



# CLI Reference

FortiBranchSASE 8.0.0



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FortiBranchSASE 8.0.0 CLI Reference

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# Change Log

| Date       | Change Description |
|------------|--------------------|
| 2026-06-22 | Initial release.   |

# Introduction



FortiBranchSASE is a member of the FortiExtender product family. While FortiExtender and FortiBranchSASE share many features, this guide provides information specific to FortiBranchSASE

---

This *Reference Guide* introduces the syntax of commonly used CLI commands to configure and manage a FortiBranchSASE unit.

CLI commands in this *Reference Guide* are based on FortiBranchSASE-20G-WiFi.

## Connect to the CLI

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

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

To access the FortiBranchSASE CLI via the FortiBranchSASE 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 FortiBranchSASE CLI outside of the GUI using:

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

## Console connection

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

Direct console access to a FortiBranchSASE 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 FortiBranchSASE console, you need a console cable to connect the console port on the FortiBranchSASE 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 FortiBranchSASE 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 FortiBranchSASE 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 FortiBranchSASE, you must also configure the FortiBranchSASE using a static route that can forward packets from the FortiBranchSASE to the computer. This can be done using a local console connection or in the GUI.

**To connect to the FortiBranchSASE 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 FortiBranchSASE network port either directly to the network port on your computer or to a network through which your computer can reach the FortiBranchSASE.
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
end
```

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, for example:

```
config system interface
  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 FortiBranchSASE CLI using SSH

Once the FortiBranchSASE 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 FortiBranchSASE 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 FortiBranchSASE.



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

---

6. Click *Yes* to accept the FortiBranchSASE'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 FortiBranchSASE hostname followed by #). You can now enter CLI commands.

# Header

This section shows the syntax of the following command:

- [config version on page 11](#)

## config version

Description: Configure header version settings.

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

### Sample command:

```
config header
  config version
    set config 10517384
    set certificate 3876258
  end
end
```

| Parameter   | Description                   | Type    | Size | Default |
|-------------|-------------------------------|---------|------|---------|
| config      | Device configuration version. | integer | -    | none    |
| certificate | VPN certificate version.      | integer | -    | none    |

# Firewall

This section shows the syntax of the following commands:

- [config policy on page 12](#)
- [config traffic-shaper on page 16](#)
- [config shaping-policy on page 16](#)
- [config vip on page 18](#)

## 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:

```
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>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. | 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.                                                                                                                                                                                                                                                                                                                                                         |        |             |         |                                |    |                                     |       |                                   |     |                                     |  |  |  |
| 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>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. | 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.                                                                                                                                                                                                                                                                                                                                                         |        |             |         |                                |    |                                     |       |                                   |     |                                     |  |  |  |
| port4     | Port 4 as the outgoing interface.                                                                                                                                                                                                                                                                                                                                                           |        |             |         |                                |    |                                     |       |                                   |     |                                     |  |  |  |
| any       | Any port as the outgoing interface.                                                                                                                                                                                                                                                                                                                                                         |        |             |         |                                |    |                                     |       |                                   |     |                                     |  |  |  |
| srcaddr   | Source address.                                                                                                                                                                                                                                                                                                                                                                             | option | -           | none    |                                |    |                                     |       |                                   |     |                                     |  |  |  |

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                | Type   | Size        | Default |                         |         |                                |         |                                       |         |                      |  |  |  |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|-------------------------|---------|--------------------------------|---------|---------------------------------------|---------|----------------------|--|--|--|
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>all</td> <td>All network addresses.</td> </tr> <tr> <td>none</td> <td>None of the network addresses.</td> </tr> <tr> <td>lan-src</td> <td>LAN network address.</td> </tr> <tr> <td>wan-src</td> <td>WAN network address.</td> </tr> </tbody> </table> | Option | Description | all     | All network addresses.  | none    | None of the network addresses. | lan-src | LAN network address.                  | wan-src | WAN network address. |  |  |  |
| 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 |                         |         |                                |         |                                       |         |                      |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable destination NAT.</td> </tr> <tr> <td>disable</td> <td>Disable destination NAT.</td> </tr> </tbody> </table>                                                                                                                    | Option | Description | enable  | Enable destination NAT. | disable | Disable destination NAT.       |         |                                       |         |                      |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                                                                                |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| enable    | Enable destination NAT.                                                                                                                                                                                                                                                                                                                                    |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| disable   | Disable destination NAT.                                                                                                                                                                                                                                                                                                                                   |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| dstaddr   | Destination address.                                                                                                                                                                                                                                                                                                                                       | option | -           | none    |                         |         |                                |         |                                       |         |                      |  |  |  |
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| 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  |                         |         |                                |         |                                       |         |                      |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>accept</td> <td>Accept policy.</td> </tr> <tr> <td>deny</td> <td>Deny policy.</td> </tr> </tbody> </table>                                                                                                                                            | Option | Description | accept  | Accept policy.          | deny    | Deny policy.                   |         |                                       |         |                      |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                                                                                |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| accept    | Accept policy.                                                                                                                                                                                                                                                                                                                                             |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| deny      | Deny policy.                                                                                                                                                                                                                                                                                                                                               |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| status    | Status of the policy.                                                                                                                                                                                                                                                                                                                                      | option | -           | enable  |                         |         |                                |         |                                       |         |                      |  |  |  |
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| Option    | Description                                                                                                                                                                                                                                                                                                                                                |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| enable    | Enable this policy.                                                                                                                                                                                                                                                                                                                                        |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| disable   | Disable this policy.                                                                                                                                                                                                                                                                                                                                       |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| service   | Service/service group name.                                                                                                                                                                                                                                                                                                                                | option | -           | none    |                         |         |                                |         |                                       |         |                      |  |  |  |
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| Option    | Description                                                                                                                                                                                                                                                                                                                                                |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| ALL       | All services.                                                                                                                                                                                                                                                                                                                                              |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| HTTP      | HTTP service.                                                                                                                                                                                                                                                                                                                                              |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |
| etc       | Refer to config network service list.                                                                                                                                                                                                                                                                                                                      |        |             |         |                         |         |                                |         |                                       |         |                      |  |  |  |

| Parameter | Description   | Type                | Size | Default |
|-----------|---------------|---------------------|------|---------|
| nat       | Source NAT.   | option              | -    | disable |
|           | <b>Option</b> | <b>Description</b>  |      |         |
|           | enable        | Enable source NAT.  |      |         |
|           | disable       | Disable source NAT. |      |         |

```
(policy) # move test2 after all-pass
(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
```

## config traffic-shaper

Description: Configure firewall shapers.

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

### Sample command:

```
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:

```

config firewall shaping-policy
edit 1_policy
set status enable
set dstintf port1
set traffic-shaper 1
next
end

```

| Parameter      | Description                                                          | Type                                                        | Size | Default |
|----------------|----------------------------------------------------------------------|-------------------------------------------------------------|------|---------|
| status         | Status of the traffic shaping policy.                                | option                                                      | -    | enable  |
|                | <b>Option</b>                                                        | <b>Description</b>                                          |      |         |
|                | enable                                                               | Enable the policy.                                          |      |         |
|                | disable                                                              | Disable the policy.                                         |      |         |
| dstintf        | Outgoing (egress) interface.                                         | option                                                      | -    | none    |
|                | <b>Option</b>                                                        | <b>Description</b>                                          |      |         |
|                | lan                                                                  | LAN as the outgoing interface.                              |      |         |
|                | lo                                                                   | Loopback 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    |
|                | <b>Option</b>                                                        | <b>Description</b>                                          |      |         |
|                | 1                                                                    | Refer to <a href="#">config traffic-shaper on page 16</a> . |      |         |

## 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:

```
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                                                               | IPv4 address | -                              | none    |

| Parameter   | Description                                                                                                                                                                                                                                                                                                                                                                                 | Type   | Size        | Default |                                |         |                                     |       |                                   |     |                                     |  |  |  |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|--------------------------------|---------|-------------------------------------|-------|-----------------------------------|-----|-------------------------------------|--|--|--|
| extintf     | network to which the external IP address is mapped.<br>Interface connected to the source network that receives packets to be forwarded to the destination network.                                                                                                                                                                                                                          | 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>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. | 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.                                                                                                                                                                                                                                                                                                                                                         |        |             |         |                                |         |                                     |       |                                   |     |                                     |  |  |  |
| 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       |                                |         |                                     |       |                                   |     |                                     |  |  |  |

# Router

This section shows the syntax of the following commands:

- [config router policy on page 20](#)
- [config static on page 22](#)
- [config target on page 23](#)
- [config multicast on page 24](#)
- [config OSPF on page 26](#)
- [config prefix-list on page 31](#)
- [config route-map on page 32](#)

## config router policy

Description: Configure router policies.

```
config router 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:

```
config router policy
  edit 1
    set input-device lan
    set srcaddr all
    set dstaddr all
    set service ALL
```

```

set target target.port1
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>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. | 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.                                                                                                                                                                                                                                                                                                                                       |        |             |          |                          |     |                               |       |                                                  |       |                             |  |  |  |
| 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.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.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.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:

```

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 port1
set comment this is a sample static route
next
end

```

| Parameter | Description                                                                                                                                                                                                                       | Type                  | Size                           | Default |        |             |        |                      |         |                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|---------|--------|-------------|--------|----------------------|---------|-----------------------|
| status    | Status of the static route.                                                                                                                                                                                                       | option                | -                              | enable  |        |             |        |                      |         |                       |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable static route.</td> </tr> <tr> <td>disable</td> <td>Disable static route.</td> </tr> </tbody> </table> |                       |                                |         | Option | Description | enable | Enable static route. | disable | Disable static route. |
| 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:**

```
config router target
  edit target.lo
    set interface lo
    set next-hop
  next
```

| Parameter | Description                            | Type                              | Size | Default |
|-----------|----------------------------------------|-----------------------------------|------|---------|
| interface | Target interface.                      | option                            |      | none    |
|           | <b>Option</b>                          | <b>Description</b>                |      |         |
|           | lan                                    | LAN as the target interface.      |      |         |
|           | lo                                     | Loopback 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 24](#)
- [config rp-address on page 24](#)
- [config interface on page 25](#)

## 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.



Although "set" is an available option, there's no entry for the "set" command.

