

CLI Reference

FortiExtender 7.6.1



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Aug 27, 2025

FortiExtender 7.6.1 CLI Reference

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Change Log

| Date | Change Description |
|------------|--|
| 08-27-2025 | Updated config system switch-interface on page 91. |
| 05-20-2025 | Added config pppoe-interface on page 66 Updated config interface on page 58. |
| 03-12-2025 | Updated config plan on page 29. |
| 02-06-2025 | Updated config admin on page 51, config system switch-interface on page 91. Added User on page 126. |
| 01-14-2025 | Updated config phase1-interface on page 107. |
| 11-25-2024 | Initial release. |

Introduction

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

Connect to the CLI

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

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

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



You can open only one console per GUI access.

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

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

Console connection

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

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

- You are installing the device for the first time, and it is not configured to connect to your network.
- You are restoring the firmware using a boot interruption. Network access to the CLI will not be available until after the boot process has completed, making direct console access the only option.

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

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

To connect to the CLI through a direct console connection:

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

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

SSH access

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

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

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

To connect to the FortiExtender using SSH, you need:

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

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

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

```
config system interface
    edit <interface_str>
        set allowaccess ssh
    next
```

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

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

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

Access the FortiExtender CLI using SSH

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

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

To connect to the CLI using SSH:

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



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

6. Click Yes to accept the FortiExtender's SSH key.
The CLI will display the login prompt.
7. Enter the administrator account name, such as admin, and press Enter.
8. Enter the administrator account password and press Enter.

The CLI console shows the command prompt (the FortiExtender hostname followed by #). You can now enter CLI commands.

CLI commands

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

The commands cover the following topics:

- [Header on page 12](#)
- [Firewall on page 13](#)
- [LTE on page 21](#)
- [Router on page 33](#)
- [System on page 47](#)
- [SNMP on page 96](#)
- [HMON on page 103](#)
- [VPN on page 107](#)
- [Network on page 116](#)
- [Execute on page 119](#)



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

Header

This section shows the syntax of the following command:

- [config version on page 12](#)

config version

Description: Configure header version settings.

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

Sample command:

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

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

Firewall

This section shows the syntax of the following commands:

- [config policy on page 13](#)
- [config traffic-shaper on page 17](#)
- [config shaping-policy on page 17](#)
- [config vip on page 19](#)

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 | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as the incoming interface.</td> </tr> <tr> <td>lo</td> <td>Loopback as the incoming interface.</td> </tr> <tr> <td>lte1</td> <td>LTE 1 as the incoming interface.</td> </tr> <tr> <td>wan</td> <td>WAN as the incoming interface.</td> </tr> <tr> <td>port4</td> <td>Port 4 as the incoming interface.</td> </tr> <tr> <td>any</td> <td>Any port as the incoming interface.</td> </tr> </tbody> </table> | 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. | | | |
| Option | Description | | | | | | | | | | | | | | | | | |
| lan | LAN as the incoming interface. | | | | | | | | | | | | | | | | | |
| lo | Loopback as the incoming interface. | | | | | | | | | | | | | | | | | |
| lte1 | LTE 1 as the incoming interface. | | | | | | | | | | | | | | | | | |
| wan | WAN as the incoming interface. | | | | | | | | | | | | | | | | | |
| port4 | Port 4 as the incoming interface. | | | | | | | | | | | | | | | | | |
| any | Any port as the incoming interface. | | | | | | | | | | | | | | | | | |
| dstintf | Outgoing (egress) interface. | option | - | none | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as the outgoing interface.</td> </tr> <tr> <td>lo</td> <td>Loopback as the outgoing interface.</td> </tr> <tr> <td>lte1</td> <td>LTE 1 as the outgoing interface.</td> </tr> <tr> <td>wan</td> <td>WAN as the outgoing interface.</td> </tr> <tr> <td>port4</td> <td>Port 4 as the outgoing interface.</td> </tr> <tr> <td>any</td> <td>Any port as the outgoing interface.</td> </tr> </tbody> </table> | 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. | | | |
| 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. | | |
| dnat | Destination NAT. | option | - | disable |
| | Option | Description | | |
| | enable | Enable destination NAT. | | |
| | disable | Disable destination NAT. | | |
| dstaddr | Destination address. | option | - | none |
| | Option | Description | | |
| | all | All network addresses. | | |
| | none | None of the network addresses. | | |
| | lan-src | LAN network address. | | |
| | wan-src | WAN network address. | | |
| action | Policy action. | option | - | accept |
| | Option | Description | | |
| | accept | Accept policy. | | |
| | deny | Deny policy. | | |
| status | Status of the policy. | option | - | enable |
| | Option | Description | | |
| | enable | Enable this policy. | | |
| | disable | Disable this policy. | | |
| 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 the shaper. | integer | 1 - 16776000 | 100 |
| bandwidth-unit | Unit of measurement for guaranteed and maximum bandwidth for the shaper. | option | - | none |
| | Option | Description | | |
| | kbps | Kilobits per second. | | |
| | mbps | Megabits per second. | | |
| | gbps | Gigabits per second. | | |

config shaping-policy

Description: Configure firewall shaping policies.

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

```

    purge
    show
end

```

Sample command:

```

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

```

| Parameter | Description | Type | Size | Default |
|----------------|--|---|------|---------|
| status | Status of the traffic shaping policy. | option | - | enable |
| | Option | Description | | |
| | enable | Enable the policy. | | |
| | disable | Disable the policy. | | |
| 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 to config traffic-shaper on page 17 . | | |

config vip

Description: Configure firewall virtual IPs.

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

Sample command:

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

| Parameter | 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 |

| Parameter | Description | Type | Size | Default | | | | | | | | | | | | | | |
|-------------|--|--------|-------------|---------|--------------------------------|---------|-------------------------------------|------|----------------------------------|-----|--------------------------------|-------|-----------------------------------|-----|-------------------------------------|--|--|--|
| | mapped. | | | | | | | | | | | | | | | | | |
| extintf | Interface connected to the source network that receives packets to be forwarded to the destination network. | option | - | none | | | | | | | | | | | | | | |
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| 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 | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable port forwarding.</td> </tr> <tr> <td>disable</td> <td>Disable port forwarding.</td> </tr> </tbody> </table> | Option | Description | enable | Enable port forwarding. | disable | Disable port forwarding. | | | | | | | | | | | |
| Option | Description | | | | | | | | | | | | | | | | | |
| enable | Enable port forwarding. | | | | | | | | | | | | | | | | | |
| disable | Disable port forwarding. | | | | | | | | | | | | | | | | | |
| protocol | Protocol to use when forwarding packets. | option | - | tcp | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>tcp</td> <td>TCP protocol.</td> </tr> <tr> <td>udp</td> <td>UDP Protocol.</td> </tr> <tr> <td>icmp</td> <td>ICMP protocol.</td> </tr> </tbody> </table> | Option | Description | tcp | TCP protocol. | udp | UDP Protocol. | icmp | ICMP protocol. | | | | | | | | | |
| 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 on page 21](#)
- [config carrier on page 27](#)
- [config simmap on page 28](#)
- [config plan on page 29](#)

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 by-latency [enable | disable]
      set latency-threshold (0 - 10000000)
      set by-jitter [enable | disable]
```

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

Sample command:

```

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

```

| Parameter | Description | Type | Size | Default | | | | | | |
|-----------|---|--------|-------------|---------|-------------------------------|---------|--------------------------------|--|--|--|
| status | Status of controller reporting. | option | - | enable | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable LTE controller report.</td> </tr> <tr> <td>disable</td> <td>Disable LTE controller report.</td> </tr> </tbody> </table> | Option | Description | enable | Enable LTE controller report. | disable | Disable LTE controller report. | | | |
| Option | Description | | | | | | | | | |
| enable | Enable LTE controller report. | | | | | | | | | |
| disable | Disable LTE controller report. | | | | | | | | | |

| Parameter | Description | Type | Size | Default |
|------------------------|--|---|------------|---------|
| interval | Reporting interval. | integer | 30 - 86400 | 300 |
| signal-threshold | Signal threshold that needs to be reached before a report is sent. | integer | 10 - 50 | 10 |
| Parameter | Description | Type | Size | Default |
| pause-modem-manager | Delay the modem if the SIM needs a longer activation period. | option | - | disable |
| | Option | Description | | |
| | enable | Enable delayed modem activation. | | |
| | disable | Disable delay of modem activation. | | |
| 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 |

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

| Parameter | Description | Type | Size | Default | | | | | | |
|-----------------------|--|---------|--------------|---------|---|----------|--|--|--|--|
| event | Hmon hchk member | string | | none | | | | | | |
| fail-cnt | Number of failures before the member is considered dead. | integer | 1 - 10 | 5 | | | | | | |
| recovery-cnt | Number of successes before the member is considered alive. | integer | 1 - 10 | 5 | | | | | | |
| by latency | Latency monitoring on the active SIM. | option | | disable | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable SIM switching based on latency.</td> </tr> <tr> <td>disable</td> <td>Disable SIM switching based on latency.</td> </tr> </tbody> </table> | Option | Description | enable | Enable SIM switching based on latency. | disable | Disable SIM switching based on latency. | | | |
| Option | Description | | | | | | | | | |
| enable | Enable SIM switching based on latency. | | | | | | | | | |
| disable | Disable SIM switching based on latency. | | | | | | | | | |
| latency-threshold | Latency in milliseconds for SLA to make decision. | integer | 0 - 10000000 | 150 | | | | | | |
| by jitter | Jitter monitoring on the active SIM. | option | | disable | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable SIM switching based on jitter.</td> </tr> <tr> <td>disable</td> <td>Disable SIM switching based on jitter.</td> </tr> </tbody> </table> | Option | Description | enable | Enable SIM switching based on jitter. | disable | Disable SIM switching based on jitter. | | | |
| Option | Description | | | | | | | | | |
| enable | Enable SIM switching based on jitter. | | | | | | | | | |
| disable | Disable SIM switching based on jitter. | | | | | | | | | |
| recover-by-reboot | Reboot to recover the modem from excessive SIM switches. | option | | disable | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable device reboot after excessive SIM switching.</td> </tr> <tr> <td>disable</td> <td>Disable device reboot after excessive SIM switching.</td> </tr> </tbody> </table> | Option | Description | enable | Enable device reboot after excessive SIM switching. | disable | Disable device reboot after excessive SIM switching. | | | |
| 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 | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>by-time</td> <td>Switch back at a specified time using the HH:MM format.</td> </tr> <tr> <td>by-timer</td> <td>Switch back after the specified duration is over.</td> </tr> </tbody> </table> | 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. | | | |
| 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. | | | | | | | | | |

| Parameter | Description | Type | Size | Default |
|-------------------|---|---------|-------------------|---------|
| 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 | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable advanced settings.</td> </tr> <tr> <td>disable</td> <td>Disable advanced settings.</td> </tr> </tbody> </table> | Option | Description | enable | Enable advanced settings. | disable | Disable advanced settings. | | | |
| Option | Description | | | | | | | | | |
| 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 | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Force the modem to use IPv4 only.</td> </tr> <tr> <td>disable</td> <td>Do not force the modem to use IPv4 only.</td> </tr> </tbody> </table> | Option | Description | enable | Force the modem to use IPv4 only. | disable | Do not force the modem to use IPv4 only. | | | |
| 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 RM502QAEAR11A04M4G_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 | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>all</td> <td>All modems in the device.</td> </tr> <tr> <td>modem1</td> <td>Only modem 1 will be used.</td> </tr> <tr> <td>modem2</td> <td>Only modem 2 will be used. (This option applies to devices with two modems.)</td> </tr> </tbody> </table> | 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.) | | | | | |
| 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.) | | | | | | | | | | | | | |
| type | Method to assign the plan. | option | - | by-default | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>by-carrier</td> <td>Assign the plan to the SIM card with the specified carrier.</td> </tr> <tr> <td>by-iccid</td> <td>Assign the plan to the SIM card with the specified iccid.</td> </tr> <tr> <td>by-slot</td> <td>Assign the plan to the SIM card in the specified SIM slot.</td> </tr> <tr> <td>by-default</td> <td>Assign the plan to the default SIM card as set in LTE settings.</td> </tr> </tbody> </table> | 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. | | | |
| 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 | | | | | | | | | | |

| Parameter | Description | Type | Size | Default | | | | | | | | |
|------------------|---|---------|--------------|-----------|--|-----------|--|-----------|---|--|--|--|
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>sim1</td> <td>Assign the plan to the SIM card in SIM slot 1.</td> </tr> <tr> <td>sim2</td> <td>Assign the plan to the SIM card in SIM slot 2.</td> </tr> </tbody> </table> | 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. | | | | | |
| 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 | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>NONE</td> <td>No authentication.</td> </tr> <tr> <td>PAP</td> <td>Password authentication protocol.</td> </tr> <tr> <td>CHAP</td> <td>Challenge-and-response authentication protocol.</td> </tr> </tbody> </table> | Option | Description | NONE | No authentication. | PAP | Password authentication protocol. | CHAP | Challenge-and-response authentication protocol. | | | |
| 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 | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Definition</th> </tr> </thead> <tbody> <tr> <td>ipv4-only</td> <td>Only the IPv4 protocol is used.</td> </tr> <tr> <td>ipv6-only</td> <td>Only the IPv6 protocol is used.</td> </tr> <tr> <td>ipv4-ipv6</td> <td>Both IPv4 and IPv6 are tried.</td> </tr> </tbody> </table> | 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. | | | |
| Option | Definition | | | | | | | | | | | |
| ipv4-only | Only the IPv4 protocol is used. | | | | | | | | | | | |
| ipv6-only | Only the IPv6 protocol is used. | | | | | | | | | | | |
| ipv4-ipv6 | Both IPv4 and IPv6 are tried. | | | | | | | | | | | |
| signal-threshold | SIM switch if signal drops below the set threshold. | integer | -100 - -50 | -100 | | | | | | | | |
| signal-period | SIM switch if signal drops below the threshold for more than half of the set period. | integer | 600 - 18000 | 3600 | | | | | | | | |
| capacity | The amount of data allotted to the SIM card's plan. | integer | 0 - 10240000 | 0 | | | | | | | | |
| monthly-fee | The amount paid each month for the plan. | integer | 0 - 1000000 | 0 | | | | | | | | |
| billing-date | The day of the month when the payment for the plan is renewed. | integer | 1 - 31 | 1 | | | | | | | | |
| overage | Whether the SIM card can continue to use data once the allotted amount is used up. | option | - | disable | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable data usage over capacity.</td> </tr> <tr> <td>disable</td> <td>Disable data usage once the capacity has been reached.</td> </tr> </tbody> </table> | Option | Description | enable | Enable data usage over capacity. | disable | Disable data usage once the capacity has been reached. | | | | | |
| Option | Description | | | | | | | | | | | |
| enable | Enable data usage over capacity. | | | | | | | | | | | |
| disable | Disable data usage once the capacity has been reached. | | | | | | | | | | | |

| Parameter | Description | Type | Size | Default | | | | | | |
|----------------------|--|---------|-------------|---------|--|---------|---|--|--|--|
| 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 | | | | | | |
| | <table border="1"><thead><tr><th>Option</th><th>Description</th></tr></thead><tbody><tr><td>enable</td><td>Enable DHCP traffic on port UDP 67 so cellular modems can forward them from the internal to the external side.</td></tr><tr><td>disable</td><td>Block DHCP traffic on port UDP 67, preventing them from passing from the internal to the external side.</td></tr></tbody></table> | 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. | | | |
| Option | Description | | | | | | | | | |
| enable | Enable DHCP traffic on port UDP 67 so cellular modems can forward them from the internal to the external side. | | | | | | | | | |
| disable | Block DHCP traffic on port UDP 67, preventing them from passing from the internal to the external side. | | | | | | | | | |
| session-dial-timeout | Timeout value when dialing up a session. | integer | 0 - 180 | 0 | | | | | | |

Router

This section shows the syntax of the following commands:

- [config router policy on page 33](#)
- [config static on page 35](#)
- [config target on page 36](#)
- [config multicast on page 37](#)
- [config OSPF on page 39](#)
- [config prefix-list on page 43](#)
- [config route-map on page 44](#)

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 | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as the input device.</td> </tr> <tr> <td>lo</td> <td>Loopback as the input device.</td> </tr> <tr> <td>lte1</td> <td>LTE 1 as the input device.</td> </tr> <tr> <td>wan</td> <td>WAN as the input device.</td> </tr> <tr> <td>port4</td> <td>Port 4 as the input device.</td> </tr> <tr> <td>port1</td> <td>Port 1 as the input device.</td> </tr> </tbody> </table> | 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. | | | |
| 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 | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN network address.</td> </tr> <tr> <td>all</td> <td>All the network addresses.</td> </tr> <tr> <td>none</td> <td>None of the network addresses.</td> </tr> </tbody> </table> | Option | Description | lan | LAN network address. | all | All the network addresses. | none | None of the network addresses. | | | | | | | | | |
| Option | Description | | | | | | | | | | | | | | | | | |
| lan | LAN network address. | | | | | | | | | | | | | | | | | |
| all | All the network addresses. | | | | | | | | | | | | | | | | | |
| none | None of the network addresses. | | | | | | | | | | | | | | | | | |
| dstaddr | destination address. | option | - | none | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN network address.</td> </tr> <tr> <td>all</td> <td>All the network addresses.</td> </tr> <tr> <td>none</td> <td>None of the network addresses.</td> </tr> </tbody> </table> | Option | Description | lan | LAN network address. | all | All the network addresses. | none | None of the network addresses. | | | | | | | | | |
| Option | Description | | | | | | | | | | | | | | | | | |
| lan | LAN network address. | | | | | | | | | | | | | | | | | |
| all | All the network addresses. | | | | | | | | | | | | | | | | | |
| none | None of the network addresses. | | | | | | | | | | | | | | | | | |
| service | Service/service group names. | option | - | none | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ALL_ICMP</td> <td>ICMP.</td> </tr> <tr> <td>ALL</td> <td>All.</td> </tr> <tr> <td>etc</td> <td>Refer to the different services in this command.</td> </tr> </tbody> </table> | Option | Description | ALL_ICMP | ICMP. | ALL | All. | etc | Refer to the different services in this command. | | | | | | | | | |
| 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 | | | | | | | | | | | | | | |
|--------------|--|--------|------------------------------|------------|--------------------|-----------|-------------------------|-------------|----------------------|------------|--------------------|--------------|-----------------------|--------------|-----------------------|--|--|--|
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>target.lan</td> <td>LAN as the target.</td> </tr> <tr> <td>target.lo</td> <td>Loopback as the target.</td> </tr> <tr> <td>target.lte1</td> <td>LTE 1 as the target.</td> </tr> <tr> <td>target.wan</td> <td>WAN as the target.</td> </tr> <tr> <td>target.port4</td> <td>Port 4 as the target.</td> </tr> <tr> <td>target.Port1</td> <td>Port 1 as the target.</td> </tr> </tbody> </table> | 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. | | | |
| 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 | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the policy.</td> </tr> <tr> <td>disable</td> <td>Disable the policy.</td> </tr> </tbody> </table> | Option | Description | enable | Enable the policy. | disable | Disable the policy. | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as the target interface.</td> </tr> <tr> <td>lo</td> <td>Loopback as the target interface.</td> </tr> <tr> <td>lte1</td> <td>LTE 1 as the target interface.</td> </tr> <tr> <td>wan</td> <td>WAN as the target interface.</td> </tr> <tr> <td>port4</td> <td>Port 4 as the target interface.</td> </tr> <tr> <td>port1</td> <td>Port 1 as the target interface.</td> </tr> </tbody> </table> | 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. | | | |
| 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 37](#)
- [config rp-address on page 38](#)
- [config interface on page 38](#)

config pim-sm-global

Description: Configure PIM sparse-mode interfaces.

config rp-address

Description: Configure static RP addresses.

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

config interface

Description: Configure Protocol Independent Multicast (PIM) interfaces.



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

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

Sample command:

```
FX201E5919000057 (multicast) # show
config router multicast
  config pim-sm-global
    set join-prune-interval 60
    set hello-interval 30
  config rp-address
    edit 1
```

```

        set address 192.168.200.23
        set group 224.0.0.0/4
    next
end
end
config interface
end
end

```

| Parameter | Description | Type | Size | Default |
|---------------------|---|----------------------|------------|-------------|
| join-prune-interval | Interval (in seconds) between sending PIM join/prune messages. | integer | 1 - 65535 | 60 |
| hello-interval | Interval (in seconds) between sending PIM hello messages . | integer | 30 - 18724 | 30 |
| address | RP router address. | IPv4 address | - | none |
| group | Groups to use this RP. (Note: The specified IPv4 subnet should be within 224.0.0.0/4, but not within 232.0.0.0/8.) | IPv4 address/netmask | - | 224.0.0.0/4 |
| interface | PIM interfaces. | string | - | none |

config OSPF

Description: Configure OSPF settings.

```

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

```

- [config area on page 39](#)
- [config network on page 40](#)
- [config ospf-interface on page 40](#)
- [config redistribute on page 40](#)

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: Configure redistribute settings.

- [config connected on page 41](#)
- [config static on page 41](#)

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
```

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
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 | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>status</td> <td>Enable/disable redistribute connected.</td> </tr> <tr> <td>metric-type</td> <td>Metric type integer.</td> </tr> <tr> <td>metric</td> <td>Redistribute metric setting.</td> </tr> <tr> <td>routemap</td> <td>Route map name.</td> </tr> </tbody> </table> | Option | Description | status | Enable/disable redistribute connected. | metric-type | Metric type integer. | metric | Redistribute metric setting. | routemap | Route map name. | | |
| Option | Description | | | | | | | | | | | | | |
| status | Enable/disable redistribute connected. | | | | | | | | | | | | | |
| metric-type | Metric type integer. | | | | | | | | | | | | | |
| metric | Redistribute metric setting. | | | | | | | | | | | | | |
| routemap | Route map name. | | | | | | | | | | | | | |
| | config static | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>status</td> <td>Enable/disable redistribute static.</td> </tr> <tr> <td>metric-type</td> <td>Metric type integer.</td> </tr> <tr> <td>metric</td> <td>Redistribute metric setting.</td> </tr> <tr> <td>routemap</td> <td>Route map name.</td> </tr> </tbody> </table> | Option | Description | status | Enable/disable redistribute static. | metric-type | Metric type integer. | metric | Redistribute metric setting. | routemap | Route map name. | | |
| 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 43](#)

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 | Allow packets that match this rule. | | |
| | deny | Deny packets that match this rule. | | |
| prefix | IPv4 prefix to define the regular filter criteria. | IPv4 address/netmask | - | none |
| ge | Minimum prefix length to be matched. | integer | 0 - 32 | none |
| le | Maximum prefix length to be matched. | integer | 0 - 32 | none |

config route-map

Description: Configure route maps.

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

- [config rule on page 45](#)

config rule

Description: Configure route map rule.

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

Sample command:

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

| Parameter | Description | Type | Size | Default |
|-----------|---------------------|-------------------------------------|------|---------|
| action | Action of the rule. | option | - | permit |
| | Option | Description | | |
| | permit | Allow packets that match this rule. | | |
| | deny | Deny packets that match this rule. | | |

| 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 on page 47](#)
- [config system accprofile on page 48](#)
- [config admin on page 51](#)
- [config management on page 53](#)
- [config interface on page 58](#)
- [config dhcpserver on page 67](#)
- [config dhcprelay on page 70](#)
- [config dns on page 71](#)
- [config dns-server on page 73](#)
- [config dns-database on page 74](#)
- [config dns-entry on page 75](#)
- [config vwan-member on page 77](#)
- [config sms-notification on page 79](#)
- [config sms-remote-diag on page 82](#)
- [config syslog on page 83](#)
- [config virtual-wire-pair on page 87](#)
- [config api-user on page 87](#)
- [config ntp on page 88](#)
- [config settings on page 89](#)
- [config lan-switch on page 90](#)
- [config system switch-interface on page 91](#)

config system global

Description: Configure FortiExtender global settings.

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

Sample command:

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

| Parameter | Description | Type | Size | Default |
|--------------------|--|-----------------------------|--------|---------------------------------------|
| hostname | Device display name. | string | - | none |
| timezone | System timezone setting. (Note: Use the 'get timezone list' command to check the timezone ID.) | integer | 0 - 87 | 80 |
| auto-install-image | Automatically install image from USB. | option | - | disable |
| | Option | Description | | |
| | enable | Enable auto-install-image. | | |
| | disable | Disable auto-install-image. | | |
| default-image-file | Image file from USB. | string | - | none |
| mdm-fw-server | Cloud modem image upgrade URL. | string | - | fortiextender-firmware.forticloud.com |
| os-fw-server | Cloud OS image upgrade URL. | string | - | fortiextender-firmware.forticloud.com |
| admin-server-cert | Server certificate that the FortiExtender uses for HTTPS administrative connections. | string | - | Fortinet_Factory_Backup |

config system accprofile

Description: Configure administration access profiles.

```
config system accprofile
  edit <name>
    set header [read-write | read | no-access]
    set firewall [read-write | read | no-access]
    set lte [read-write | read | no-access]
    set router [read-write | read | no-access]
    set 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 | Header settings. | option | - | read | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>read-write</td> <td>Read-write access.</td> </tr> <tr> <td>read</td> <td>Read access.</td> </tr> <tr> <td>no-access</td> <td>No access.</td> </tr> </tbody> </table> | Option | Description | read-write | Read-write access. | read | Read access. | no-access | No access. | | | |
| Option | Description | | | | | | | | | | | |
| read-write | Read-write access. | | | | | | | | | | | |
| read | Read access. | | | | | | | | | | | |
| no-access | No access. | | | | | | | | | | | |
| firewall | Firewall configuration. | option | - | read | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>read-write</td> <td>Read-write access.</td> </tr> <tr> <td>read</td> <td>Read access.</td> </tr> <tr> <td>no-access</td> <td>No access.</td> </tr> </tbody> </table> | Option | Description | read-write | Read-write access. | read | Read access. | no-access | No access. | | | |
| Option | Description | | | | | | | | | | | |
| read-write | Read-write access. | | | | | | | | | | | |
| read | Read access. | | | | | | | | | | | |
| no-access | No access. | | | | | | | | | | | |
| lte | LTE configuration. | option | - | read | | | | | | | | |

| Parameter | Description | Type | Size | Default |
|-----------|-------------------------------|--------------------|------|---------|
| | Option | Description | | |
| | read-write | Read-write access. | | |
| | read | Read access. | | |
| | no-access | No access. | | |
| router | Router configuration. | option | - | read |
| | Option | Description | | |
| | read-write | Read-write access. | | |
| | read | Read access. | | |
| | no-access | No access. | | |
| system | System configuration. | option | - | read |
| | Option | Description | | |
| | read-write | Read-write access. | | |
| | read | Read access. | | |
| | no-access | No access. | | |
| snmp | SNMP configuration. | option | - | read |
| | Option | Description | | |
| | read-write | Read-write access. | | |
| | read | Read access. | | |
| | no-access | No access. | | |
| hmon | Health monitor configuration. | option | - | read |
| | Option | Description | | |
| | read-write | Read-write access. | | |
| | read | Read access. | | |
| | no-access | No access. | | |
| vpn | VPN configuration. | option | - | read |
| | Option | Description | | |
| | read-write | Read-write access. | | |

| Parameter | Description | Type | Size | Default | | | | | | | | |
|------------|---|--------|-------------|------------|--------------------|-----------|--------------|-----------|------------|--|--|--|
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>read</td> <td>Read access.</td> </tr> <tr> <td>no-access</td> <td>No access.</td> </tr> </tbody> </table> | Option | Description | read | Read access. | no-access | No access. | | | | | |
| Option | Description | | | | | | | | | | | |
| read | Read access. | | | | | | | | | | | |
| no-access | No access. | | | | | | | | | | | |
| network | Network configuration. | option | - | read | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>read-write</td> <td>Read-write access.</td> </tr> <tr> <td>read</td> <td>Read access.</td> </tr> <tr> <td>no-access</td> <td>No access.</td> </tr> </tbody> </table> | Option | Description | read-write | Read-write access. | read | Read access. | no-access | No access. | | | |
| Option | Description | | | | | | | | | | | |
| read-write | Read-write access. | | | | | | | | | | | |
| read | Read access. | | | | | | | | | | | |
| no-access | No access. | | | | | | | | | | | |

config admin

Description: Configure user access.

