters for the WiF LAN interface, wan — Set the radio role to WAN.			
operating-standards	Wi-Fi operating standard.	option		
beacon-interval	Wi-Fi beacon interval in miliseconds.	integer	100-3500	
80211d	Enable/disable Wi-Fi 802.11d.	option		
	Option / **Description** enabled — Enable 802.11d. disabled — Disable 802.11d.			
max-clients	Maximum number of Wi-Fi radio clients	integer	0-512	
power-mode	Set the power mode for your radio.	option		
channel	Wi-Fi channels.	option		
bandwidth	Wi-Fi channel bandwidth.	option		
extension-channel	Wi-Fi extension channel.	option		
	Option / **Description** auto — Wi-Fi extension channel auto. higher — Wi-Fi extension channel higher. lower — Wi-Fi extension channel lower.			
guard-interval	Wi-Fi guard interval.	option		

Parameter	Description	Type	Size	Default
	Option / **Description** auto / Wi-Fi guard interval auto 400ns / Wi-Fi guard interval 400ns 800ns / Wi-Fi guard interval 800ns			
vap	Enter virtual APs you want to apply radio configurations to. Maximum of 4 APs.	string		

config wifi-general

Description: Configure general WiFi settings.

```
config wifi
  config wifi-general
    set country-code <option>
  end
end
```

Sample command:

```
config wifi
  config wifi-general
    set country-code US
  end
end
```

```
set country-code
AS    AMERICAN SAMOA
AR    ARGENTINA
BS    BAHAMAS
BM    BERMUDA
KY    CAYMAN ISLANDS
DM    DOMINICA
GU    GUAM
HT    HAITI
MH    MARSHALL ISLANDS
AW    ARUBA
NI    NICARAGUA
MP    NORTHERN MARIANA ISLANDS
PW    PALAU
PR    PUERTO RICO
KN    SAINT KITTS AND NEVIS
```

```
LC    SAINT LUCIA
VC    SAINT VINCENT AND GRENADIENS
US    UNITED STATES
VI    VIRGIN ISLANDS
CA    CANADA
```

The list of country codes shown above applies to devices with the region code "A" only.

Parameter	Description	Type	Size	Default
country-code	Set the country code of the device. **Note:** The list of county codes varies with the region code of the devices in use.	option	-	-

User

This section shows the syntax of the following commands:

- config user group on page 160
- config user radius on page 160
- config user security-exempt-list on page 162

config user group

Apply a RADIUS server table to a user group.

```
config user group
  edit group1
    set member [RADIUS server name1] [RADIUS server name2]
  next
end
```

Parameter	Description
name	Name of the FortiExtender user group.
member	Names of users and RADIUS server tables you want to add to the user group. You can apply multiple RADIUS server tables to a user group.

config user radius

Configure the FortiExtender to access a RADIUS server.

```
config user radius
  edit <name>
    set server {string}
    set secret {password}
    set auth-type [auto||ms_chap_v2|...]
    set timeout {integer}
    set transport-protocol [udp]
    set nas-ip {string}
    set nas-identifier {string}
    set port {integer}
    set source-ip {ipv4-address}
```

```
  next
end
```

Sample command:

```
config user radius
  edit example_radius
    set server fortinet.com
    set secret ********
    set auth-type auto
    set timeout 5
    set transport-protocol udp
    set nas-ip 0.0.0.0
    set nas-identifier
    set port 1812
    set source-ip 1.1.1.4
  next
end
```

Parameter	Description	Type	Size	Default
name	Name of the RADIUS server table.	string	-	none
server	Primary RADIUS FQDN or IP address.	string	-	none
secret	Pre-shared secret key used to access the primary RADIUS server.	password	1-128	none
auth-type	Authentication protocols permitted for this RADIUS server. You can select the following options: • auto • ms_chap_v2 • ms_chap • chap • pap If the authentication type is set to auto, FortiExtender uses the following protocols in sequence: PAP → MSCHAP_v2 → CHAP FortiExtender will only try the next protocol once it receives a RADIUS-reject message	option	-	auto
timeout	Time in seconds to retry connecting to the RADIUS server.	integer	-	5
transport-protocol	Transport protocol to be used. • udp	option	-	udp
nas-ip	IPv4 address used for the FortiExtender to communicate with the RADIUS server. It is also used as the NAS-IP-Address and Called-Station-ID attributes.	string	-	none

