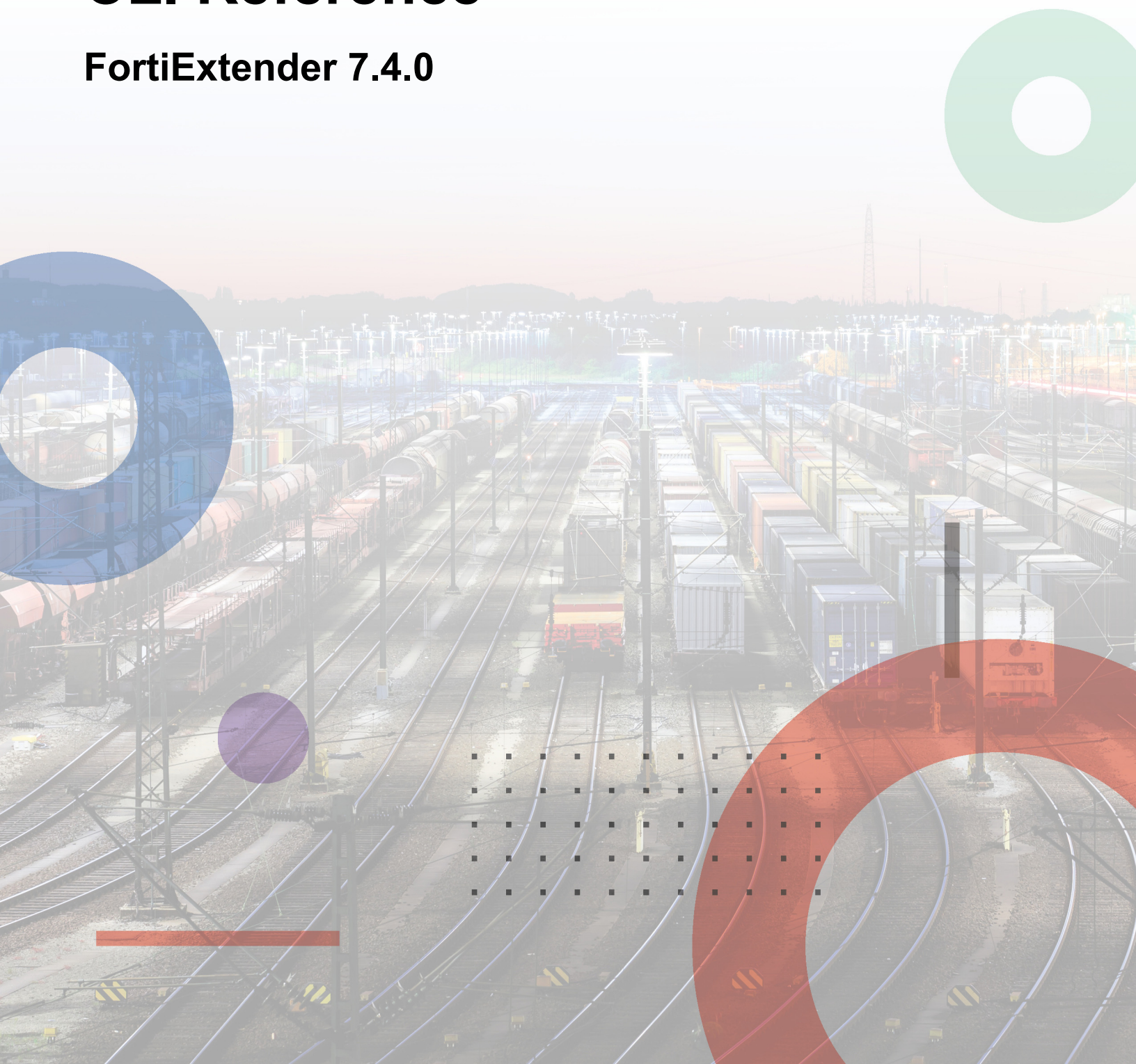
FORTINET

CLI Reference

FortiExtender 7.4.0



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FortiExtender 7.4.0 CLI Reference

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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 in one of the following ways:

- a direct serial connection
- an SSH connection, or
- FortiExtender and FortiCloud GUIs

You can access the FortiExtender CLI outside of the GUI in either of the following ways:

- 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

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.