```
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:

```
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

```

### Sample command:

```

config router ospf
  set status enable
  set router-id 192.168.100.127

```

| Parameter | Description                 | Type               | Size | Default |
|-----------|-----------------------------|--------------------|------|---------|
| status    | Set the status of the OSPF: | option             | -    | disable |
|           | <b>Option</b>               | <b>Description</b> |      |         |
|           | enable                      | Enable OSPF        |      |         |
|           | disable                     | Disable OSPF       |      |         |

| Parameter     | Description                                                                                                                                                        | Type         | Size | Default |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------|---------|
| set router-id | The router-id is a unique identity to the OSPF router. If no router-id is specified, the system will automatically choose the highest IP address as the router-id. | IPv4 address | -    | 0.0.0.0 |

- [config area on page 27](#)
- [config network on page 28](#)
- [config ospf-interface on page 29](#)
- [config redistribute on page 30](#)

## config area

Description: Configure OSPF area settings.

```

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

```

### Sample command:

```

config router ospf
  config area
    edit 0.0.0.0

```

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

## config network

Description: Configure OSPF network settings.

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

### Sample command:

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

| Parameter      | Description                 | Type                                                                               | Size | Default |
|----------------|-----------------------------|------------------------------------------------------------------------------------|------|---------|
| config network | OSPF network configuration. | option                                                                             | -    | none    |
|                | <b>Option</b>               | <b>Description</b>                                                                 |      |         |
|                | prefix                      | Prefix used to identify network/subnet address for advertising to the OSPF domain. |      |         |
|                | area                        | Attach the network to area.                                                        |      |         |

| CLI Command                                                                           | Description                                                                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| config network<br>edit [id]<br>set prefix<br>[X.X.X.X/Y]<br>set area 0.0.0.<br>Prefix | <ul style="list-style-type: none"> <li>id—string</li> <li>X.X.X.X—Network prefix</li> <li>Y—Netmask</li> </ul> |

## config ospf-interface

Description: Configure OSPF interface settings.

```

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

```

### Sample command:

```

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

```

| Parameter             | Description                                                                                                                                                                                                                                                                         | Type   | Size        | Default |                                                 |         |                                                |  |  |  |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|-------------------------------------------------|---------|------------------------------------------------|--|--|--|
| config ospf-interface | OSPF interface configuration.                                                                                                                                                                                                                                                       | option | -           | none    |                                                 |         |                                                |  |  |  |
| status                | Enable/Disable OSPF processing on the said interface.                                                                                                                                                                                                                               | option |             | -       |                                                 |         |                                                |  |  |  |
|                       | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable OSPF processing on the said interface.</td> </tr> <tr> <td>disable</td> <td>Disable OSPF processing on the said interface.</td> </tr> </tbody> </table> | Option | Description | enable  | Enable OSPF processing on the said interface.   | disable | Disable OSPF processing on the said interface. |  |  |  |
| Option                | Description                                                                                                                                                                                                                                                                         |        |             |         |                                                 |         |                                                |  |  |  |
| enable                | Enable OSPF processing on the said interface.                                                                                                                                                                                                                                       |        |             |         |                                                 |         |                                                |  |  |  |
| disable               | Disable OSPF processing on the said interface.                                                                                                                                                                                                                                      |        |             |         |                                                 |         |                                                |  |  |  |
| set interface         | Must be the VPN tunnel interface as OSPF is built over IPSEC VPN.                                                                                                                                                                                                                   |        |             |         |                                                 |         |                                                |  |  |  |
| set mtu-ignore        | Prevents OSPF neighbor adjacency failure caused by mismatched MTUs.                                                                                                                                                                                                                 |        |             |         |                                                 |         |                                                |  |  |  |
|                       | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>OSPF will stop detecting mismatched MTUs before</td> </tr> </tbody> </table>                                                                                   | Option | Description | enable  | OSPF will stop detecting mismatched MTUs before |         |                                                |  |  |  |
| Option                | Description                                                                                                                                                                                                                                                                         |        |             |         |                                                 |         |                                                |  |  |  |
| enable                | OSPF will stop detecting mismatched MTUs before                                                                                                                                                                                                                                     |        |             |         |                                                 |         |                                                |  |  |  |

| Parameter | Description                                                                                                                                                                                                                                                                                           | Type    | Size        | Default |                        |         |                                                                                               |  |  |  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|---------|------------------------|---------|-----------------------------------------------------------------------------------------------|--|--|--|
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td></td> <td>forming OSPF adjacency</td> </tr> <tr> <td>disable</td> <td>OSPF will detect mismatched MTUs, and OSPF adjacency is not established if MTU is mismatched.</td> </tr> </tbody> </table> | Option  | Description |         | forming OSPF adjacency | disable | OSPF will detect mismatched MTUs, and OSPF adjacency is not established if MTU is mismatched. |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                           |         |             |         |                        |         |                                                                                               |  |  |  |
|           | forming OSPF adjacency                                                                                                                                                                                                                                                                                |         |             |         |                        |         |                                                                                               |  |  |  |
| disable   | OSPF will detect mismatched MTUs, and OSPF adjacency is not established if MTU is mismatched.                                                                                                                                                                                                         |         |             |         |                        |         |                                                                                               |  |  |  |
| set cost  | Interface cost used to calculate the best path to reach other routers in the same area. 0 means auto-cost.                                                                                                                                                                                            | integer | 0—65535     |         |                        |         |                                                                                               |  |  |  |

## config redistribute

Description: Configure redistribute settings.

```
config router ospf
  config redistribute
    config [connected | static]
      set status [enable | disable]
      set metric-type [1 | 2]
      set metric <value>
      set route-map <route-map name>
```

### Sample command:

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

| Parameter       | Description                                                                                                  | Type | Size | Default |
|-----------------|--------------------------------------------------------------------------------------------------------------|------|------|---------|
| status          | Enable/disable redistributing routes.                                                                        |      |      |         |
| set metric-type | Specify the external link type to be used for the redistributed routes. The options are E1 and E2 (default). |      |      | E2      |

| Parameter    | Description                        | Type    | Size         | Default |
|--------------|------------------------------------|---------|--------------|---------|
| set metric   | Used for the redistributed routes. | integer | 1 - 16777214 | 10      |
| set routemap | Route map name.                    |         |              |         |

## config prefix-list

Description: Configure IPv4 prefix lists.

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



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

- [config rule on page 31](#)

## 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:**

```

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  |
|           | <b>Option</b>                                      | <b>Description</b>                  |        |         |
|           | 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 32](#)

## 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:

```

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  |
|                  | <b>Option</b>                                  | <b>Description</b>                  |      |         |
|                  | permit                                         | Allow packets that match this rule. |      |         |
|                  | deny                                           | Deny packets that match this rule.  |      |         |
| match-ip-address | Match IP address permitted by the prefix-list. | string                              | -    | none    |

# System

This section shows the syntax of the following commands:

- [config system global on page 34](#)
- [config system accprofile on page 35](#)
- [config admin on page 38](#)
- [config system bluetooth on page 41](#)
- [config management on page 42](#)
- [config system interface on page 47](#)
- [config dhcpserver on page 61](#)
- [config system dhcp6server on page 64](#)
- [config dhcprelay on page 67](#)
- [config dns on page 68](#)
- [config system dns-server on page 70](#)
- [config dns-database on page 71](#)
- [config dns-entry on page 72](#)
- [config vwan-member on page 73](#)
- [config syslog on page 76](#)
- [config api-user on page 80](#)
- [config ntp on page 80](#)
- [config settings on page 82](#)
- [config system switch-interface on page 82](#)
- [config ssh-crypto on page 85](#)
- [config system 802-1X-settings on page 87](#)
- [config system obm-console on page 88](#)

## config system global

Description: Configure FortiBranchSASE 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:

```
config system global
  set hostname BS20GWS224000007
  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.<br>(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                               |
|                    | <b>Option</b>                                                                                     | <b>Description</b>          |        |                                       |
|                    | 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 FortiBranchSASE 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 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]
set wifi [read-write | read | no-access]
set user [read-write | read | no-access]
unset
next
show
abort
end
delete <name>
purge
show
end

```

## Sample command:

```

config system accprofile
  edit some_access
    set header read-write
    set firewall read
    set router no-access
    set system read-write
    set snmp read
    set hmon read
    set vpn no-access
    set network read
    set wifi read
    set user read-write
  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       |                    |      |              |           |            |  |  |  |

| Parameter  | Description                                                                                                                                                                                                                                                               | Type   | Size        | Default    |                    |      |              |           |            |  |  |  |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|------------|--------------------|------|--------------|-----------|------------|--|--|--|
|            | <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.                                                                                                                                                                                                                                                                |        |             |            |                    |      |              |           |            |  |  |  |
| router     | Router 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.                                                                                                                                                                                                                                                                |        |             |            |                    |      |              |           |            |  |  |  |
| system     | System 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.                                                                                                                                                                                                                                                                |        |             |            |                    |      |              |           |            |  |  |  |
| snmp       | SNMP 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.                                                                                                                                                                                                                                                                |        |             |            |                    |      |              |           |            |  |  |  |
| hmon       | Health monitor 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.                                                                                                                                                                                                                                                                |        |             |            |                    |      |              |           |            |  |  |  |
| vpn        | VPN 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> </tbody> </table>                                                                                                  | Option | Description | read-write | Read-write access. |      |              |           |            |  |  |  |
| 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.                                                                                                                                                                                                                                                                |        |             |            |                    |           |              |           |            |  |  |  |
| wifi       | Wi-Fi 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.                                                                                                                                                                                                                                                                |        |             |            |                    |           |              |           |            |  |  |  |
| user       | User 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 system 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}
set allow-ssh {enable | disable}
next
end