Parameter	Description	Type	Size	Default
nas-identifier	Optional NAS-Identifier string for RADIUS messages	string	-	none
port	Primary RADIUS server port number	integer	-	none
source-ip	Source IP address for communications to the RADIUS server.	IPv4 address	-	0.0.0.0

config user security-exempt-list

Configure security exemption list.

```
config user security-exempt-list
  edit <name>
    set description {string}
    config rule
      edit <id>
        set dstaddr <name1>, <name2>, ...
        set service <name1>, <name2>, ...
        set srcaddr <name1>, <name2>, ...
      next
    end
  next
end
```

Parameter	Description	Type	Size	Default
name	Name of the exempt list.	string	Maximum length: 30	none
description	Description.	string	Maximum length: 127	none

config rule

Parameter	Description	Type	Size	Default
id	Security exempt rule name.	string	Maximum length: 30	none
dstaddr	The network address IDs of the exempt destination.	string	-	none
service	The IDs of the exempt destination service.	string	-	none
srcaddr	The network address IDs of the exempt source.	string	-	none

DNS Filter

This section includes syntax for the following commands:

- config dnsfilter domain-filter on page 163
- config dnsfilter profile on page 164

config dnsfilter domain-filter

Description: Configure a set of domain filter entries.

```
config dnsfilter domain-filter
  edit <name>
    set comments <string>
    config entries
      edit <name>
        set domain <string>
        set type [simple | wildcard | regex]
        set action [block | allow]
        set status [enable | disable]
      next
    end
  next
end
```

Parametrer	Description	Type	Size	Default
comments	Comments for this set of domain filter entries	string	-	

config entries

Parameter	Description	Type	Size	Default
entries	A set of DNS filter entries.	table	-	
domain	A string for domain name, or wildcard, or regression expression.	string	-	
type	Select an entry type	option	-	

Option	Description
simple	Matches an exact string.

Parameter	Description	Type	Size	Default
	Option / **Description** wildcard: Matches using regex rules for advanced pattern matching. **Note:** If the domain string contains the character ?, it can only be configured through the GUI. regex: Matches patterns using wildcards (e.g., *.example.com). **Note:** Only the * wildcard is supported.			
action	Select if you want to Block or Allow this entry.	option		-
	Option / **Description** block: If the local domain filter action is set to block and an entry matches, then that DNS query is blocked or redirected. allow: If the local domain filter action is set to allow and an entry matches, it will directly return to the client DNS resolver.			
status	Enable/Disable this domain filter entry.	option		-
	Option / **Description** enable: Enable this domain filter to take effect. disable: Disable this domain filter.			

config dnsfilter profile

Description: Configure the DNS filter profile.

```
config dnsfilter profile
  edit <name>
    config domain-filter
      set domain-filter-table <name>
    end
    set block-action [block| redirect | block-servfail]
    set block-botnet [enable | disable]
    set safe-search [enable | disable]
    set youtube-restrict [strict | moderate]
    set redirect-portal {ipv4-address}
  next
end
```

Parametrer	Description	Type	Size	Default
block-action	Action to take for blocked domains.	option	-	

Option	Description
block	The DNS request is blocked and a DNS response with NXDOMAIN is returned.
redirect	A DNS response containing the portal IP address is returned, redirecting blocked domains to the SDNS portal.
block-sevrfail	The DNS request is blocked, and a DNS response with SERVFAIL is returned.

block-botnet	Enable/disable blocking botnet C&C DNS lookups.	option		disabled

Option	Description
disable	Disable blocking botnet C&C DNS lookups.
enable	Enable blocking botnet C&C DNS lookups.

safe-search	Enable/disable Google, Bing, YouTube, Qwant, DuckDuckGo safe search.	option		disabled

Option	Description
disable	Disable Google, Bing, YouTube, Qwant, DuckDuckGo safe search.
enable	Enable to avoid explicit and inappropriate results in the Google, Bing, and YouTube search engines.

youtube-restrict	When `safe-search` is enabled, you can set safe search for YouTube restriction level.	option		disabled

Option	Description
strict	Enable strict safe search for YouTube. This restricts YouTube access by responding to DNS resolutions with CNAME restrict.youtube.com.
moderate	Enable moderate safe search for YouTube. This restricts YouTube access by responding to DNS resolutions with CNAME restrictmoderate.youtube.com.

redirect-portal	Enter the IP address of the SDNS redirect portal	ip-address		0.0.0.0

config domain filter

Parameter	Description	Type	Size	Default
domain-filter	Configure the domain-filter-table parameter to apply a previously created domain filter to this profile.	table	-	
domain-filter-table	Enter the domain filter name.	string	-	

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