```

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

```

Sample command:

```

config system admin
  edit remotel
    set accprofile super_admin
    set remote-auth enable
    set wildcard enable
    set password ENC *
    set remote-group group1

```

```

set trusthost1 192.168.200.110/24
set trusthost2
set trusthost3
set trusthost4
set trusthost5
set trusthost6
set trusthost7
set trusthost8
set trusthost9
set trusthost10
next
end

```

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

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

config 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 | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>auto</td> <td>Automatic.</td> </tr> <tr> <td>fortigate</td> <td>FortiGate.</td> </tr> <tr> <td>cloud</td> <td>FortiExtender Cloud.</td> </tr> <tr> <td>local</td> <td>Local.</td> </tr> </tbody> </table> | Option | Description | auto | Automatic. | fortigate | FortiGate. | cloud | FortiExtender Cloud. | local | Local. | | | |
| Option | Description | | | | | | | | | | | | | |
| auto | Automatic. | | | | | | | | | | | | | |
| fortigate | FortiGate. | | | | | | | | | | | | | |
| cloud | FortiExtender Cloud. | | | | | | | | | | | | | |
| local | Local. | | | | | | | | | | | | | |

- [config fortigate on page 54](#)
- [config cloud on page 55](#)
- [config local on page 56](#)
- [config local-access on page 56](#)
- [config fortigate-backup on page 57](#)

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 | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>broadcast</td> <td>Broadcast.</td> </tr> <tr> <td>static</td> <td>Static IP address.</td> </tr> </tbody> </table> | Option | Description | broadcast | Broadcast. | static | Static IP address. | | | |
| Option | Description | | | | | | | | | |
| broadcast | Broadcast. | | | | | | | | | |
| static | Static IP address. | | | | | | | | | |
| server | IP address or hostname of the AC server. | string | - | none | | | | | | |

| Parameter | Description | Type | Size | Default |
|----------------|---|---------|--------------|---------|
| 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. |

| | | | | |
|-------|-----------------------------|--------|---|---------|
| proxy | Status of proxy connection. | option | - | disable |
|-------|-----------------------------|--------|---|---------|

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

config local

Description: Configure local settings.

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

| Parameter | Description | Type | Size | Default |
|-----------|------------------|--------------------|------|---------|
| mode | Networking mode. | option | - | nat |
| | Option | Description | | |
| | 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 |

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

config fortigate-backup

Description: Configure backup feature.

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

| Parameter | Description | Type | Size | Default |
|----------------|-------------------------------|-----------------------------|------|---------|
| vrrp-interface | VRRP interface. | option | - | none |
| | Option | Description | | |
| | lan | LAN as vrrp-interface. | | |
| | lo | Loopback as vrrp-interface. | | |
| | lte1 | LTE 1 as vrrp-interface. | | |
| | wan | WAN as vrrp-interface. | | |
| status | Status of the VRRP interface. | option | - | disable |
| | Option | Description | | |
| | enable | Enable the VRRP interface. | | |
| | disable | Disable the VRRP interface. | | |

Sample command:

```
FX201E5919000057 (management) # show
config system management
  set discovery-type auto
  config fortigate
    set ac-discovery-type static
    edit 1
```

```
        set server 10.107.41.66
    next
    set ac-ctl-port 5246
    set ac-data-port 25246
    set discovery-intf lan
    set ingress-intf
end

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

config local
    set mode nat
end

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

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

config 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 |
| | 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. | | |

| Parameter | Description | Type | Size | Default |
|---------------------|---|--|------------|-----------|
| 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 |
| | 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. | | |

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

| Parameter | Description | Type | Size | Default |
|-----------|---------------|--------------------|------|---------|
| | Option | Description | | |
| | Vdsl | | | |
| | Adsl | | | |

- [config VRRP on page 62](#)
- [config vxlan on page 63](#)
- [config aggregate-interface on page 64](#)
- [config pppoe-interface on page 66](#)

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 router. | IPv4 address | - | none |
| id | ID of the virtual router. | integer | 1 - 255 | 0 |
| priority | Priority of the virtual router. | integer | 1 - 255 | 100 |
| adv-interval | Advertisement interval. | integer | 1 - 255 | 1 |
| start-time | Start-up time. | integer | 1 - 255 | 1 |
| preempt | Preempt mode. | option | - | disable |
| | Option | Description | | |
| | enable | Enable preempt mode. | | |
| | disable | Disable preempt mode. | | |

config 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 | Description | 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 aggregate-interface

Description: Configure the aggregate interface.

```

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 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| mapping-timeout | source-mac-to-member mapping timeout in seconds. | integer | 0 - 86400 | 60 |

| Parameter | Description | Type | Size | Default |
|---------------------------|--|---------|---------|---------|
| 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 pppoel
    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 |

| Parameter | Description | Type | Size | Default |
|-----------|---|--------|------|---------|
| 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 | Description | | |
| | 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 |

| Parameter | Description | Type | Size | Default | | | | | | |
|-----------|--|--------|-------------|----------|--------------------|----------|----------------------|--|--|--|
| action | Options for the DHCP server to configure the client with the reserved MAC address. | option | - | reserved | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>block</td> <td>Block the address.</td> </tr> <tr> <td>reserved</td> <td>Reserve the address.</td> </tr> </tbody> </table> | Option | Description | block | Block the address. | reserved | Reserve the address. | | | |
| Option | Description | | | | | | | | | |
| block | Block the address. | | | | | | | | | |
| reserved | Reserve the address. | | | | | | | | | |

config dhcprelay

Description: Configure DHCP relay.

```

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

```

Sample command:

```

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

```

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

| Parameter | Description | Type | Size | Default | | | | | | | | | | | | |
|-------------------|---|--------------|-------------|---------|---------------------------|---------|--------------------------------|-----|---------------------------|-------|------------------------------|-----|---------------------------|--|--|--|
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable DHCP relay.</td> </tr> <tr> <td>disable</td> <td>Disable DHCP relay</td> </tr> </tbody> </table> | Option | Description | enable | Enable DHCP relay. | disable | Disable DHCP relay | | | | | | | | | |
| Option | Description | | | | | | | | | | | | | | | |
| enable | Enable DHCP relay. | | | | | | | | | | | | | | | |
| disable | Disable DHCP relay | | | | | | | | | | | | | | | |
| client-interfaces | The interfaces connected to DHCP clients. | option | - | none | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as client interfaces.</td> </tr> <tr> <td>lo</td> <td>Loopback as client interfaces.</td> </tr> <tr> <td>wan</td> <td>WAN as client interfaces.</td> </tr> <tr> <td>port4</td> <td>Port 4 as client interfaces.</td> </tr> <tr> <td>lte</td> <td>LTE as client interfaces.</td> </tr> </tbody> </table> | 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. | | | |
| Option | Description | | | | | | | | | | | | | | | |
| lan | LAN as client interfaces. | | | | | | | | | | | | | | | |
| lo | Loopback as client interfaces. | | | | | | | | | | | | | | | |
| wan | WAN as client interfaces. | | | | | | | | | | | | | | | |
| port4 | Port 4 as client interfaces. | | | | | | | | | | | | | | | |
| lte | LTE as client interfaces. | | | | | | | | | | | | | | | |
| server-interface | The interface used to reach out to the DHCP server. | option | - | none | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as client interfaces.</td> </tr> <tr> <td>lo</td> <td>Loopback as client interfaces.</td> </tr> <tr> <td>wan</td> <td>WAN as client interfaces.</td> </tr> <tr> <td>port4</td> <td>Port 4 as client interfaces.</td> </tr> <tr> <td>lte</td> <td>LTE as client interfaces.</td> </tr> </tbody> </table> | 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. | | | |
| Option | Description | | | | | | | | | | | | | | | |
| lan | LAN as client interfaces. | | | | | | | | | | | | | | | |
| lo | Loopback as client interfaces. | | | | | | | | | | | | | | | |
| wan | WAN as client interfaces. | | | | | | | | | | | | | | | |
| port4 | Port 4 as client interfaces. | | | | | | | | | | | | | | | |
| lte | LTE as client interfaces. | | | | | | | | | | | | | | | |
| server-ip | IP address of the DHCP server. | IPv4 address | - | none | | | | | | | | | | | | |

config dns

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

```

config 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

```


| Parameter | Description | Type | Size | Default |
|-----------|---------------|------------------------------------|------|---------|
| | Option | Description | | |
| | 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 |

| Parameter | Description | Type | Size | Default |
|-----------|---------------|--------------------------------------|------|---------|
| | 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. | | |

| Parameter | Description | Type | Size | Default | | | | | | |
|---------------|---|--------------|----------------|-------------|--------|----------------------------|---------|-----------------------------|--|--|
| 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 | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable authoritative zone.</td> </tr> <tr> <td>disable</td> <td>Disable authoritative zone.</td> </tr> </tbody> </table> | | Option | Description | enable | Enable authoritative zone. | disable | Disable authoritative zone. | | |
| 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 | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable resource record.</td> </tr> <tr> <td>disable</td> <td>Disable resource record.</td> </tr> </tbody> </table> | Option | Description | enable | Enable resource record. | disable | Disable resource record. | | | | | | | | | |
| Option | Description | | | | | | | | | | | | | | | |
| enable | Enable resource record. | | | | | | | | | | | | | | | |
| disable | Disable resource record. | | | | | | | | | | | | | | | |
| type | Resource record type. | option | - | A | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Address record.</td> </tr> <tr> <td>NS</td> <td>Name server record.</td> </tr> <tr> <td>CNAME</td> <td>Canonical name record.</td> </tr> <tr> <td>MX</td> <td>Mail exchange record.</td> </tr> <tr> <td>PTR</td> <td>PTR resource record.</td> </tr> </tbody> </table> | Option | Description | A | Address record. | NS | Name server record. | CNAME | Canonical name record. | MX | Mail exchange record. | PTR | PTR resource record. | | | |
| Option | Description | | | | | | | | | | | | | | | |
| A | Address record. | | | | | | | | | | | | | | | |
| NS | Name server record. | | | | | | | | | | | | | | | |
| CNAME | Canonical name record. | | | | | | | | | | | | | | | |
| MX | Mail exchange record. | | | | | | | | | | | | | | | |
| PTR | PTR resource record. | | | | | | | | | | | | | | | |
| ttl | The time-to-live value (in seconds) for the entry. | integer | 0 - 2147483647 | 0 | | | | | | | | | | | | |
| hostname | Name of the host. | string | - | none | | | | | | | | | | | | |
| ip | IP address of the host. | IPv4 address | - | none | | | | | | | | | | | | |

config vwan-member

Description: Configure virtual VWAN interface members.

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

Sample command:

```
config system vwan-member
  edit mbl
    set target target.wan
    set priority 1
    set weight 1
    set in-bandwidth-threshold 0
    set out-bandwidth-threshold 0
    set total-bandwidth-threshold 0
    set health-check vw_mbl_hc
    set health-check-fail-threshold 5
    set health-check-success-threshold 5
    set link-cost-factor packet-loss latency jitter
    set latency-threshold 5
    set jitter-threshold 5
    set packetloss-threshold 100
  next
  edit mb2
    set target target.ltel
    set priority 10
    set weight 1
    set in-bandwidth-threshold 0
    set out-bandwidth-threshold 0
    set total-bandwidth-threshold 0
    set health-check vw_mb2_hc
```

```

set health-check-fail-threshold 5
set link-cost-factor packet-loss latency jitter
set latency-threshold 5
set jitter-threshold 5
set packetloss-threshold 100

```

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

| Parameter | Description | Type | Size | Default |
|----------------------|--|---------------|--|---------|
| link-cost-factor | Criteria by which link selection is made. | option | - | none |
| | | Option | Description | |
| | | latency | link-cost-factor based on latency. | |
| | | jitter | link-cost-factor based on jitter. | |
| | | packetloss | link-cost-factor based on packet-loss. | |
| latency-threshold | Latency in milliseconds for SLA to make decisions. | integer | 0 - 10000000 | 5 |
| jitter-threshold | Jitter in milliseconds for SLA to make decisions. | integer | 0 - 10000000 | 5 |
| packetloss-threshold | Packet loss in percentage for SLA to make decisions. | integer | 0 - 100 | 100 |

config sms-notification

Description: Configure Extender SMS notification settings.

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

- [config receiver on page 79](#)
- [config alert on page 80](#)

config receiver

Description: Configure SMS receiver.

```
config receiver
    edit <name>
        set receiver [enable | disable]
        set *phone-number +{country code}{phone number}
        set alert <name1>, <name2>, ...
    unset
```

```

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

```

| Parameter | Description | Type | Size | Default | | | | | | | | | | | | | | | | |
|------------------------|--|--------|-----------------|---------------|--|----------------|----------------------------|--------------------|------------------------------------|---------------------|--------------------------------|-------------------|--|-------------|--------------------------------------|------------------------|--|--|--|--|
| phone-number | The phone number consists of an optional "+" and up to 20 digits. No alphabetical letters is allowed. | string | Up to 20 digits | none | | | | | | | | | | | | | | | | |
| alert | Predefined alert to send to the receivers. (System reboot and OS image fallback alerts will be sent to the first user only!) | option | - | none | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>system-reboot</td> <td>System reboot alert. Only the first user can receive this alert.</td> </tr> <tr> <td>data-exhausted</td> <td>Data plan exhausted alert.</td> </tr> <tr> <td>session-disconnect</td> <td>LTE data session disconnect alert.</td> </tr> <tr> <td>low-signal-strength</td> <td>Low LTE signal strength alert.</td> </tr> <tr> <td>os-image-fallback</td> <td>OS image fallback alert. Only the first user can receive this alert.</td> </tr> <tr> <td>mode-switch</td> <td>System networking mode switch alert.</td> </tr> <tr> <td>fgt-backup-mode-switch</td> <td>The number of consecutive successful probes before the member is considered alive.</td> </tr> </tbody> </table> | Option | Description | system-reboot | System reboot alert. Only the first user can receive this alert. | data-exhausted | Data plan exhausted alert. | session-disconnect | LTE data session disconnect alert. | low-signal-strength | Low LTE signal strength alert. | os-image-fallback | OS image fallback alert. Only the first user can receive this alert. | mode-switch | System networking mode switch alert. | fgt-backup-mode-switch | The number of consecutive successful probes before the member is considered alive. | | | |
| Option | Description | | | | | | | | | | | | | | | | | | | |
| system-reboot | System reboot alert. Only the first user can receive this alert. | | | | | | | | | | | | | | | | | | | |
| data-exhausted | Data plan exhausted alert. | | | | | | | | | | | | | | | | | | | |
| session-disconnect | LTE data session disconnect alert. | | | | | | | | | | | | | | | | | | | |
| low-signal-strength | Low LTE signal strength alert. | | | | | | | | | | | | | | | | | | | |
| os-image-fallback | OS image fallback alert. Only the first user can receive this alert. | | | | | | | | | | | | | | | | | | | |
| mode-switch | System networking mode switch alert. | | | | | | | | | | | | | | | | | | | |
| fgt-backup-mode-switch | The number of consecutive successful probes before the member is considered alive. | | | | | | | | | | | | | | | | | | | |

config alert

Description: Configure alert type message setting.

```

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

```

end

| Parameter | Description | Type | Size | Default |
|------------------------|--|--------|---------------------------------|-------------------------------------|
| system-reboot | System reboot alert. Only the first user can receive this alert message. | string | Up to 127 characters in length. | system will reboot |
| data-exhausted | Data plan exhausted alert message. | string | Up to 127 characters in length. | data plan is exhausted |
| session-disconnect | LTE data session disconnect alert message. | string | Up to 127 characters in length. | LTE data session is disconnected |
| 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 re1
      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 82](#)

config allowed-user

Description: Configure SMS remote diagnosis-allowed SMS sender.

```

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

```

Sample command:

```

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

```

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

config syslog

Description: Configure syslog server settings.

```

config system syslog
  config remote-servers {string}
  edit <name>
    set ip* {ipv4-address}
    set port [1 - 65535]
  unset
  delete <name>
  purge
  show
end
config statistic-report
  set status [disable | enable]
  set interval [1 - 3600]
  config cpu-usage
    set threshold [0 - 100]
    thrset variance [0 - 100]
  end
  config memory-usage
    set threshold [0 - 100]
    set variance [0 - 100]
  end
  config cpu-temperature
    set threshold [0 - 120]
    set variance [0 - 120]
  end
end
show
end

```

config remote-servers

Description: Configure syslog remote servers settings.

```

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

```

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

config statistic-report

Description: Configure syslog statistic report settings.

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

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

config cpu-usage

Description: Configures CPU usage rate statistic report settings.

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

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

config memory-usage

Description: Configures memory usage statistic report settings.

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

| Parameter | Size | Type | Size | Default |
|-----------|---|---------|---------|---------|
| threshold | The percentage of memory usage threshold for system abnormal event report. 0 means disabled. | integer | 0 - 100 | 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
    end

```

```

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

```

config virtual-wire-pair

Description: Configure LAN-to-LTE interface mapping.

```

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

```

Sample command:

```

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

```

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

config api-user

Description: Configure API user settings.

```

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

```

```
show
end
```

Sample command:

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

| Parameter | Description | 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 | Description | Type | Size | Default |
|-----------|---------------------|----------------------------|------|------------|
| type | Type of NTP server. | option | - | fortiguard |
| | Option | Description | | |
| | fortiguard | The FortiGuard NTP server. | | |
| | custom | A custom NTP server. | | |

- [config ntpserver on page 89](#)

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. | | |

config system switch-interface

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

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

```

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

```

Sample syntax:

```

config system switch-interface
  edit le-switch
    set vlan-support disable
    config member
      edit lan

```

```

        set type physical
        set port lan
        set vids
        set pvid 1
    next
end
set stp disable
set ts-mode include
config traffic-split
    edit 1
        set dst-mac d2:0c:8e:d2:c6:6b
        set dst-addr 1e-ts-vsdb
        set services
    next
end
next
end

```

| Parameter | Description | Type | Size | Default |
|--------------|---|---------------------------------|------|---------|
| vlan-support | Enable/disable VLAN support. | option | - | |
| stp | Spanning Tree Protocol. | option | - | disable |
| | Option | Description | | |
| | enable | Enable Spanning Tree Protocol. | | |
| | disable | Disable Spanning Tree Protocol. | | |
| ts-mode | Read-only: Split tunnel mode. | option | - | disable |
| | Option | Description | | |
| | include | Enable Split tunnel mode | | |
| | disable | Disable Split tunnel mode. | | |
| dst-mac | Read-only: MAC address of the remote gateway pushed from FortiOS. | string | - | none |
| dst-addr | Read-only: Destination IP addresses | string | - | none |
| services | Read-only: Internet services. | options | - | none |

config members

| Parameter | Description | Type | Size | Default |
|---------------|---------------------------------------|--------|------|---------|
| config member | Interfaces within the virtual switch. | option | - | none |

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

config ssh-crypto

Description: Configure system SSH crypto.