```

## Sample command:

```

config system admin
edit remote1
set accprofile super_admin
set remote-auth enable
set wildcard enable
set password ENC *
set remote-group group1
set trusthost1 192.168.200.110/24
set trusthost2
set trusthost3
set trusthost4
set trusthost5
set trusthost6
set trusthost7
set trusthost8
set trusthost9
set trusthost10
set allow-ssh enable
next
end

```

| Parameter   | Description                                                                                                                                                                                                                                                                                     | Typy   | Size        | Default |                                                     |         |                                                      |  |  |  |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|-----------------------------------------------------|---------|------------------------------------------------------|--|--|--|
| accprofile  | Access profile.                                                                                                                                                                                                                                                                                 | string | -           | none    |                                                     |         |                                                      |  |  |  |
| remote-auth | Enable/disable authentication using a remote RADIUS server                                                                                                                                                                                                                                      | option | -           | disable |                                                     |         |                                                      |  |  |  |
|             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable authentication using a remote RADIUS server.</td> </tr> <tr> <td>disable</td> <td>Disable authentication using a remote RADIUS server.</td> </tr> </tbody> </table> | Option | Description | enable  | Enable authentication using a remote RADIUS server. | disable | Disable authentication using a remote RADIUS server. |  |  |  |
| Option      | Description                                                                                                                                                                                                                                                                                     |        |             |         |                                                     |         |                                                      |  |  |  |
| enable      | Enable authentication using a remote RADIUS server.                                                                                                                                                                                                                                             |        |             |         |                                                     |         |                                                      |  |  |  |
| disable     | Disable authentication using a remote RADIUS server.                                                                                                                                                                                                                                            |        |             |         |                                                     |         |                                                      |  |  |  |
| wildcard    | Enable/disable wildcard RADIUS authentication                                                                                                                                                                                                                                                   | option | -           | disable |                                                     |         |                                                      |  |  |  |

| Parameter    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Typy         | Size        | Default |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------------------|--|--|--|
|              | Only one wildcard remote account is allowed to exist under system admin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |             |         |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
|              | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable wildcard RADIUS authentication<br/>When 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.</td> </tr> <tr> <td>disable</td> <td>Disable wildcard RADIUS authentication</td> </tr> </tbody> </table>                                      | Option       | Description | enable  | Enable wildcard RADIUS authentication<br>When 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. | disable | Disable wildcard RADIUS authentication |  |  |  |
| Option       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |             |         |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
| enable       | Enable wildcard RADIUS authentication<br>When 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.                                                                                                                                                                                                                                                                     |              |             |         |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
| disable      | Disable wildcard RADIUS authentication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |             |         |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
| password     | Admin user password<br><b>Note:</b> If <code>wildcard</code> is enabled, you cannot set a password.                                                                                                                                                                                                                                                                                                                                                                                                                                                   | string       | -           | none    |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
| remote-group | Enter the FortiBranchSASE user group name you want to use for remote authentication.<br><b>Note:</b> If <code>remote-auth</code> is enabled, <code>remote-group</code> becomes mandatory. Otherwise <code>remote-group</code> is hidden. 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, FortiBranchSASE uses the local password. For other situations, such as if FortiBranchSASE receives a RADIUS reject message, the local password is omitted. | option       | -           | none    |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
| trusthost1   | Address or subnet address and netmask from which the administrator can connect to the device.                                                                                                                                                                                                                                                                                                                                                                                                                                                         | IPv4 address | -           | none    |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
| trusthost2   | Address or subnet address and netmask from which the administrator can connect to the device.                                                                                                                                                                                                                                                                                                                                                                                                                                                         | IPv4 address | -           | none    |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |
| trusthost3   | Address or subnet address and netmask from which the administrator can connect to the device.                                                                                                                                                                                                                                                                                                                                                                                                                                                         | IPv4 address | -           | none    |                                                                                                                                                                                                                                                                                   |         |                                        |  |  |  |

| Parameter   | Description                                                                                   | Typy         | Size | Default |
|-------------|-----------------------------------------------------------------------------------------------|--------------|------|---------|
| 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    |
| allow-ssh   | Enable/disable allowing the user to log in using SSH.                                         | option       | -    | enable  |

  

| Option  | Description                      |
|---------|----------------------------------|
| enable  | The user can log in with SSH.    |
| disable | The user cannot log in with SSH. |

## config system bluetooth

Description: Configure Bluetooth settings on BLE capable models.

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

## Sample command:

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

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                          | Type   | Size        | Default |                                                                                                        |         |                                                                                        |  |  |  |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|--------------------------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------|--|--|--|
| status    | Enable or disable the Bluetooth button on applicable models.                                                                                                                                                                                                                                                                                                                         | option | -           | enable  |                                                                                                        |         |                                                                                        |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the Bluetooth button. The Bluetooth button can be triggered to provide Bluetooth functionality.</td> </tr> <tr> <td>disable</td> <td>Disable the Bluetooth button. Pressing the Bluetooth button will not trigger anything.</td> </tr> </tbody> </table> | Option | Description | enable  | Enable the Bluetooth button. The Bluetooth button can be triggered to provide Bluetooth functionality. | disable | Disable the Bluetooth button. Pressing the Bluetooth button will not trigger anything. |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                                                                                                          |        |             |         |                                                                                                        |         |                                                                                        |  |  |  |
| enable    | Enable the Bluetooth button. The Bluetooth button can be triggered to provide Bluetooth functionality.                                                                                                                                                                                                                                                                               |        |             |         |                                                                                                        |         |                                                                                        |  |  |  |
| disable   | Disable the Bluetooth button. Pressing the Bluetooth button will not trigger anything.                                                                                                                                                                                                                                                                                               |        |             |         |                                                                                                        |         |                                                                                        |  |  |  |

## config management

Description: Configure Extender management settings.

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

### Sample command

```
set discovery-type fortigate
```

| Parameter      | Description                                                                                                                                                                                                                                                                                                | Type   | Size        | Default |            |           |            |       |                  |       |        |  |  |  |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|------------|-----------|------------|-------|------------------|-------|--------|--|--|--|
| discovery-type | AC discovery type.                                                                                                                                                                                                                                                                                         | option | -           | auto    |            |           |            |       |                  |       |        |  |  |  |
|                | <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>FortiEdge Cloud.</td> </tr> <tr> <td>local</td> <td>Local.</td> </tr> </tbody> </table> | Option | Description | auto    | Automatic. | fortigate | FortiGate. | cloud | FortiEdge Cloud. | local | Local. |  |  |  |
| Option         | Description                                                                                                                                                                                                                                                                                                |        |             |         |            |           |            |       |                  |       |        |  |  |  |
| auto           | Automatic.                                                                                                                                                                                                                                                                                                 |        |             |         |            |           |            |       |                  |       |        |  |  |  |
| fortigate      | FortiGate.                                                                                                                                                                                                                                                                                                 |        |             |         |            |           |            |       |                  |       |        |  |  |  |
| cloud          | FortiEdge Cloud.                                                                                                                                                                                                                                                                                           |        |             |         |            |           |            |       |                  |       |        |  |  |  |
| local          | Local.                                                                                                                                                                                                                                                                                                     |        |             |         |            |           |            |       |                  |       |        |  |  |  |

- [config fortigate on page 43](#)
- [config cloud on page 44](#)
- [config system management local on page 45](#)
- [config local-access on page 45](#)
- [config fortigate-backup on page 46](#)

## 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 |
|                   | <b>Option</b>                                                                                 | <b>Description</b>              |              |           |
|                   | broadcast                                                                                     | Broadcast.                      |              |           |
|                   | static                                                                                        | Static IP address.              |              |           |
| server            | IP address or hostname of the AC server.                                                      | string                          | -            | none      |
| ac-ctl-port       | CAPWAP control port of the AC server.                                                         | integer                         | 1024 - 49150 | 5246      |
| ac-data-port      | CAPWAP data port of the AC server.                                                            | integer                         | 1024 - 49150 | 5246      |
| discovery-intf    | The physical port from which FortiBranchSASE sends broadcast packets in search for FortiGate. | option                          | -            | none      |
|                   | <b>Option</b>                                                                                 | <b>Description</b>              |              |           |
|                   | lan                                                                                           | LAN as the discovery interface. |              |           |

| Parameter | Description   | Type                               | Size | Default |
|-----------|---------------|------------------------------------|------|---------|
|           | <b>Option</b> | <b>Description</b>                 |      |         |
|           | Port1         | Port 1 as the discovery interface. |      |         |
|           | port2         | Port 2 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                                   |
|                 | <b>Option</b>               | <b>Description</b> |                         |                                       |
|                 | nat                         | NAT.               |                         |                                       |
|                 | ip-passthrough              | IP-passthrough.    |                         |                                       |
| proxy           | Status of proxy connection. | option             | -                       | disable                               |
|                 | <b>Option</b>               | <b>Description</b> |                         |                                       |
|                 | 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 system management local

Description: Configure local settings.

```
config system management local
  set mode [ip-passthrough | nat]
  set modem-offload [disable | enable]
  unset
  show
end
```

| Parameter      | Description                                                                                                                                                                                                                                           | Type   | Size        | Default |                                |                |                                 |  |  |  |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|--------------------------------|----------------|---------------------------------|--|--|--|
| mode           | Networking mode.                                                                                                                                                                                                                                      | option | -           | nat     |                                |                |                                 |  |  |  |
|                | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>nat</td> <td>NAT.</td> </tr> <tr> <td>ip-passthrough</td> <td>IP-passthrough.</td> </tr> </tbody> </table>                                       | Option | Description | nat     | NAT.                           | ip-passthrough | IP-passthrough.                 |  |  |  |
| Option         | Description                                                                                                                                                                                                                                           |        |             |         |                                |                |                                 |  |  |  |
| nat            | NAT.                                                                                                                                                                                                                                                  |        |             |         |                                |                |                                 |  |  |  |
| ip-passthrough | IP-passthrough.                                                                                                                                                                                                                                       |        |             |         |                                |                |                                 |  |  |  |
| modem-offload  | Enable/disable LTE/5G traffic offload<br>This feature takes effect when FortiExtender is working in local mode with NAT enabled.                                                                                                                      | option | -           | enable  |                                |                |                                 |  |  |  |
|                | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable LTE/5G traffic offload.</td> </tr> <tr> <td>disable</td> <td>Disable LTE/5G traffic offload.</td> </tr> </tbody> </table> | Option | Description | enable  | Enable LTE/5G traffic offload. | disable        | Disable LTE/5G traffic offload. |  |  |  |
| Option         | Description                                                                                                                                                                                                                                           |        |             |         |                                |                |                                 |  |  |  |
| enable         | Enable LTE/5G traffic offload.                                                                                                                                                                                                                        |        |             |         |                                |                |                                 |  |  |  |
| disable        | Disable LTE/5G traffic offload.                                                                                                                                                                                                                       |        |             |         |                                |                |                                 |  |  |  |

## 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      |

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

## config fortigate-backup

Description: Configure backup feature.