Console connection

You can establish a direct connection to the CLI by connecting your management computer or console to the FortiExtender through its RJ-45 console port.

Direct console access to the FortiExtender may be necessary if:

• You are installing a FortiExtender 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 been 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
- Terminal emulation software

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. You can either connect 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 router 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 that 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 log in prompt.
7. Enter the administrator account name, such as admin, then press Enter.
8. Enter the administrator account password, then press Enter.
   The CLI console shows the command prompt (FortiExtender hostname followed by a #). You can now enter CLI commands.

CLI commands

This CLI 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:

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 11

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 policy

Description: Configure firewall policies.

```
config 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]
   next
   delete <name>
   move <name1> [after | before] <name2>
   end
   purge
   show
```

Sample command:

```
FX201E5919000057 (policy) # 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 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
    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
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.

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
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.

Parameter	Description	Type	Size	Default
dnat	Destination NAT.	option	-	disable

Option	Description
enable	Enable destination NAT.
disable	Disable destination NAT.

Parameter	Description	Type	Size	Default
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.

Parameter	Description	Type	Size	Default
action	Policy action.	option	-	accept

Option	Description
accept	Accept policy.
deny	Deny policy.

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

Option	Decription
enable	Enable this policy.
disable	Disable this policy.

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

Option	Description
ALL	All services.

Parameter	Description	Type	Size	Default
	Option / **Description** 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.			

```
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 this shaper.	integer	1 - 16776000	100
bandwidth-unit	Unit of measurement for guaranteed and maximum bandwidth for this 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.			
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.			
traffic-shaper	Traffic shaper to apply to traffic forwarded by the firewall policy.	option	-	none
	Option / **Decription** 1: Refer toconfig traffic-shaper on page 16.			

config vip

Description: Configure firewall vips.

```
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	IPv4 address	-	none

Parameer	Description	Type	Size	Default
	mapped.			
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
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

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 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 recover-by-reboot [enable | disable]
                set max-switches-allowed 5
                set max-switches-interval 1800
```

```
            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 recover-by-reboot [enable | disable]
                set max-switches-allowed 5
                set max-switches-interval 1800
            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 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.

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

Parameter	Description	Type	Size	Default
	Option / **Description** enable — Enable delayed modem activation. disable — Disable delay of modem activation.			
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.			
preferred-carrier	Preferred carrier which the modem will try and connect with.	string	-	none
session-down-detection	Period to confirm a session has been disconnected.	integer	1 - 60	3
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.			

Parameter	Description	Type	Size	Default
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

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

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

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
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
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.			
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.			
iccid	The ICCID of the SIM card to which the plan is assigned.	integer	-	none
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

Parameter	Description	Type	Size	Default
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
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

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.

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.

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

Parameter	Description	Type	Size	Default
	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 static

Description: Configure static routes.

```
config 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 target

Description: Configure router targets.

```
config 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

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 multicast

Description: Configure multicast router.

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

- config pim-sm-global on page 35
- config rp-address on page 36
- config interface on page 36

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 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 between sending PIM join/prune messages (in seconds).	integer	1 - 65535	60
hello-interval	Interval between sending PIM hello messages (in seconds).	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
```

- config area on page 37
- config network on page 38
- config ospf-interface on page 38
- config redistribute on page 38

config area

Description: Configure OSPF area settings.

```
config area
      edit {ipv4-address}
            set
            unset
```

```
            next
            show
            abort
            end
      delete {ipv4-address}
      purge
      show
      end
```

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
```

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
```

config redistribute

Description: Configures redistribute settings.