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

Sample command:

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

| Parameter | Description | Type | Size | Default |
|---------------|--|-----------------------------------|------|---------|
| strong-crypto | Enable/disable strong encryption for SSH | option | - | disable |
| | Option | Description | | |
| | <i>enable</i> | Enable strong encryption for SSH | | |
| | <i>disable</i> | Disable strong encryption for SSH | | |

| Parameter | Description | Type | Size | Default |
|------------------|---|--------------------------------------|------|--|
| set ssh-enc-algo | Set supported ciphers for ssh-enc-algo. | option | - | aes256-ctr aes256-gcm@openssh.com |
| | Option | Description | | |
| | <i>aes256-ctr</i> | aes256-ctr | | |
| | <i>aes256-gcm@openssh.com</i> | aes256-gcm@openssh.com | | |
| set ssh-hsk-algo | Set supported ciphers for ssh-hsk-algo. | option | - | ecdsa-sha2-nistp521 ecdsa-sha2-nistp384 ecdsa-sha2-nistp256 rsa-sha2-256 rsa-sha2-512 ssh-ed25519 |
| | Option | Description | | |
| | <i>ecdsa-sha2-nistp256</i> | ecdsa-sha2-nistp256 | | |
| | <i>ecdsa-sha2-nistp384</i> | ecdsa-sha2-nistp384 | | |
| | <i>ecdsa-sha2-nistp521</i> | ecdsa-sha2-nistp521 | | |
| | <i>rsa-sha2-256</i> | rsa-sha2-256 | | |
| | <i>rsa-sha2-512</i> | rsa-sha2-512 | | |
| | <i>ssh-ed25519</i> | ssh-ed25519 | | |
| set ssh-kex-algo | Set supported ciphers for ssh-kex-algo. | option | - | diffie-hellman-group14-sha256 diffie-hellman-group16-sha512 diffie-hellman-group18-sha512 diffie-hellman-group-exchange-sha256 curve25519-sha256@libssh.org ecdh-sha2-nistp256 ecdh-sha2-nistp384 ecdh-sha2-nistp521 |
| | Option | Description | | |
| | <i>curve25519-sha256@libssh.org</i> | curve25519-sha256@libssh.org | | |
| | <i>diffie-hellman-group-</i> | diffie-hellman-group-exchange-sha256 | | |

| Parameter | Description | Type | Size | Default | | | | | | | | | | |
|--------------------------------------|--|--------|-------------|--|---------------|--------------------------------------|-------------------------------|--------------------------------------|-------------------------------|--------------------------------------|-------------------------------|--|--|--|
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><i>exchange-sha256</i></td> <td></td> </tr> <tr> <td><i>diffie-hellman-group14-sha256</i></td> <td>diffie-hellman-group14-sha256</td> </tr> <tr> <td><i>diffie-hellman-group16-sha512</i></td> <td>diffie-hellman-group16-sha512</td> </tr> <tr> <td><i>diffie-hellman-group18-sha512</i></td> <td>diffie-hellman-group18-sha512</td> </tr> </tbody> </table> | Option | Description | <i>exchange-sha256</i> | | <i>diffie-hellman-group14-sha256</i> | diffie-hellman-group14-sha256 | <i>diffie-hellman-group16-sha512</i> | diffie-hellman-group16-sha512 | <i>diffie-hellman-group18-sha512</i> | diffie-hellman-group18-sha512 | | | |
| Option | Description | | | | | | | | | | | | | |
| <i>exchange-sha256</i> | | | | | | | | | | | | | | |
| <i>diffie-hellman-group14-sha256</i> | diffie-hellman-group14-sha256 | | | | | | | | | | | | | |
| <i>diffie-hellman-group16-sha512</i> | diffie-hellman-group16-sha512 | | | | | | | | | | | | | |
| <i>diffie-hellman-group18-sha512</i> | diffie-hellman-group18-sha512 | | | | | | | | | | | | | |
| set ssh-mac-algo | Set supported ciphers for ssh-mac-algo. | option | - | hmac-sha2-256 hmac-sha2-256-etm@openssh.com hmac-sha2-512 hmac-sha2-512-etm@openssh.com | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><i>hmac-sha2-256</i></td> <td>hmac-sha2-256</td> </tr> <tr> <td><i>hmac-sha2-256-etm@openssh.com</i></td> <td>hmac-sha2-256-etm@openssh.com</td> </tr> <tr> <td><i>hmac-sha2-512</i></td> <td>hmac-sha2-512</td> </tr> <tr> <td><i>hmac-sha2-512-etm@openssh.com</i></td> <td>hmac-sha2-512-etm@openssh.com</td> </tr> </tbody> </table> | Option | Description | <i>hmac-sha2-256</i> | hmac-sha2-256 | <i>hmac-sha2-256-etm@openssh.com</i> | hmac-sha2-256-etm@openssh.com | <i>hmac-sha2-512</i> | hmac-sha2-512 | <i>hmac-sha2-512-etm@openssh.com</i> | hmac-sha2-512-etm@openssh.com | | | |
| Option | Description | | | | | | | | | | | | | |
| <i>hmac-sha2-256</i> | hmac-sha2-256 | | | | | | | | | | | | | |
| <i>hmac-sha2-256-etm@openssh.com</i> | hmac-sha2-256-etm@openssh.com | | | | | | | | | | | | | |
| <i>hmac-sha2-512</i> | hmac-sha2-512 | | | | | | | | | | | | | |
| <i>hmac-sha2-512-etm@openssh.com</i> | hmac-sha2-512-etm@openssh.com | | | | | | | | | | | | | |

SNMP

This section shows the syntax of the following commands:

- [config sysinfo on page 96](#)
- [config community on page 96](#)
- [config user on page 98](#)
- [config hosts on page 100](#)

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 | | | | | | |
| | <table border="1"><thead><tr><th>Option</th><th>Description</th></tr></thead><tbody><tr><td>enable</td><td>Enable the sysinfo configuration.</td></tr><tr><td>disable</td><td>Disable the sysinfo configuration.</td></tr></tbody></table> | Option | Description | enable | Enable the sysinfo configuration. | disable | Disable the sysinfo configuration. | | | |
| Option | Description | | | | | | | | | |
| enable | Enable the sysinfo configuration. | | | | | | | | | |
| disable | Disable the sysinfo configuration. | | | | | | | | | |
| description | A brief description of the system. | string | 1 - 127 characters in length | none | | | | | | |
| contact-info | Contact information. | string | 1 - 127 characters in length | none | | | | | | |
| location | System location. | string | 1 - 127 characters in length | none | | | | | | |

config community

Description: Configure SNMP v1/v2 community settings.

```

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

```

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

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

config user

Description: Configure SNMP v3 user settings.

```

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

```

| Parameter | Description | Type | Size | Default | | | | | | |
|--------------|---|---------|-------------|---------|-------------------------------------|---------|--------------------------------------|--|--|--|
| name | Username of the SNMP user. | string | - | none | | | | | | |
| status | Status of the SNMP user configuration. | option | - | disable | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the SNMP user.</td> </tr> <tr> <td>disable</td> <td>Disable the SNMP user.</td> </tr> </tbody> </table> | Option | Description | enable | Enable the SNMP user. | disable | Disable the SNMP user. | | | |
| Option | Description | | | | | | | | | |
| enable | Enable the SNMP user. | | | | | | | | | |
| disable | Disable the SNMP user. | | | | | | | | | |
| notify-hosts | SNMP managers to which notifications (traps) are sent. | option | - | none | | | | | | |
| trap-status | Status of the traps for the SNMP user. | option | - | disable | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the traps for the SNMP user.</td> </tr> <tr> <td>disable</td> <td>Disable the traps for the SNMP user.</td> </tr> </tbody> </table> | Option | Description | enable | Enable the traps for the SNMP user. | disable | Disable the traps for the SNMP user. | | | |
| Option | Description | | | | | | | | | |
| enable | Enable the traps for the SNMP user. | | | | | | | | | |
| disable | Disable the traps for the SNMP user. | | | | | | | | | |
| 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 | | | | | | |

| Parameter | Description | Type | Size | Default | | | | | | | | | | | | | | | | |
|------------------------|--|--------|-------------|-----------------|--------------------------------------|----------------|-----------------------------------|--------------------|---------------------------------------|---------------------|-----------------------------------|-------------------|-----------------------------------|-------------|----------------------------|------------------------|--|--|--|--|
| events | SNMP trap events. | option | - | none | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>system-reboot</td> <td>System reboot events.</td> </tr> <tr> <td>data-exhausted</td> <td>Data usage is exhaustion events.</td> </tr> <tr> <td>session-disconnect</td> <td>Modem data session disconnect events.</td> </tr> <tr> <td>low-signal-strength</td> <td>Modem low signal strength events.</td> </tr> <tr> <td>os-image-fallback</td> <td>System OS image fall back events.</td> </tr> <tr> <td>mode-switch</td> <td>System mode switch events.</td> </tr> <tr> <td>fgt-backup-mode-switch</td> <td>System FGT VRRP backup mode switch events.</td> </tr> </tbody> </table> | 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. | | | |
| Option | Description | | | | | | | | | | | | | | | | | | | |
| system-reboot | System reboot events. | | | | | | | | | | | | | | | | | | | |
| data-exhausted | Data usage is exhaustion events. | | | | | | | | | | | | | | | | | | | |
| session-disconnect | Modem data session disconnect events. | | | | | | | | | | | | | | | | | | | |
| low-signal-strength | Modem low signal strength events. | | | | | | | | | | | | | | | | | | | |
| os-image-fallback | System OS image fall back events. | | | | | | | | | | | | | | | | | | | |
| mode-switch | System mode switch events. | | | | | | | | | | | | | | | | | | | |
| fgt-backup-mode-switch | System FGT VRRP backup mode switch events. | | | | | | | | | | | | | | | | | | | |
| Security-level | Security level for message authentication and encryption. | option | - | no-auth-no-priv | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>no-auth-no-priv</td> <td>No authentication and no encryption.</td> </tr> <tr> <td>auth-no-priv</td> <td>Authentication and no encryption.</td> </tr> <tr> <td>auth-priv</td> <td>Authentication and encryption.</td> </tr> </tbody> </table> | Option | Description | no-auth-no-priv | No authentication and no encryption. | auth-no-priv | Authentication and no encryption. | auth-priv | Authentication and encryption. | | | | | | | | | | | |
| Option | Description | | | | | | | | | | | | | | | | | | | |
| no-auth-no-priv | No authentication and no encryption. | | | | | | | | | | | | | | | | | | | |
| auth-no-priv | Authentication and no encryption. | | | | | | | | | | | | | | | | | | | |
| auth-priv | Authentication and encryption. | | | | | | | | | | | | | | | | | | | |

config hosts

Description: Configure SNMP hosts settings.

```

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