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

| Parameter      | Description                   | Type                        | Size | Default |
|----------------|-------------------------------|-----------------------------|------|---------|
| vrrp-interface | VRRP interface.               | option                      | -    | none    |
|                | <b>Option</b>                 | <b>Description</b>          |      |         |
|                | lan                           | LAN as vrrp-interface.      |      |         |
|                | lo                            | Loopback as vrrp-interface. |      |         |
|                | Port1                         | Port 1 as vrrp-interface.   |      |         |
| status         | Status of the VRRP interface. | option                      | -    | disable |
|                | <b>Option</b>                 | <b>Description</b>          |      |         |
|                | enable                        | Enable the VRRP interface.  |      |         |
|                | disable                       | Disable the VRRP interface. |      |         |

### Sample command:

```
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 port1
  set status enable
end
end
```

## config system interface

Description: Configure system interface settings.

```
config system interface
  edit <name>
    set *type [loopback | virtual-wan | vlan | capwap | dummy]
    set status [up| down]
    set mode [static | dhcp]
    set ip {ipv4-address}
    set gateway {ipv4-address}
```

```

set mtu-override [enable | disable]
set mtu [512-1500] *available when mtu-override is set to enable
set distance [1 - 512]
set vrrp-virtual-mac [enable | disable]
set allowaccess {option1}, {option2}, ...
set security-mode [none|captive-portal]
set security-external-web {string}
set security-groups <name1>, <name2>, ...
set security-exempt-list {string}
set security-exempt-list6 {string}
set security-redirect-url {string}
set defaultgw [enable | disable] *available when mode is set to dhcp
set dns-server-override [enable | disable] *available when mode is set to dhcp
set redundant-by [priority | cost] *available when type is set to virtual-wan
set algorithm [redundant | WRR] *available when type is set to virtual-wan
set FEC [source_ip | dest_ip | source_dest_ip_pair | connection] *available when type is set
to virtual-wan
set session-timeout [0 - 86400] *available when type is set to virtual-wan
set grace-period [0 - 10000000] *available when type is set to virtual-wan
set members <name1>, <name2>, ...*available when type is set to virtual-wan
set rid [1 | 2] *available when type is set to capwap
set *vid [1 - 4089] *available when type is set to vlan
set *ingress-intf <name1>
unset

```

| Parameter   | Description                                                                                                                                                                                                                                                                                                                                                                                         | Type   | Size        | Default  |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|----------|-------------------------|-------------|---------------------------|------|-----------------|--------|-------------------|-------|------------------|--|--|--|
| type        | Interface type.                                                                                                                                                                                                                                                                                                                                                                                     | option | -           | none     |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
|             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>loopback</td> <td>Loopback interface.</td> </tr> <tr> <td>virtual-wan</td> <td>Virtual-WAN interface.</td> </tr> <tr> <td>vlan</td> <td>VLAN interface.</td> </tr> <tr> <td>capwap</td> <td>CAPWAP interface.</td> </tr> <tr> <td>dummy</td> <td>Dummy interface.</td> </tr> </tbody> </table> | Option | Description | loopback | Loopback interface.     | virtual-wan | Virtual-WAN interface.    | vlan | VLAN interface. | capwap | CAPWAP interface. | dummy | Dummy interface. |  |  |  |
| Option      | Description                                                                                                                                                                                                                                                                                                                                                                                         |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| loopback    | Loopback interface.                                                                                                                                                                                                                                                                                                                                                                                 |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| virtual-wan | Virtual-WAN interface.                                                                                                                                                                                                                                                                                                                                                                              |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| vlan        | VLAN interface.                                                                                                                                                                                                                                                                                                                                                                                     |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| capwap      | CAPWAP interface.                                                                                                                                                                                                                                                                                                                                                                                   |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| dummy       | Dummy interface.                                                                                                                                                                                                                                                                                                                                                                                    |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| status      | Interface status.                                                                                                                                                                                                                                                                                                                                                                                   | option | -           | up       |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
|             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>up</td> <td>Bring the interface up.</td> </tr> <tr> <td>down</td> <td>Bring the interface down.</td> </tr> </tbody> </table>                                                                                                                                                                   | Option | Description | up       | Bring the interface up. | down        | Bring the interface down. |      |                 |        |                   |       |                  |  |  |  |
| Option      | Description                                                                                                                                                                                                                                                                                                                                                                                         |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| up          | Bring the interface up.                                                                                                                                                                                                                                                                                                                                                                             |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| down        | Bring the interface down.                                                                                                                                                                                                                                                                                                                                                                           |        |             |          |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |
| mode        | Addressing mode.                                                                                                                                                                                                                                                                                                                                                                                    | option | -           | static   |                         |             |                           |      |                 |        |                   |       |                  |  |  |  |

| Parameter             | Description                                                                                                                                                                                                                                    | Type         | Size                | Default |                          |                |                                |  |  |  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------|---------|--------------------------|----------------|--------------------------------|--|--|--|
|                       | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>static</td> <td>Static mode.</td> </tr> <tr> <td>dhcp</td> <td>DHCP mode.</td> </tr> </tbody> </table>                                    | Option       | Description         | static  | Static mode.             | dhcp           | DHCP mode.                     |  |  |  |
| 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 |                          |                |                                |  |  |  |
|                       | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable MTU override.</td> </tr> <tr> <td>disable</td> <td>Disable MTU override.</td> </tr> </tbody> </table>              | Option       | Description         | enable  | Enable MTU override.     | disable        | Disable MTU override.          |  |  |  |
| Option                | Description                                                                                                                                                                                                                                    |              |                     |         |                          |                |                                |  |  |  |
| enable                | Enable MTU override.                                                                                                                                                                                                                           |              |                     |         |                          |                |                                |  |  |  |
| disable               | Disable MTU override.                                                                                                                                                                                                                          |              |                     |         |                          |                |                                |  |  |  |
| mtu                   | MTU value for the interface.                                                                                                                                                                                                                   | integer      | 512 - 1500          | 1500    |                          |                |                                |  |  |  |
| distance              | Route metric of the interface gateway.                                                                                                                                                                                                         | integer      | 1 - 512             | 5       |                          |                |                                |  |  |  |
| vrrp-virtual-mac      | Use of virtual MAC for VRRP.                                                                                                                                                                                                                   | option       | -                   | disable |                          |                |                                |  |  |  |
|                       | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable VRRP virtual MAC.</td> </tr> <tr> <td>disable</td> <td>Disable VRRP virtual MAC.</td> </tr> </tbody> </table>      | Option       | Description         | enable  | Enable VRRP virtual MAC. | disable        | Disable VRRP virtual MAC.      |  |  |  |
| Option                | Description                                                                                                                                                                                                                                    |              |                     |         |                          |                |                                |  |  |  |
| enable                | Enable VRRP virtual MAC.                                                                                                                                                                                                                       |              |                     |         |                          |                |                                |  |  |  |
| disable               | Disable VRRP virtual MAC.                                                                                                                                                                                                                      |              |                     |         |                          |                |                                |  |  |  |
| allowaccess           | Types of management access allowed to this interface.                                                                                                                                                                                          | option       | -                   | none    |                          |                |                                |  |  |  |
| security-mode         | Turn on captive portal authentication for this interface.                                                                                                                                                                                      | option       | -                   | none    |                          |                |                                |  |  |  |
|                       | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>none</td> <td>No security option.</td> </tr> <tr> <td>captive-portal</td> <td>Captive portal authentication.</td> </tr> </tbody> </table> | Option       | Description         | none    | No security option.      | captive-portal | Captive portal authentication. |  |  |  |
| Option                | Description                                                                                                                                                                                                                                    |              |                     |         |                          |                |                                |  |  |  |
| none                  | No security option.                                                                                                                                                                                                                            |              |                     |         |                          |                |                                |  |  |  |
| captive-portal        | Captive portal authentication.                                                                                                                                                                                                                 |              |                     |         |                          |                |                                |  |  |  |
| security-external-web | URL of external authentication web server.                                                                                                                                                                                                     | string       | Maximum length: 255 | -       |                          |                |                                |  |  |  |
| security-groups       | Names of user groups that can authenticate with the captive portal.                                                                                                                                                                            | option       | -                   | -       |                          |                |                                |  |  |  |
| security-exempt-list  | Name of security-exempt-list.                                                                                                                                                                                                                  | option       | -                   | -       |                          |                |                                |  |  |  |