config connected

Description: Configure redistribute connected routes.

```
config connected
     set status [enable | disable]
     set metric-type [1 | 2]
     set metric [0 - 16777214]
     set routemap <name1>
     unset
     show
     end
```

config static

Description: Configure redistribute static routes.

```
config redistribute
     config static
          set status [enable | disable]
          set metric-type [1 | 2]
          set metric [0 - 16777214]
          set routemap <name1>
          unset
          show
          end
     show
     end
show
end
```

Sample command:

```
FX201E5919000057 (ospf) # show
config router ospf
    set status disable
    set router-id 0.0.0.0
    config area
        edit 192.168.200.24
        next
    end
    config network
        edit 1
            set prefix 192.168.200.0/24
            set area 192.168.200.24
        next
    end
    config ospf-interface
        edit 1
            set status enable
```

```
            set interface lan
            set mtu-ignore enable
            set cost 3400
        next
    end
    config redistribute
        config connected
            set status disable
            set metric-type 2
            set metric 10
            set routemap
        end
        config static
            set status disable
            set metric-type 2
            set metric 10
            set routemap
        end
    end
end
```

Parameter	Description	Type	Size	Default
status	Status of the OSPF configuration.	option	-	disable
	Option / **Description** enable: Enable OSPF. disable: Disable OSPF.			
router-id	Router ID.	IPv4 address	-	0.0.0.0
config area	OSPF area configuration.	IPv4 address	-	none
config network	OSPF network configuration.	option	-	none
	Option / **Description** prefix: Prefix. area: Attach the network to area.			
config ospf-interface	OSPF interface configuration.	option	-	none
	Option / **Description** status: Enable/disable status. interface: Interface name. cost: Cost of the interface: 0 - 65535; 0 means auto-cost. mtu-ignore: Enable/disable ignore MTU.			
config redistribute	Redistribute configuration.	option	-	none

Parameter	Description	Type	Size	Default

Option	Description
config connected	

Option	Description
status	Enable/disable redistribute connected.
metric-type	Metric type integer.
metric	Redistribute metric setting.
routemap	Route map name.

Option	Description
config static	

Option	Description
status	Enable/disable redistribute static.
metric-type	Metric type integer.
metric	Redistribute metric setting.
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 41

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
	Option / **Description** permit: Permit the rule. deny: Deny the 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 43

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	Permit the rule.
deny	Deny the rule.

Parameter	Description	Type	Size	Default
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

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}
   unset
   show
   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
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.

Parameter	Description	Type	Size	Default
default-image-file	Image file from USB.	string	-	none
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

config accprofile

Description: Configure administration access profiles.

```
config 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 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]
          unset
```

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

Sample command:

```
FX201E5919000057 (accprofile) # show
config system accprofile
    edit some_access
        set header read-write
        set firewall read
        set lte read
        set router no-access
        set system read-write
        set snmp read
        set hmon read
        set vpn no-access
        set network read
    next
```

Parameter	Description	Type	Size	Default
header	Permission to access device configuration profile.	option	-	read
	Option / **Description** read-write: Read-write access to header. read: Read access to header. no-access: No access to header.			
firewall	Permission to access device firewall setup.	option	-	read
	Option / **Description** read-write: Read-write access to firewall. read: Read access to firewall. no-access: No access to firewall.			
lte	Permission to access device LTE setup.	option	-	read

Parameter	Description	Type	Size	Default
	Option / **Description** read-write / Read-write access to LTE. read / Read access to LTE. no-access / No access to LTE.			
router	Permission to access device router setup.	option	-	read
	Option / **Description** read-write / Read-write access to router. read / Read access to router. no-access / No access to router.			
system	Permission to access device software profile.	option	-	read
	Option / **Description** read-write / Read-write access to system. read / Read access to system. no-access / No access to system.			
snmp	Permission to access device SNMP setting.	option	-	read
	Option / **Description** read-write / Read-write access to SNMP. read / Read access to SNMP. no-access / No access to SNMP.			
hmon	Permission to access health monitor setup.	option	-	read
	Option / **Description** read-write / Read-write access to health monitor. read / Read access to health monitor. no-access / No access to health monitor.			
vpn	Permission to access VPN configuration.	option	-	read