```

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

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

Sample command:

```

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

```

```
        set events data-exhausted fgt-backup-mode-switch low-signal-strength
        set security-level auth-priv
        set auth-proto sha1
        set auth-pwd *****
        set priv-proto aes
        set priv-pwd *****
    next
end
config hosts
    edit host1
        set host-ip 192.168.1.100/24
        set host-type any
    next
end
end
```

HMON

This section shows the syntax of the following commands:

- [config interface-monitoring](#) on page 103
- [config hchk](#) on page 103

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 | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>tx-bytes</td> <td>Transmitter bytes.</td> </tr> <tr> <td>rx-bytes</td> <td>Receiver bytes.</td> </tr> <tr> <td>tx-packets</td> <td>Transmitter packets.</td> </tr> <tr> <td>rx-packets</td> <td>Receiver packets.</td> </tr> <tr> <td>tx-dropped</td> <td>Transmitter dropped bytes.</td> </tr> <tr> <td>rx-dropped</td> <td>Receiver dropped bytes.</td> </tr> <tr> <td>tx-bps</td> <td>Transmitter bytes per second.</td> </tr> <tr> <td>rx-bps</td> <td>Receiver bytes per second.</td> </tr> <tr> <td>tx-pps</td> <td>Transmitter packets per second.</td> </tr> <tr> <td>rx-pps</td> <td>Receiver packets per second.</td> </tr> </tbody> </table> | 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. | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ping</td> <td>Use PING to test the link with the probe-target.</td> </tr> <tr> <td>http</td> <td>Use HTTP-GET to test the link with the probe-target.</td> </tr> <tr> <td>dns</td> <td>Use DNS-Query to test the link with the probe-target.</td> </tr> </tbody> </table> | 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. | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as the outgoing interface.</td> </tr> <tr> <td>lo</td> <td>Loopback as the outgoing interface.</td> </tr> <tr> <td>lte1</td> <td>LTE 1 as the outgoing interface.</td> </tr> <tr> <td>wan</td> <td>WAN as the outgoing interface.</td> </tr> <tr> <td>port4</td> <td>Port 4 as the outgoing interface.</td> </tr> </tbody> </table> | 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. | | | | | | | | | | | | | |
| 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. | | |
| filter | Filter type. | option | - | rtt loss |
| | Option | Description | | |
| | rtt | Round trip time. | | |
| | loss | Packet loss. | | |

VPN

This section shows the syntax of the following commands:

- [config ipsec on page 107](#)
- [config certificate on page 114](#)

config ipsec

Description: Configure IPsec settings.

- [config phase1-interface on page 107](#)
- [config phase2-interface on page 110](#)

config phase1-interface

Description: Configure the VPN remote gateway.

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

Sample command:

```
config vpn ipsec phase1-interface
  edit phase1_1
    set ike-version 2
```

```

set keylife 86400
set proposal aes128-sha256 aes256-sha256 3des-sha256 aes128-sha1 aes256-sha1 3des-sha1
set dhgrp 14 5 31 20
set interface wan
set type static
set remote-gw 207.102.148.196
set authmethod psk
set psksecret *****
set localid 92
set peerid 22
set add-gw-route disable
set dev-id-notification disable
set monitor pri
next
end

```

| Parameter | Description | Type | Size | Default | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---------|--------------|--|-----------|----------|-----------|------------|--|----------|--|-----------|--|-------------|--|------------|--|-------------|--|---------------|--|--|--|--|
| ike-version | IKE protocol version. | option | - | 2 | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Version 1</td> </tr> <tr> <td>2</td> <td>Version 2</td> </tr> </tbody> </table> | Option | Description | 1 | Version 1 | 2 | Version 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 | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>des-md5</td> <td></td> </tr> <tr> <td>des-sha1</td> <td></td> </tr> <tr> <td>des-sha256</td> <td></td> </tr> <tr> <td>3des-md5</td> <td></td> </tr> <tr> <td>3des-sha1</td> <td></td> </tr> <tr> <td>3des-sha256</td> <td></td> </tr> <tr> <td>aes128-md5</td> <td></td> </tr> <tr> <td>aes128-sha1</td> <td></td> </tr> <tr> <td>aes128-sha256</td> <td></td> </tr> </tbody> </table> | Option | Description | des-md5 | | des-sha1 | | des-sha256 | | 3des-md5 | | 3des-sha1 | | 3des-sha256 | | aes128-md5 | | aes128-sha1 | | aes128-sha256 | | | | |
| Option | Description | | | | | | | | | | | | | | | | | | | | | | | |
| des-md5 | | | | | | | | | | | | | | | | | | | | | | | | |
| des-sha1 | | | | | | | | | | | | | | | | | | | | | | | | |
| des-sha256 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3des-md5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3des-sha1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3des-sha256 | | | | | | | | | | | | | | | | | | | | | | | | |
| aes128-md5 | | | | | | | | | | | | | | | | | | | | | | | | |
| aes128-sha1 | | | | | | | | | | | | | | | | | | | | | | | | |
| aes128-sha256 | | | | | | | | | | | | | | | | | | | | | | | | |

| Parameter | Description | Type | Size | Default | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|--|--------|-------------|------------|--------------------------------|-------------|-------------------------------------|---------------|----------------------------------|-----|--------------------------------|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|--|--|--|
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>aes256-md5</td> <td></td> </tr> <tr> <td>aes256-sha1</td> <td></td> </tr> <tr> <td>aes256-sha256</td> <td></td> </tr> </tbody> </table> | Option | Description | aes256-md5 | | aes256-sha1 | | aes256-sha256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Option | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| aes256-md5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| aes256-sha1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| aes256-sha256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| dhgrp | DH group. | option | - | 14, 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> <tr><td>5</td><td></td></tr> <tr><td>14</td><td></td></tr> <tr><td>15</td><td></td></tr> <tr><td>16</td><td></td></tr> <tr><td>17</td><td></td></tr> <tr><td>18</td><td></td></tr> <tr><td>19</td><td></td></tr> <tr><td>20</td><td></td></tr> <tr><td>21</td><td></td></tr> <tr><td>27</td><td></td></tr> <tr><td>28</td><td></td></tr> <tr><td>29</td><td></td></tr> <tr><td>30</td><td></td></tr> <tr><td>31</td><td></td></tr> <tr><td>32</td><td></td></tr> </tbody> </table> | Option | Description | 1 | | 2 | | 5 | | 14 | | 15 | | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | 27 | | 28 | | 29 | | 30 | | 31 | | 32 | | | | |
| Option | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| interface | The outgoing interface. | option | - | none | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lan</td> <td>LAN as the outgoing interface.</td> </tr> <tr> <td>lo</td> <td>Loopback as the outgoing interface.</td> </tr> <tr> <td>lte1</td> <td>LTE 1 as the outgoing interface.</td> </tr> <tr> <td>wan</td> <td>WAN as the outgoing interface.</td> </tr> </tbody> </table> | 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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Parameter | Description | Type | Size | Default |
|---------------------|---|---|------|---------|
| | Option | Description | | |
| | port4 | Port 4 as the outgoing interface. | | |
| remote-gw | The IPv4 address of the remote gateway's external interface. | IPv4 address | - | none |
| authmethod | Authentication method. | option | - | psk |
| | Option | Description | | |
| | psk | Preshared key. | | |
| | signature | Signature certificate. | | |
| psksecret | Pre-shared secret for PSK authentication (ASCII string or hexadecimal encoded with a leading 0x). | string | - | none |
| localid | Local ID. | string | - | none |
| peerid | Peer identity. | string | - | none |
| add-gw-route | Whether to automatically add a route to the remote gateway. | option | - | disable |
| | Option | Description | | |
| | enable | Enable automatically adding a route to the remote gateway. | | |
| | disable | Disable automatically adding a route to the remote gateway. | | |
| dev-id-notification | Whether to enable device ID notification for the first IKE message. | option | - | disable |
| | Option | Description | | |
| | enable | Enable device ID notification. | | |
| | disable | Disable device ID notification. | | |
| dev-id | The Device ID carried by the device ID notification. | string | - | none |
| monitor | Specify the IPsec phase1 interface as primary. | string | - | none |

config phase2-interface

Description: Configure VPN autokey tunnel.

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

Sample command:

```
FX201E5919000057 (phase2-interface) # show
config vpn ipsec phase2-interface
edit phase2_1
set phasename phase1_1
set proposal aes128-sha1 aes256-sha1 3des-sha1 aes128-sha256 aes256-sha256 3dessha256
set pfs enable
set dhgrp 14 5 31 20
set keylife-type seconds
set keylifeseconds 43200
set encapsulation tunnel-mode
set protocol 0
set src-addr-type subnet
set src-subnet 0.0.0.0/0
set src-port 0
set dst-addr-type subnet
set dst-subnet 107.204.148.0/24
set dst-port 234
next
end
```

| Parameter | Description | Type | Size | Default |
|------------|---|--------------------|------|--|
| phase1name | Phase 1 name (which determines the options required for phase 2). | string | - | none |
| proposal | Phase 2 proposal. | option | - | aes128-sha1 aes256-sha1 3des-sha1 aes128-sha256 aes256-sha256 3des-sha256 |
| pfs | Status of the PFS feature. | option | - | enable |
| | Option | Description | | |
| | enable | Enable PFS. | | |
| | disable | Disable PFS. | | |
| dhgrp | Phase 2 DH group. | option | - | 14, 5 |
| | Option | Description | | |
| | 1 | | | |
| | 2 | | | |
| | 5 | | | |
| | 14 | | | |
| | 15 | | | |
| | 16 | | | |
| | 17 | | | |
| | 18 | | | |
| | 19 | | | |
| | 20 | | | |
| | 21 | | | |
| | 27 | | | |
| | 28 | | | |
| | 29 | | | |
| | 30 | | | |