| Parameter             | Description                                         | Type                                                         | Size                | Default   |
|-----------------------|-----------------------------------------------------|--------------------------------------------------------------|---------------------|-----------|
| security-exempt-list6 | Name of security-exempt-list6.                      | option                                                       | -                   | -         |
| security-redirect-url | URL redirection after disclaimer/authentication.    | string                                                       | Maximum length: 255 | -         |
| defaultgw             | Ability to get the gateway IP from the DHCP server. | option                                                       | -                   | enable    |
|                       | <b>Option</b>                                       | <b>Description</b>                                           |                     |           |
|                       | 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    |
|                       | <b>Option</b>                                       | <b>Description</b>                                           |                     |           |
|                       | enable                                              | Enable DNS server override.                                  |                     |           |
|                       | disable                                             | Disable DNS server override.                                 |                     |           |
| redundant-by          | Use of the benchmark for redundant algorithm.       | option                                                       | -                   | priority  |
|                       | <b>Option</b>                                       | <b>Description</b>                                           |                     |           |
|                       | priority                                            | Redundant by priority.                                       |                     |           |
|                       | cost                                                | Redundant by cost.                                           |                     |           |
| algorithm             | LLB algorithm.                                      | option                                                       | -                   | redundant |
|                       | <b>Option</b>                                       | <b>Description</b>                                           |                     |           |
|                       | redundant                                           | Redundant as algorithm.                                      |                     |           |
|                       | WRR                                                 | WRR as algorithm.                                            |                     |           |
| FEC                   | Forward equivalence class.                          | option                                                       | -                   | source_ip |
|                       | <b>Option</b>                                       | <b>Description</b>                                           |                     |           |
|                       | 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.                     |                     |           |

| Parameter       | Description                                       | Type                               | Size         | Default |
|-----------------|---------------------------------------------------|------------------------------------|--------------|---------|
| 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    |
|                 | <b>Option</b>                                     | <b>Description</b>                 |              |         |
|                 | 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 |
|                 | <b>Option</b>                                     | <b>Description</b>                 |              |         |
|                 | enable                                            | Enable sfp-dsl.                    |              |         |
|                 | disable                                           | Disable sfp-dsl.                   |              |         |
| Autodect        | Enable/disable sfp-dsl auto-detect.               | option                             | -            | enable  |
| Phy-mode        | DSL physical mode.                                | option                             | -            | vdsl    |
|                 | <b>Option</b>                                     | <b>Description</b>                 |              |         |
|                 | Vdsl                                              |                                    |              |         |
|                 | Adsl                                              |                                    |              |         |

- [config VRRP on page 51](#)
- [config ipv6 on page 53](#)

## 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:

```

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

```

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

| Parameter    | Description                       | Type                           | Size    | Default |
|--------------|-----------------------------------|--------------------------------|---------|---------|
|              | <b>Option</b>                     | <b>Description</b>             |         |         |
|              | 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 |
|              | <b>Option</b>                     | <b>Description</b>             |         |         |
|              | enable                            | Enable preempt mode.           |         |         |
|              | disable                           | Disable preempt mode.          |         |         |

## config ipv6

Description: Configure the IPv6 interface settings.

```

config system interface
  edit <name>
    config ipv6
      set status [enable | disable]
      set ip6-mode [static | dhcp | pppoe | delegated]
      set autoconf [enable | disable]
      set ip6-send-adv [enable | disable]
      set ip6-manage-flag [enable | disable]
      set ip6-other-flag [enable | disable]
      set ip6-max-interval <4-1800>
      set ip6-min-interval <3-1350>
      set ip6-address {ipv6-address}
      set ip6-adv-rto [enable | disable]
      set ip6-route-pref [low | medium | high]
      set ip6-gw {ipv6-address}
      set ip6-upstream-interface [option1 | ...]
      set ip6-allowaccess [http | https | ping | snmp | ssh]
      set distance {number}
      config ip6-prefix-list

```

```

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

```

### Sample command:

```

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

```

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

| 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 the</td> </tr> <tr> <td>disable</td> <td>Disable</td> </tr> </tbody> </table>                                                                                                                                                   | Option | Description | enable  | Enable the                                       | disable | Disable                                           |       |                       |           |                                     |  |  |  |
| Option          | Description                                                                                                                                                                                                                                                                                                                                                 |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| enable          | Enable the                                                                                                                                                                                                                                                                                                                                                  |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| disable         | Disable                                                                                                                                                                                                                                                                                                                                                     |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| ip6-mode        | Addressing mode (static, DHCP, delegated).                                                                                                                                                                                                                                                                                                                  | option | -           |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
|                 | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>static</td> <td>Static setting.</td> </tr> <tr> <td>dhcp</td> <td>DHCPv6 client mode.</td> </tr> <tr> <td>pppoe</td> <td>IPv6 over PPPoE mode.</td> </tr> <tr> <td>delegated</td> <td>IPv6 address with delegated prefix.</td> </tr> </tbody> </table> | Option | Description | static  | Static setting.                                  | dhcp    | DHCPv6 client mode.                               | pppoe | IPv6 over PPPoE mode. | delegated | IPv6 address with delegated prefix. |  |  |  |
| Option          | Description                                                                                                                                                                                                                                                                                                                                                 |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| static          | Static setting.                                                                                                                                                                                                                                                                                                                                             |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| dhcp            | DHCPv6 client mode.                                                                                                                                                                                                                                                                                                                                         |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| pppoe           | IPv6 over PPPoE mode.                                                                                                                                                                                                                                                                                                                                       |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| delegated       | IPv6 address with delegated prefix.                                                                                                                                                                                                                                                                                                                         |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| autoconf        | Enable/disable address auto config.                                                                                                                                                                                                                                                                                                                         | option | -           | disable |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
|                 | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable auto-configuration.</td> </tr> <tr> <td>disable</td> <td>Disable auto-configuration.</td> </tr> </tbody> </table>                                                                                                               | Option | Description | enable  | Enable auto-configuration.                       | disable | Disable auto-configuration.                       |       |                       |           |                                     |  |  |  |
| Option          | Description                                                                                                                                                                                                                                                                                                                                                 |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| enable          | Enable auto-configuration.                                                                                                                                                                                                                                                                                                                                  |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| disable         | Disable auto-configuration.                                                                                                                                                                                                                                                                                                                                 |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| ip6-send-adv    | Enable/disable sending router advertisement (RA) messages about the interface.                                                                                                                                                                                                                                                                              | option | -           | disable |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
|                 | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable sending RA messages about this interface.</td> </tr> <tr> <td>disable</td> <td>Disable sending RA messages about this interface.</td> </tr> </tbody> </table>                                                                   | Option | Description | enable  | Enable sending RA messages about this interface. | disable | Disable sending RA messages about this interface. |       |                       |           |                                     |  |  |  |
| Option          | Description                                                                                                                                                                                                                                                                                                                                                 |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| enable          | Enable sending RA messages about this interface.                                                                                                                                                                                                                                                                                                            |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| disable         | Disable sending RA messages about this interface.                                                                                                                                                                                                                                                                                                           |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| ip6-manage-flag | Specify whether to set an M-flag                                                                                                                                                                                                                                                                                                                            | option |             | disable |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
|                 | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the M-flag.</td> </tr> <tr> <td>disable</td> <td>Disable the M-flag.</td> </tr> </tbody> </table>                                                                                                                               | Option | Description | enable  | Enable the M-flag.                               | disable | Disable the M-flag.                               |       |                       |           |                                     |  |  |  |
| Option          | Description                                                                                                                                                                                                                                                                                                                                                 |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| enable          | Enable the M-flag.                                                                                                                                                                                                                                                                                                                                          |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| disable         | Disable the M-flag.                                                                                                                                                                                                                                                                                                                                         |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| ip6-other-flag  | Specify whether to set an O-flag.                                                                                                                                                                                                                                                                                                                           | option | -           | disable |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
|                 | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the O-flag.</td> </tr> <tr> <td>disable</td> <td>Disable the O-flag.</td> </tr> </tbody> </table>                                                                                                                               | Option | Description | enable  | Enable the O-flag.                               | disable | Disable the O-flag.                               |       |                       |           |                                     |  |  |  |
| Option          | Description                                                                                                                                                                                                                                                                                                                                                 |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| enable          | Enable the O-flag.                                                                                                                                                                                                                                                                                                                                          |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |
| disable         | Disable the O-flag.                                                                                                                                                                                                                                                                                                                                         |        |             |         |                                                  |         |                                                   |       |                       |           |                                     |  |  |  |

| Parameter              | Description                                                                                                                                                                                                                                                                                                                                              | Type        | Size         | Default |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|---------|-----------------------------------------|---------|--------------------------------------------|------|------------------------------------------|------|--------------|-----|-------------|--|--|--|
| ip6-max-interval       | Specify maximum RA sending interval.                                                                                                                                                                                                                                                                                                                     | integer     | 4-1800       | 600     |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ip6-min-interval       | Specify minimum RA sending interval.                                                                                                                                                                                                                                                                                                                     | integer     | 3-1350       | 600     |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ip6-address            | Primary IPv6 address prefix.                                                                                                                                                                                                                                                                                                                             | IPv6-prefix | -            | ::/0    |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ip6-adv-rio            | Specify whether to enable router information option                                                                                                                                                                                                                                                                                                      | option      | -            | disable |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
|                        | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable router information option.</td> </tr> <tr> <td>disable</td> <td>Disable router information option.</td> </tr> </tbody> </table>                                                                                              | Option      | Description  | enable  | Enable router information option.       | disable | Disable router information option.         |      |                                          |      |              |     |             |  |  |  |
| Option                 | Description                                                                                                                                                                                                                                                                                                                                              |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| enable                 | Enable router information option.                                                                                                                                                                                                                                                                                                                        |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| disable                | Disable router information option.                                                                                                                                                                                                                                                                                                                       |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ip6-route-pref         | Specify router preference level. This option is hidden when ip6-adv-rio disabled.                                                                                                                                                                                                                                                                        | option      | -            | medium  |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
|                        | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>low</td> <td>Set the router preference level to low.</td> </tr> <tr> <td>medium</td> <td>Set the router preference level to medium.</td> </tr> <tr> <td>high</td> <td>Set the router preference level to high.</td> </tr> </tbody> </table>         | Option      | Description  | low     | Set the router preference level to low. | medium  | Set the router preference level to medium. | high | Set the router preference level to high. |      |              |     |             |  |  |  |
| Option                 | Description                                                                                                                                                                                                                                                                                                                                              |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| low                    | Set the router preference level to low.                                                                                                                                                                                                                                                                                                                  |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| medium                 | Set the router preference level to medium.                                                                                                                                                                                                                                                                                                               |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| high                   | Set the router preference level to high.                                                                                                                                                                                                                                                                                                                 |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ip6-upstream-interface | Specify the IPv6 interface name providing delegated information.<br>This option is available when ip6-mode is set to delegate.                                                                                                                                                                                                                           | option      | -            | -       |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ip6-gw                 | IPv6 Gateway. Syntax:<br>xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx.                                                                                                                                                                                                                                                                                        | string      | ipv6-address | ::      |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ip6-allowaccess        | Allow management access to the interface.                                                                                                                                                                                                                                                                                                                | option      | -            |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
|                        | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>http</td> <td>HTTP access.</td> </tr> <tr> <td>https</td> <td>HTTPS access.</td> </tr> <tr> <td>ping</td> <td>PING access.</td> </tr> <tr> <td>snmp</td> <td>SNMP access.</td> </tr> <tr> <td>ssh</td> <td>SSH access.</td> </tr> </tbody> </table> | Option      | Description  | http    | HTTP access.                            | https   | HTTPS access.                              | ping | PING access.                             | snmp | SNMP access. | ssh | SSH access. |  |  |  |
| Option                 | Description                                                                                                                                                                                                                                                                                                                                              |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| http                   | HTTP access.                                                                                                                                                                                                                                                                                                                                             |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| https                  | HTTPS access.                                                                                                                                                                                                                                                                                                                                            |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ping                   | PING access.                                                                                                                                                                                                                                                                                                                                             |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| snmp                   | SNMP access.                                                                                                                                                                                                                                                                                                                                             |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| ssh                    | SSH access.                                                                                                                                                                                                                                                                                                                                              |             |              |         |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |
| distance               | Route metric of the interface gateway.                                                                                                                                                                                                                                                                                                                   | number      | 1-255        | 10      |                                         |         |                                            |      |                                          |      |              |     |             |  |  |  |