Parameter	Description	Type	Size	Default
	Option / **Description** read-write / Read-write access to VPN. read / Read access to VPN. no-access / No access to VPN.			
network	Permission to access network utility.	option	-	read
	Option / **Description** read-write / Read-write access to network. read / Read access to network. no-access / No access to network.			

config admin

Description: Configure user access.

```
config admin
      edit <name>
            set *accprofile <name1>
            set *password {string}
            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}
            unset
            next
            show
            abort
            end
      delete <name>
      purge
      show
      end
```

Sample command:

```
FX201E5919000057 (admin) # show
config system admin
    edit user1
        set accprofile some_access
        set password ENC $5$w/OU6Xk/agc.DTtv$lMKZL1t9yxzua0JofsJuDLvYmOaGoH0tJpVLt.VDxw5
        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	Admin access profile.	string	-	none
password	Password.	string	-	none
trusthost1	Address or subnet address and netmask from which the administrator can connect to the device.	IPv4 address	-	none
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	IPv4 address	-	none

Parameter	Description	Typy	Size	Default
	netmask from which the administrator can connect to the device.			
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 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

Option	Description
auto	Automatic.
fortigate	FortiGate.
cloud	FortiExtender Cloud.
local	Local.

- config fortigate on page 51
- config cloud on page 52
- config local on page 53
- config local-access on page 54
- config fortigate-backup on page 54

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 server.	integer	1024 - 49150	5246
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.

Parameter	Description	Type	Size	Default
proxy	Status of proxy connection.	option	-	disable

Option	Description
enable	Enable proxy.
disable	Disable proxy.

Parameter	Description	Type	Size	Default
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	The interface chosen for backup.	option	-	none

Option	Description
lan	LAN as vrrp-interface.
lo	Loopback as vrrp-interface.

Parameter	Description	Type	Size	Default
	Option / **Description** lte1 / LTE 1 as vrrp-interface. wan / WAN as vrrp-interface.			
status	Status of the VRRP interface.	option	-	disable
	Option / **Description** enable / Enable the backup feature. disable / Disable the backup feature.			

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 interface

Description: Configure interface settings.

```
config interface
  edit <name>
    set *type [loopback | virtual-wan | vlan | capwap | dummy]
    set status [enable | disable]
    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 <name1>, <name2>, …
    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.			
status	Interface status.	option	-	up

Parameter	Description	Type	Size	Default
	Option / **Description** up — Bring the interface up. down — Bring the interface down.			
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.	string	-	none
defaultgw	Ability to get the gateway IP from the DHCP server.	option	-	enable

Parameter	Description	Type	Size	Default
	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
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

Parameter	Description	Type	Size	Default
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 59
- config vxlan on page 61
- config switch-interface on page 62
- config aggregate-interface on page 63
- config pppoe-interface on page 64

config VRRP

Description: Configure the VRRP settings.

```
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
	Option / **Description** enable: Enable the VRRP configuration. disable: Disable VRRP configuration.			
version	VRRP version.	integer	2	2
ip	IP address of the virtual	IPv4 address	-	none

Parameter	Description	Type	Size	Default
	router.			
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 vxlan

Description: Configure VXLAN devices

```
config 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 switch-interface

Description: Configure software switch devices.

```
config switch-interface
     edit <name>
          set members <name1>, <name2>, …
          set stp [enable | disable]
          unset
          next
          show
          abort
          end
     delete <name>
     purge
     show
     end
```

Sample command:

```
FX201E5919000057 (switch-interface) # show
config system switch-interface
    edit 1
        set members lo
        set stp enable
    next
end
```

Parametrer	Description	Type	Size	Default
members	Interfaces within the virtual switch.	option	-	none
stp	Spanning Tree Protocol.	option	-	disable

Parametrer	Description	Type	Size	Default

Option	Description
enable	Enable Spanning Tree Protocol.
disable	Disable Spanning Tree Protocol.

config aggregate-interface

Description: Configure aggregate interfaces.