| Parameter | Description | Type | Size | Default |
|----------------|---|----------------------------|-------------------------|-------------|
| | Option | Description | | |
| | 31 | | | |
| | 32 | | | |
| keylife-type | Keylife type | option | - | seconds |
| | Option | Description | | |
| | seconds | Seconds. | | |
| | kbs | Kbs. | | |
| keylifeseconds | Phase 2 key life in seconds. | integer | 120 – 172800 | 43200 |
| keylifekbs | Phase 2 key life in the number of bytes of traffic. | integer | 5120 - 4294967295 | 5120 |
| encapsulation | ESP encapsulation mode. | option | - | tunnel-mode |
| | Option | Description | | |
| | tunnel-mode | Tunnel mode. | | |
| | transport-mode | Transport mode. | | |
| protocol | Quick mode protocol selector. | integer | 1 - 255 | 0 |
| src-addr-type | Local proxy ID type. | option | - | subnet |
| | Option | Description | | |
| | subnet | IPv4 subnet. | | |
| | range | IPv4 range. | | |
| | ip | IPv4 IP. | | |
| | name | IPv4 network address name. | | |
| src-subnet | Local proxy ID subnet. | IPv4 address | - | 0.0.0.0/0 |
| src-port | Quick mode source port. | integer | 1 - 65535, or 0 for all | 0 |
| dst-addr-type | Remote proxy ID type. | option | - | subnet |
| | Option | Description | | |
| | subnet | IPv4 subnet. | | |
| | range | IPv4 range. | | |
| | ip | IPv4 IP. | | |
| | name | IPv4 network address name. | | |

| Parameter | Description | Type | Size | Default |
|--------------|-------------------------|--------------|-------------------------|-----------|
| 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 114](#)
- [config local on page 114](#)

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 on page 116](#)
- [config service-custom on page 117](#)

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 | | | | | | |
| | <table border="1"><thead><tr><th>Option</th><th>Description</th></tr></thead><tbody><tr><td>ipmask</td><td>IP address and subnet mask.</td></tr><tr><td>iprange</td><td>IP range.</td></tr></tbody></table> | Option | Description | ipmask | IP address and subnet mask. | iprange | IP range. | | | |
| 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>]
      *available when protocol is set to TCP
    set udp-portrange <dstport_low>[-<dstport_high>:<srcport_low>-<srcport_high>]
      *available when protocol is set to UDP
    unset
    next
    show
    abort
  end
  delete <name>
  purge
  show
end
show
end

```

Sample 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 | | | | | | | | | | |
| | <table><thead><tr><th>Option</th><th>Description</th></tr></thead><tbody><tr><td>tcp</td><td>TCP protocol.</td></tr><tr><td>udp</td><td>UDP protocol.</td></tr><tr><td>icmp</td><td>ICMP protocol.</td></tr><tr><td>ip</td><td>IP protocol.</td></tr></tbody></table> | Option | Description | tcp | TCP protocol. | udp | UDP protocol. | icmp | ICMP protocol. | ip | IP protocol. | | | |
| 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 on page 119](#)

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
```

WiFi

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



WiFi is for the FEV-211F platform only.

- [config vap on page 120](#)
- [config ap-security on page 122](#)
- [config wifi-networks on page 123](#)
- [config radio-profile on page 124](#)
- [config wifi-general on page 125](#)

config vap

Description: Configure WiFi virtual access point.

```
Edit <WiFi Access Point Name>
    set ssid <name>
    set broadcast-ssid [enable | disable]
    set dtim {1-255}
    set rts-threshold {256-2347}
    set max-clients {0-512}
    set target-wake-time[enable | disable]
    set bss-color-partial [enable | disable]
    set mu-mimo [enable | disable]
    set wlan-bridge [yes |no ]
    set wlan-members
config ap-security
set security-mode <encryption mode>
```

FortiExtender supports the following security modes:

- OPEN
 - WPA2-Personal
 - WPA-WPA2-Personal
 - WPA3-SAE
 - WPA3-SAE-Transition
 - WPA2-Enterprise
 - WPA3-Enterprise-Only
 - WPA3-Enterprise-Transition
 - WPA3-Enterprise-192-bit
-





If security-mode is set to WPA2-Personal, WPA-WPA2-Personal, WPA3-SAE, or WPA3-

SAE-Transition, you must also configure the following settings:

```
set pmf <option>
set passphrase <password>
```



If security-mode is set to WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-Enterprise-Transition, or WPA3-Enterprise-192-bit, you must configure the following settings:

```
set auth-server-addr <url>
set auth-server-port <port number> # default as 1812
set auth-server-secret <password>
```

Sample command:

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

```

    end
next

```

config ap-security

Description: Configure security mode for WiFi access point.

```

config ap-security
    set security-mode <encryption mode>
    # Security encryption modes including:
        OPEN
        WPA2-Personal
        WPA-WPA2-Personal
        WPA3-SAE
        WPA3-SAE-Transition
        WPA2-Enterprise
        WPA3-Enterprise-Only
        WPA3-Enterprise-Transition
        WPA3-Enterprise-192-bit
    if security-mode chooses OPEN:
        set pmf <option>
        # pmf option includes the options:
            disabled
            optional
            required
    if security-mode chooses these options: WPA2-Personal, WPA-WPA2-Personal, WPA3-SAE,WPA3-
        SAE-Transition, configure the following commands:
            set pmf <option>
            set passphrase <password>
    if security-mode chooses these options: WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-
        Enterprise-Transition, WPA3-Enterprise-192-bit, configure the following commands:
            set auth-server-addr <url>
            set auth-server-port <port number> # default as 1812
            set auth-server-secret <password>

```

Sample command

```

config wifi vap
    edit fev-home-2g-1
        set ssid fev-home-2g-1
        set broadcast-ssid enable
        set wlan-members
        config ap-security
            set security-mode WPA2-Enterprise
            set auth-server-addr 192.168.11.99
            set auth-server-port 1812
            set auth-server-secret *****
            set pmf optional
        end
    next
edit fev-home-5g-1
    set ssid fev-home-5g-1
    set broadcast-ssid enable

```

```
    set wlan-members
    config ap-security
        set security-mode WPA2-Personal
        set pmf disabled
        set passphrase *****
    end
next
end
```

config wifi-networks

Description: Configure WiFi networks for Station Mode.

```
edit <name>
    set ssid <id>
    set security-mode <encryption mode>
    # the security mode has the following options:
        OPEN
        WPA-Personal
        WPA2-Personal
        WPA-WPA2-Personal
        WPA3-SAE
        WPA3-SAE-Transition
        WPA-Enterprise
        WPA2-Enterprise
        WPA-WPA2-Enterprise
        WPA3-Enterprise-Only
        WPA3-Enterprise-Transition
    set pmf <option>
    # pmf option includes the options:
        disabled
        optional
        required
```

Sample command:

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

```
        set security-mode WPA2-Enterprise
        set pmf
        set identity *****
        set password *****
    next
end
```

config radio-profile

Description: Configure WiFi Radio profile.

```
config wifi radio-profile
edit <radio profile name>
set band <2GHz/5GHz>
set status <enable/disable>
set role <lan/wan> # two options for role, as lan and wan
If role is set as lan, configure the following parameters for the WiFi lan interface:
set operating-standards auto
set beacon-interval {100-3500}
set 80211d [ enable | disable]
set max-clients {0-512}
set power-mode auto
    set channel
set bandwidth auto
set extension-channel auto
set guard-interval auto
set vap <ap names> #maximum 4 APs for the vap configure
```

Sample command:

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

    edit 5g-profile
        set band 5GHz
        set enable enable
        set role wan
        set wifi-networks 5g-Dream
    next
end
```

config wifi-general

Description: Configure general WiFi settings.

```
set country-code
AS    AMERICAN SAMOA
AR    ARGENTINA
BS    BAHAMAS
BM    BERMUDA
KY    CAYMAN ISLANDS
DM    DOMINICA
GU    GUAM
HT    HAITI
MH    MARSHALL ISLANDS
AW    ARUBA
NI    NICARAGUA
MP    NORTHERN MARIANA ISLANDS
PW    PALAU
PR    PUERTO RICO
KN    SAINT KITTS AND NEVIS
LC    SAINT LUCIA
VC    SAINT VINCENT AND GRENADIENS
US    UNITED STATES
VI    VIRGIN ISLANDS
CA    CANADA
```



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

User

This section shows the syntax of the following commands:

- [config user radius on page 126](#)
- [config user group on page 127](#)

config user radius

Configure the FortiExtender to access a RADIUS server.

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

Sample command:

```
config user radius
  edit example_radius
    set server <IPv4 address>
    set secret <password>
    set auth-type auto
    set timeout 5
    set transport-protocol udp
    set nas-ip <IPv4 address>
  next
end
```

| Parameter | Description | Type | Size | Default |
|-----------|---|----------|-------|---------|
| name | Name of the RADIUS server table. | string | - | none |
| server | Primary RADIUS server IP address in IPv4. | string | - | none |
| secret | Pre-shared secret key used to access the primary RADIUS server. | password | 1-128 | none |
| auth-type | Authentication protocols permitted for this RADIUS server. You can select the following options: <ul style="list-style-type: none"> • auto | option | - | auto |

| Parameter | Description | Type | Size | Default |
|--------------------|---|---------|------|---------|
| | <ul style="list-style-type: none"> ms_chap_v2 ms_chap chap pap <p>If the authentication type is set to <code>auto</code>, FortiExtender uses the following protocols in sequence: PAP → MSCHAP_v2 → CHAP FortiExtender will only try the next protocol once it receives a RADIUS-reject message</p> | | | |
| timeout | Time in seconds to retry connecting to the RADIUS server. | integer | - | 5 |
| transport-protocol | Transport protocol to be used. <ul style="list-style-type: none"> udp | option | - | udp |
| nas-ip | IPv4 address used for the FortiExtender to communicate with the RADIUS server. It is also used as the NAS-IP-Address and Called-Station-ID attributes. | string | - | none |

config user group

Apply a RADIUS server table to a user group.

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

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



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