| Parameter       | Description                                                           | Type  | Size | Default |
|-----------------|-----------------------------------------------------------------------|-------|------|---------|
| ip6-prefix-list | Specify the RA prefix info. You can create multiple prefixes.         | table | -    | null    |
| ip6-rdnss-list  | Specify the RA DNS service info. You can create multiple DNS entries. | table | -    | null    |

## config system vxlan

Description: Configure VXLAN devices

```

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

```

### Sample command:

```

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    |

| Parameter | Description                                                                      | Type         | Size      | Default |
|-----------|----------------------------------------------------------------------------------|--------------|-----------|---------|
| local-ip  | IPv4 address of the VXLAN interface on the device at the local end of the VXLAN. | IPv4 address | -         | none    |
| dstport   | VXLAN destination port.                                                          | integer      | 1 - 65535 | 4789    |

## config system aggregate-interface

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

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

### Sample command:

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

- [config members on page 58](#)

## config members

Description: Configure interfaces to be aggregated.

```
config system aggregate-interface
  edit <name>
    config members
      edit <name>
        set *interface <name1>
        set weight [1 - 256]
        set health-check-event
        set health-check-fail-cnt [1 - 10]
```

```

        set health-check-recovery-cnt [1 - 10]
unset
next
show
abort
end
delete <name>
purge
show
end
next
show
abort
end
delete <name>
purge
show
end

```

### Sample command:

```

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 pppoe1
    set status up
    set device port1
    set username test
    set password *****
  next
end
```

| Parameter | Description                | Type   | Size | Default |
|-----------|----------------------------|--------|------|---------|
| status    | Bring the PPPoE up or down | option | -    | up      |

| Parameter | Description                                     | Type                       | Size | Default |
|-----------|-------------------------------------------------|----------------------------|------|---------|
|           | <b>Option</b>                                   | <b>Description</b>         |      |         |
|           | up                                              | Set interface status up.   |      |         |
|           | down                                            | Set interface status down. |      |         |
| device    | Name of the physical interface                  | option                     | -    | none    |
| username  | The ISP provided username of the PPPoE account. | string                     | -    | none    |
| password  | The PPPoE account's password.                   | string                     | -    | none    |

## config dhcpserver

Description: Configure DHCP servers.

```

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

```

## config reserved-addresses

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

```

Config reserved-addresses
  edit <name>
    set *ip {ipv4-address}
    set *mac {mac-address}

```

```

        set *action [block | reserved]
        unset
        next
        show
        abort
        end
    delete <name>
    purge
    show
    end
next
show
end
delete <name>
purge
show
end

```

### Sample command:

```

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  |
|             | <b>Option</b>                                      | <b>Decription</b>        |               |         |
|             | 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 |

| Parameter        | Description                                                                      | Type                                   | Size       | Default |
|------------------|----------------------------------------------------------------------------------|----------------------------------------|------------|---------|
|                  | <b>Option</b>                                                                    | <b>Description</b>                     |            |         |
|                  | default                                                                          | Use the default DNS server.            |            |         |
|                  | specify                                                                          | Specify the DNS server to be used.     |            |         |
|                  | wan-dns                                                                          | Use the WAN port DNS server.           |            |         |
| dns-server1      | DNS server 1.                                                                    | IPv4 address                           | -          | none    |
| dns-server2      | DNS server 2.                                                                    | IPv4 address                           | -          | none    |
| dns-server3      | DNS server 3.                                                                    | IPv4 address                           | -          | none    |
| ntp-service      | Options for assigning Network Time Protocol (NTP) servers to DHCP clients.       | option                                 | -          | specify |
| ntp-server1      | NTP server 1.                                                                    | string                                 | -          | none    |
| ntp-server2      | NTP server 2.                                                                    | string                                 | -          | none    |
| ntp-server3      | NTP server 3.                                                                    | string                                 | -          | none    |
| default-gateway  | Default gateway IP address assigned by the DHCP server.                          | IPv4 address                           | -          | none    |
| netmask          | Network mask assigned by the DHCP server.                                        | string                                 | -          | none    |
| interface        | DHCP server can assign IP configurations to clients connected to this interface. | option                                 | -          | none    |
|                  | <b>Option</b>                                                                    | <b>Description</b>                     |            |         |
|                  | lan                                                                              | LAN as the DHCP server interface.      |            |         |
|                  | lo                                                                               | Loopback as the DHCP server interface. |            |         |
|                  | port1                                                                            | Port 1 as the DHCP server interface.   |            |         |
|                  | port4                                                                            | Port 4 as the DHCP server interface.   |            |         |
| start-ip         | The first IP address in the IP range.                                            | IPv4 address                           | -          | none    |
| end-ip           | The last IP address in the IP range.                                             | IPv4 address                           | -          | none    |
| mtu              | Client's MTU.                                                                    | integer                                | 512 - 9000 | 1500    |
| reserved-address | Status of reserved address and MAC mapping.                                      | Option                                 | -          | disable |

| 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 reserved-address.</td> </tr> <tr> <td>disable</td> <td>Disable reserved-address.</td> </tr> </tbody> </table> |              | Option | Description | enable | Enable reserved-address. | disable  | Disable reserved-address. |  |  |
| Option    | Description                                                                                                                                                                                                                               |              |        |             |        |                          |          |                           |  |  |
| enable    | Enable reserved-address.                                                                                                                                                                                                                  |              |        |             |        |                          |          |                           |  |  |
| disable   | Disable reserved-address.                                                                                                                                                                                                                 |              |        |             |        |                          |          |                           |  |  |
| ip        | IP address to be reserved for the MAC address.                                                                                                                                                                                            | IPv4 address | -      | none        |        |                          |          |                           |  |  |
| mac       | MAC address of the client that will get the reserved IP address.                                                                                                                                                                          | string       | -      | none        |        |                          |          |                           |  |  |
| action    | Options for the DHCP server to configure the client with the reserved MAC address.                                                                                                                                                        | option       | -      | reserved    |        |                          |          |                           |  |  |
|           | <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 system dhcp6server

Description: Configure DHCP6 servers.

```

config system dhcp6server
  edit <name>
    set status [enable | disable]
    set lease-time [300 - 8640000]
    set dns-service [default | specify]
    set subnet {ipv6-address}
    set interface [option1 | ...]
    set ip-mode [range]
    config ip-range
      edit <name>
        set start-ip {ipv6-address}
        set end-ip {ipv6-address}
      next
    end
    config prefix-range
      edit <name>
        set start-ip {ipv6-address}
        set end-ip {ipv6-address}
        set prefix-length <integer>
      next
    end
  end

```

```

next
end

```

**Sample command:**

```

config system dhcp6server
  edit 1
    set status enable
    set lease-time 604800
    set dns-service specify
    set dns-server1
    set dns-server2
    set dns-server3
    set dns-server4
    set subnet 2001:1:3::/64
    set interface lan
    set ip-mode range
    config ip-range
      edit 1
        set start-ip 2001:1:3::2
        set end-ip 2001:1:3::5
      next
    end
    config prefix-range
      edit 1
        set start-ip 2001:1:3:0000:1000::
        set end-ip 2001:1:3:0000:1001::
        set prefix-length 80
      next
    end
  next
end