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

config members

Description: Configure interfaces to be aggregated.

```
     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
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
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.			

Parameter	Description	Type	Size	Default
	Option / **Description** 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
	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

Option	Description
enable	Enable DHCP relay.
disable	Disable DHCP relay

Parameter	Description	Type	Size	Default
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.

Parameter	Description	Type	Size	Default
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.

Parameter	Description	Type	Size	Default
	Option: lte — Description: 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 dns
      set primary {ipv4-address}
      set secondary {ipv4-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:

```
FX201E5919000057 (dns) # show
config system dns
    set primary 208.91.112.53
    set secondary 208.91.112.52
    set timeout 5
    set retry 3
    set dns-cache-limit 5000
    set dns-cache-ttl 1800
    set cache-notfound-responses disable
    set source-ip 0.0.0.0
    set server-select-method least-rtt
end
```

Parameter	Description	Type	Size	Default
primary	Primary DNS server IP address. The default is the FortiGuard primary DNS server IP.	IPv4 address	-	208.91.112.53

Parameter	Description	Type	Size	Default
secondary	Secondary DNS server IP address. The default is the FortiGuard secondary DNS server.	IPv4 address	-	208.91.112.52
timeout	DNS query timeout interval in seconds.	integer	1 - 10	5
retry	Number of times to retry.	integer	0 - 5	3
dns-cache-limit	Maximum number of records in DNS cache.	integer	0 - 4294967295	5000
dns-cache-ttl	Duration in seconds that DNS cache retains information.	integer	60 - 86400	1800
cache-notfound-responses	Status of response from the DNS server when a record is not in cache.	option	-	disable
	Option / **Description** enable: Enable cache-notfound-responses. disable: Disable cache-notfound-responses.			
source-ip	IP address used by the DNS server as its source IP.	IPv4 address	-	0.0.0.0
server-select-method	The way in which configured servers are prioritized.	option	-	least-rtt
	Option / **Descrption** least-rtt: least-rtt as server-select-method. failover: failover as server-select-method.			

config dns-server

Description: Configure DNS servers.

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

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

Sample command:

```
FX201E5919000057 (dns-server) # show
config system dns-server
    edit 1
        set interface lan
        set mode recursive
    next
end
```

Parameter	Description	Type	Size	Default
Name	Name of the DNS server.	string	1 - 35 characters in length	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.

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
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
	Option / **Description** A: A as resource record type. NS: NS as resource record type. CNAME: CNAME as resource record type. MX: MX as resource record type. PTR: PTR as resource record type.			
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]
            unset
            next
            show
            abort
            end
      delete <name>
      purge
```

```
        show
        end
```

Sample command:

```
FX201E5919000057 (vwan-member) # show
config system vwan-member
    edit 1
        set target target.lan
        set priority 2
        set weight 50
        set in-bandwidth-threshold 86400
        set out-bandwidth-threshold 86400
        set total-bandwidth-threshold 23500
        set health-check
        set health-check-fail-threshold 3
        set health-check-success-threshold 5
    next
end
```

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 for input traffic in MB. 0 indicates infinity.	integer	0 - 2147483647	0
out-bandwidth-threshold	Bandwidth threshold for output traffic in MB. 0 indicates infinity.	integer	0 - 2147483647	0
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

config sms-notification

Description: Configure Extender SMS notification settings.

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

```
        unset
```

- config receiver on page 77
- config alert on page 78

config receiver

Description: Configure SMS receivers.

```
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

Option	Description
system-reboot	System reboot alert. Only the first user can receive this alert.
ata-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
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 79

config allowed-user

Description: Configure SMS remote diagnosis-allowed SMS senders.