```

| Parameter   | Description                                                                                                                                                                                                                               | Type    | Size          | Default |                          |         |                           |  |  |  |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|---------|--------------------------|---------|---------------------------|--|--|--|
| status      | Status of the DHCP6 configuration.                                                                                                                                                                                                        | option  | -             | enable  |                          |         |                           |  |  |  |
|             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the DHCP6 server.</td> </tr> <tr> <td>disable</td> <td>Disable the DHCP6 server.</td> </tr> </tbody> </table> | Option  | Description   | enable  | Enable the DHCP6 server. | disable | Disable the DHCP6 server. |  |  |  |
| Option      | Description                                                                                                                                                                                                                               |         |               |         |                          |         |                           |  |  |  |
| enable      | Enable the DHCP6 server.                                                                                                                                                                                                                  |         |               |         |                          |         |                           |  |  |  |
| disable     | Disable the DHCP6 server.                                                                                                                                                                                                                 |         |               |         |                          |         |                           |  |  |  |
| lease-time  | Lease time in seconds. 0 means unlimited.                                                                                                                                                                                                 | integer | 300 - 8640000 | 604800  |                          |         |                           |  |  |  |
| dns-service | Options for assigning IPv6 DNS servers to DHCP6 clients                                                                                                                                                                                   | Option  | -             | specify |                          |         |                           |  |  |  |

| Parameter    | Description                                                                                                                                                                                                                                                                                                 | Type         | Size        | Default |                                                               |         |                                                       |  |  |  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|---------|---------------------------------------------------------------|---------|-------------------------------------------------------|--|--|--|
|              | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>Clients are assigned the FortiExtender configured DNS server.</td> </tr> <tr> <td>specify</td> <td>Specify DNS servers in the DHCP server configuration.</td> </tr> </tbody> </table> | Option       | Description | default | Clients are assigned the FortiExtender configured DNS server. | specify | Specify DNS servers in the DHCP server configuration. |  |  |  |
| Option       | Description                                                                                                                                                                                                                                                                                                 |              |             |         |                                                               |         |                                                       |  |  |  |
| default      | Clients are assigned the FortiExtender configured DNS server.                                                                                                                                                                                                                                               |              |             |         |                                                               |         |                                                       |  |  |  |
| specify      | Specify DNS servers in the DHCP server configuration.                                                                                                                                                                                                                                                       |              |             |         |                                                               |         |                                                       |  |  |  |
| dns-server1  | Specify the IP address of DNS Server 1.<br>Available when dns-service is set to specify.                                                                                                                                                                                                                    | IPv6 address | -           | none    |                                                               |         |                                                       |  |  |  |
| dns-server2  | Specify the IP address of DNS Server 2.<br>Available when dns-service is set to specify.                                                                                                                                                                                                                    | IPv6 address | -           | none    |                                                               |         |                                                       |  |  |  |
| dns-server3  | Specify the IP address of DNS Server 3.<br>Available when dns-service is set to specify.                                                                                                                                                                                                                    | IPv6 address | -           | none    |                                                               |         |                                                       |  |  |  |
| dns-server4  | Specify the IP address of DNS Server 4.<br>Available when dns-service is set to specify.                                                                                                                                                                                                                    | IPv6 address | -           | none    |                                                               |         |                                                       |  |  |  |
| subnet       | Defines a managed IPv6 prefix and its associated pools and options.                                                                                                                                                                                                                                         | IPv6 subnet  | -           | none    |                                                               |         |                                                       |  |  |  |
| interface    | DHCP6 server can assign IP configurations to clients connected to this interface.<br>Options vary depending on the interface type.                                                                                                                                                                          | option       | -           | none    |                                                               |         |                                                       |  |  |  |
| ip-mode      | Method used to assign client IP                                                                                                                                                                                                                                                                             | option       | -           | range   |                                                               |         |                                                       |  |  |  |
|              | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>range</td> <td>Assign by IP range.</td> </tr> </tbody> </table>                                                                                                                                        | Option       | Description | range   | Assign by IP range.                                           |         |                                                       |  |  |  |
| Option       | Description                                                                                                                                                                                                                                                                                                 |              |             |         |                                                               |         |                                                       |  |  |  |
| range        | Assign by IP range.                                                                                                                                                                                                                                                                                         |              |             |         |                                                               |         |                                                       |  |  |  |
| ip-range     | Configure IPv6 address list.<br>See <a href="#">config ip-range on page 66</a> .                                                                                                                                                                                                                            | array        | -           | none    |                                                               |         |                                                       |  |  |  |
| prefix-range | Configure IPv6 prefix list.<br>See <a href="#">config prefix-range on page 67</a> .                                                                                                                                                                                                                         | array        | -           | none    |                                                               |         |                                                       |  |  |  |

### config ip-range

| Parameter | Description        | Type         | Size | Default |
|-----------|--------------------|--------------|------|---------|
| start-ip  | Start of IP range. | IPv6 address | -    | none    |
| end-ip    | End of IP range.   | IPv6 address | -    | none    |

## config prefix-range

| Parameter     | Description            | Type         | Size | Default |
|---------------|------------------------|--------------|------|---------|
| start-ip      | Start of prefix range. | IPv6 address | -    | none    |
| end-ip        | End of prefix range.   | IPv6 address | -    | none    |
| prefix-length | Prefix length.         | integer      | -    |         |

## 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:

```

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>port1</td> <td>Port 1 as client interfaces.</td> </tr> <tr> <td>port4</td> <td>Port 4 as client interfaces.</td> </tr> </tbody> </table> | Option       | Description | lan     | LAN as client interfaces. | lo      | Loopback as client interfaces. | port1 | Port 1 as client interfaces. | port4 | Port 4 as client interfaces. |  |  |  |
| Option            | Description                                                                                                                                                                                                                                                                                                                                                             |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| lan               | LAN as client interfaces.                                                                                                                                                                                                                                                                                                                                               |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| lo                | Loopback as client interfaces.                                                                                                                                                                                                                                                                                                                                          |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| port1             | Port 1 as client interfaces.                                                                                                                                                                                                                                                                                                                                            |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| port4             | Port 4 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>port1</td> <td>Port1 as client interfaces.</td> </tr> <tr> <td>port4</td> <td>Port 4 as client interfaces.</td> </tr> </tbody> </table>  | Option       | Description | lan     | LAN as client interfaces. | lo      | Loopback as client interfaces. | port1 | Port1 as client interfaces.  | port4 | Port 4 as client interfaces. |  |  |  |
| Option            | Description                                                                                                                                                                                                                                                                                                                                                             |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| lan               | LAN as client interfaces.                                                                                                                                                                                                                                                                                                                                               |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| lo                | Loopback as client interfaces.                                                                                                                                                                                                                                                                                                                                          |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| port1             | Port1 as client interfaces.                                                                                                                                                                                                                                                                                                                                             |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| port4             | Port 4 as client interfaces.                                                                                                                                                                                                                                                                                                                                            |              |             |         |                           |         |                                |       |                              |       |                              |  |  |  |
| server-ip         | IP address of the DHCP server.                                                                                                                                                                                                                                                                                                                                          | IPv4 address | -           | none    |                           |         |                                |       |                              |       |                              |  |  |  |

## config dns

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

```

config dns
  set primary {ipv4-address}
  set secondary {ipv4-address}
  set timeout [1 - 10]
  set retry [0 - 5]
  set dns-cache-limit [0 - 4294967295]
  set dns-cache-ttl [60 - 86400]
  set cache-notfound-response [enable | disable]
  set source-ip {ipv4-address}
  set server-select-method [least-rtt | failover]
  unset
  show
end

```

**Sample command:**

```

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

```

| Parameter                | Description                                                                          | Type                              | Size           | Default       |
|--------------------------|--------------------------------------------------------------------------------------|-----------------------------------|----------------|---------------|
| primary                  | Primary DNS server IP address. The default is the FortiGuard primary DNS server IP.  | IPv4 address                      | -              | 208.91.112.53 |
| secondary                | Secondary DNS server IP address. The default is the FortiGuard secondary DNS server. | IPv4 address                      | -              | 208.91.112.52 |
| timeout                  | DNS query timeout interval in seconds.                                               | integer                           | 1 - 10         | 5             |
| retry                    | Number of times to retry.                                                            | integer                           | 0 - 5          | 3             |
| dns-cache-limit          | Maximum number of records in DNS cache.                                              | integer                           | 0 - 4294967295 | 5000          |
| dns-cache-ttl            | Duration in seconds that DNS cache retains information.                              | integer                           | 60 - 86400     | 1800          |
| cache-notfound-responses | Status of response from the DNS server when a record is not in cache.                | option                            | -              | disable       |
|                          | <b>Option</b>                                                                        | <b>Description</b>                |                |               |
|                          | enable                                                                               | Enable cache-notfound-responses.  |                |               |
|                          | disable                                                                              | Disable cache-notfound-responses. |                |               |
| source-ip                | IP address used by the DNS server as its source IP.                                  | IPv4 address                      | -              | 0.0.0.0       |
| server-select-method     | The way in which configured servers are prioritized.                                 | option                            | -              | least-rtt     |

| Parameter | Description   | Type               | Size | Default                            |
|-----------|---------------|--------------------|------|------------------------------------|
|           | <b>Option</b> | <b>Description</b> |      |                                    |
|           | least-rtt     |                    |      | least-rtt as server-select-method. |
|           | failover      |                    |      | failover as server-select-method.  |

## config system dns-server

Description: Configure DNS servers.

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

| Parameter  | Description                                    | Type               | Size                        | Default                              |
|------------|------------------------------------------------|--------------------|-----------------------------|--------------------------------------|
| Name       | Name of the DNS server.                        | string             | 1 - 35 characters in length | none                                 |
| interface  | A system interface enabled for DNS service.    | option             | -                           | none                                 |
| mode       | DNS server mode.                               | option             | -                           | none                                 |
|            | <b>Option</b>                                  | <b>Description</b> |                             |                                      |
|            | recursive                                      |                    |                             | Shadow the DNS database and forward. |
|            | non-recursive                                  |                    |                             | Public DNS database only.            |
|            | forward-only                                   |                    |                             | Forward only.                        |
| dns-filter | Enter a previously created DNS filter profile. | string             | -                           | none                                 |

## config dns-database

Description: Configure DNS databases.

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

| Parameter    | Description                                                                                                                                                                                                                                                                   | Type    | Size           | Default |                                                |         |                                          |  |  |  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------|---------|------------------------------------------------|---------|------------------------------------------|--|--|--|
| name         | Name of the DNS database.                                                                                                                                                                                                                                                     | string  | -              | none    |                                                |         |                                          |  |  |  |
| status       | Status of the DNS zone.                                                                                                                                                                                                                                                       | option  | -              | enable  |                                                |         |                                          |  |  |  |
|              | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable the DNS zone.</td> </tr> <tr> <td>disable</td> <td>Disable the DNS zone.</td> </tr> </tbody> </table>                                             | Option  | Description    | enable  | Enable the DNS zone.                           | disable | Disable the DNS zone.                    |  |  |  |
| 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  |                                                |         |                                          |  |  |  |
|              | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>shadow</td> <td>Shadow the DNS zone to serve internal clients.</td> </tr> <tr> <td>public</td> <td>Public DNS zone to serve public clients.</td> </tr> </tbody> </table> | Option  | Description    | shadow  | Shadow the DNS zone to serve internal clients. | public  | Public DNS zone to serve public clients. |  |  |  |
| Option       | Description                                                                                                                                                                                                                                                                   |         |                |         |                                                |         |                                          |  |  |  |
| shadow       | Shadow the DNS zone to serve internal clients.                                                                                                                                                                                                                                |         |                |         |                                                |         |                                          |  |  |  |
| public       | Public DNS zone to serve public clients.                                                                                                                                                                                                                                      |         |                |         |                                                |         |                                          |  |  |  |
| primary-name | Domain name of the default DNS server for the zone.                                                                                                                                                                                                                           | string  | -              | none    |                                                |         |                                          |  |  |  |
| contact      | Email address of the administrator of the zone. It could be a simple username or full email address.                                                                                                                                                                          | string  | -              | host    |                                                |         |                                          |  |  |  |
| ttl          | Default time-to-live value (in seconds) for the entries of the DNS zone.                                                                                                                                                                                                      | integer | 1 - 2147483647 | 86400   |                                                |         |                                          |  |  |  |

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