```
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.			

Parameter	Description	Type	Size	Default

Option	Description
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 syslog server.	IPv4 address	-	none
port	The remote syslog server port.	integer	1 - 65535	514

config statistic-report

Description: Configures 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
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.	-	none

Parameter	Description	Type	Size	Default
		(One of the physical or virtual system LAN side interfaces. Use the tab key to get the full list.)		

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

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

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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 lan-switch

Description: Configure LAN switch settings.

config ports

Description: Configure LAN switch ports.

```
config system lan-switch
     config ports
          edit <name>
             set
```

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

Sample command:

```
FX201E5919000057 # config system lan-switch
FX201E5919000057 (lan-switch) # show
config system lan-switch
    config ports
        edit port1
        next
        edit port2
        next
        edit port3
        next
    end
end
```

Parameter	Description	Type	Size	Default
name	The LAN port ID.	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.

SNMP

This section shows the syntax of the following commands:

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

Parameter	Description	Type	Size	Default
query-v2-status	Status of SNMP v2 queries.	option	-	disable
	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.

Parameter	Description	Type	Size	Default
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

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.
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.

Parameter	Description	Type	Size	Default
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

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.

Parameter	Description	Type	Size	Default
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.

Parameter	Description	Type	Size	Default
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

Description: Configure IPsec settings.

config phase1-interface

Description: Configure the VPN remote gateway.

```
config ipsec
   config 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 | 3des-
                     sha256 | aes128-md5 | aes128-sha1 | aes128-sha256 | aes256-md5 |
                     aes256-sha1 | aes256-sha256]
                set dhgrp [1 | 2 | 5 | 14]
                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
                unset
                next
                show
                abort
                end
        delete <name>
```

```
        purge
        show
        end
```

Sample command:

```
FX201E5919000057 (phase1-interface) # show
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 3des-
sha1
        set dhgrp 14 5
        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
    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			

Parameter	Description	Type	Size	Default
	Option / **Description** des-sha256 3des-md5 3des-sha1 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			
interface	The outgoing 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.			
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.			

Parameter	Description	Type	Size	Default
	Option / **Description** 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

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]
                        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 3des-
sha256
        set pfs enable
        set dhgrp 14 5
        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

Parameter	Description	Type	Size	Default
				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			
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. ip: IPv4 IP. name: IPv4 network address name.			

Parameter	Description	Type	Size	Default
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 certificate

Description: Configure VPN certificates.

- config ca on page 106
- config local on page 107

config 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
```

config local

Description: Configure Local keys and certificates.

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

Sample command:

```
FX201E5919000057 (certificate) # show
config vpn certificate
    config ca
        edit Fortinet_CA
            set comment
            set source factory
        next
        edit Fortinet_CA_Backup
            set comment
            set source factory
        next
        edit Fortinet_Sub_CA
            set comment
            set source factory
        next
    end
    config local
        edit Fortinet_Factory
            set comment
            set source factory
        next
        edit Fortinet_Factory_Backup
            set comment
            set source factory
        next
    end
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.

Network

This section shows the syntax of the following commands:

config address

Description: Configure IPv4 addresses.

```
config 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

Option	Description
ipmask	IP address and subnet mask.
iprange	IP range.

Parameter	Description	Type	Size	Default
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>] *a
when protocol is set to TCP
                      set udp-portrange <dstport_low>[-<dstport_high>:<srcport_low>-<srcport_high>] *a
when protocol is set to UDP
                      unset
                      next
                      show
                      abort
                      end
              delete <name>
              purge
              show
              end
       show
       end
show
end
```

Sample ommand:

```
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

Execute

This section shows the syntax of the following command:

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
```

Change Log

Date	Change Description
May 20, 2025	Added config pppoe-interface on page 64. Updated config interface on page 56.
Mar 12, 2025	Updated config plan on page 27.
May 30, 2023	Update, adding descriptions to command parameters.
April 17, 2023	Initial release.

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