```

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 mb1
    set target target.port1
    set priority 1
    set weight 1
    set in-bandwidth-threshold 0
    set out-bandwidth-threshold 0
    set total-bandwidth-threshold 0
    set health-check vw_mb1_hc
    set health-check-fail-threshold 5
    set health-check-success-threshold 5
    set link-cost-factor packet-loss latency jitter
    set latency-threshold 5
    set jitter-threshold 5
    set packetloss-threshold 100
  next
  edit mb2
    set target target.port2
    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    |
|                      |                                                      | <b>Option</b> | <b>Description</b>                     |         |
|                      |                                                      | 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 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 |

| 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 syslog statistic report.</td> </tr> <tr> <td>disable</td> <td>Disable Enable syslog statistic report.</td> </tr> </tbody> </table> | Option  | Description | enable  | Enable syslog statistic report. | disable | Disable Enable syslog statistic report. |  |  |  |
| 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                                  | integer | 0 - 100 | 5       |

| Parameter | Size                                    | Type | Size | Default |
|-----------|-----------------------------------------|------|------|---------|
|           | threshold. 0 means report all the time. |      |      |         |

## 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:

```

config system syslog
    config remote-servers
        edit serv1
            set ip 192.148.200.193
            set port 514
        next
    end
    config statistic-report
        set status enable
        set interval 30
        config cpu-usage
            set threshold 70
            set variance 5
        end
        config memory-usage
            set threshold 50
            set variance 5
        end
        config cpu-temperature
            set threshold 80
            set variance 5

```

```
    end
  end
end
```

## config 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:

```
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 |
|           | <b>Option</b>       | <b>Description</b>         |      |            |
|           | fortiguard          | The FortiGuard NTP server. |      |            |
|           | custom              | A custom NTP server.       |      |            |

- [config ntpserver on page 81](#)

## 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:

```

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:

```

config system settings
    set ike-port 500
end

```

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

## config system switch-interface

Description: View LAN extension settings synced from the FortiGate. You cannot configure these settings directly on the FortiBranchSASE; you must make them through the FortiGate LAN extension profile first.

```

config system switch-interface
edit <name>
    set vlan-support [enable | disable]
config member
    edit <name1>
        set type [ aggregate | physical | vap]
        set port
        set vids {1-4089}
        set pvid {1-4089}
        set security-8021x-member-mode [enable | disable]
        set security-mac-member-mode [enable | disable]
    next

```

```

end
set stp [enable | disable]
set ts-mode [disable | include]
config traffic-split
set wired-security-mode [802.1X | mac-filter-allowlist | mac-filter-blocklist | none]
config mac-filter-list
  edit <name>
    set mac-addr <mac address>
    set mask <mac address>
  next
end
set wired-security-group <security group ID>
next
end

```

## Sample syntax:

```

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

```

| Parameter    | Description                                                                                                                                                                                                                                           | Type   | Size        | Default |                                |         |                                 |  |  |  |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|--------------------------------|---------|---------------------------------|--|--|--|
| vlan-support | Enable/disable VLAN support.                                                                                                                                                                                                                          | option | -           |         |                                |         |                                 |  |  |  |
| stp          | Spanning Tree Protocol.                                                                                                                                                                                                                               | option | -           | disable |                                |         |                                 |  |  |  |
|              | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable Spanning Tree Protocol.</td> </tr> <tr> <td>disable</td> <td>Disable Spanning Tree Protocol.</td> </tr> </tbody> </table> | Option | Description | enable  | Enable Spanning Tree Protocol. | disable | Disable Spanning Tree Protocol. |  |  |  |
| Option       | Description                                                                                                                                                                                                                                           |        |             |         |                                |         |                                 |  |  |  |
| enable       | Enable Spanning Tree Protocol.                                                                                                                                                                                                                        |        |             |         |                                |         |                                 |  |  |  |
| disable      | Disable Spanning Tree Protocol.                                                                                                                                                                                                                       |        |             |         |                                |         |                                 |  |  |  |
| ts-mode      | Read-only: Split tunnel mode.                                                                                                                                                                                                                         | option | -           | disable |                                |         |                                 |  |  |  |

| Parameter            | Description                                                                                                                                                                                                                                 | Type    | Size        | Default |                          |         |                            |  |  |  |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|---------|--------------------------|---------|----------------------------|--|--|--|
|                      | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>include</td> <td>Enable Split tunnel mode</td> </tr> <tr> <td>disable</td> <td>Disable Split tunnel mode.</td> </tr> </tbody> </table> | Option  | Description | include | Enable Split tunnel mode | disable | Disable Split tunnel mode. |  |  |  |
| Option               | Description                                                                                                                                                                                                                                 |         |             |         |                          |         |                            |  |  |  |
| include              | Enable Split tunnel mode                                                                                                                                                                                                                    |         |             |         |                          |         |                            |  |  |  |
| disable              | Disable Split tunnel mode.                                                                                                                                                                                                                  |         |             |         |                          |         |                            |  |  |  |
| wired-security-mode  | Turn on 802.1x authentication for this interface.                                                                                                                                                                                           | option  | -           |         |                          |         |                            |  |  |  |
| wired-security-group | Names of user groups that can authenticate with the 802.1X.                                                                                                                                                                                 | option  | -           |         |                          |         |                            |  |  |  |
| dst-mac              | Read-only: MAC address of the remote gateway pushed from FortiOS.                                                                                                                                                                           | string  | -           | none    |                          |         |                            |  |  |  |
| dst-addr             | Read-only: Destination IP addresses                                                                                                                                                                                                         | string  | -           | none    |                          |         |                            |  |  |  |
| services             | Read-only: Internet services.                                                                                                                                                                                                               | options | -           | none    |                          |         |                            |  |  |  |

### config members

| Parameter                  | Description                                                                                                                                                                                                                                                                 | Type    | Size        | Default |                                           |         |                                            |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|---------|-------------------------------------------|---------|--------------------------------------------|--|--|--|
| config member              | Interfaces within the virtual switch.                                                                                                                                                                                                                                       | option  | -           | none    |                                           |         |                                            |  |  |  |
| name                       | The LAN port ID.                                                                                                                                                                                                                                                            | string  | -           | none    |                                           |         |                                            |  |  |  |
| type                       | Interface type.                                                                                                                                                                                                                                                             | option  | -           |         |                                           |         |                                            |  |  |  |
| port                       | Interface within the virtual switch.                                                                                                                                                                                                                                        | option  | -           |         |                                           |         |                                            |  |  |  |
| vap                        | Virtual Access Point, which must NOT be configured as a WLAN bridge, will be added as a member of the switch-interface.                                                                                                                                                     | option  | -           |         |                                           |         |                                            |  |  |  |
| vids                       | VLAN ID list.                                                                                                                                                                                                                                                               | integer | 1 to 4089   |         |                                           |         |                                            |  |  |  |
| pvid                       | Port VLAN ID.                                                                                                                                                                                                                                                               | integer | 1 to 4089   |         |                                           |         |                                            |  |  |  |
| security-8021x-member-mode | Enable/disable 802.1x authentication on a port. Only available on FortiExtender Branch platforms.                                                                                                                                                                           | option  | -           |         |                                           |         |                                            |  |  |  |
|                            | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable 802.1x authentication on the port.</td> </tr> <tr> <td>disable</td> <td>Disable 802.1x authentication on the port.</td> </tr> </tbody> </table> | Option  | Description | enable  | Enable 802.1x authentication on the port. | disable | Disable 802.1x authentication on the port. |  |  |  |
| Option                     | Description                                                                                                                                                                                                                                                                 |         |             |         |                                           |         |                                            |  |  |  |
| enable                     | Enable 802.1x authentication on the port.                                                                                                                                                                                                                                   |         |             |         |                                           |         |                                            |  |  |  |
| disable                    | Disable 802.1x authentication on the port.                                                                                                                                                                                                                                  |         |             |         |                                           |         |                                            |  |  |  |
| security-mac-member-mode   | Enable/disable MAC-addressed based filtering on a port.                                                                                                                                                                                                                     | option  | -           |         |                                           |         |                                            |  |  |  |

| Parameter | Description                                                                                                                                                                                                                                                                                 | Type   | Size        | Default |                                                   |         |                                                    |  |  |  |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|---------------------------------------------------|---------|----------------------------------------------------|--|--|--|
|           | Only available on FortiExtender Branch platforms for G-series models.                                                                                                                                                                                                                       |        |             |         |                                                   |         |                                                    |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable MAC-addressed based filtering on the port.</td> </tr> <tr> <td>disable</td> <td>Disable MAC-addressed based filtering on the port.</td> </tr> </tbody> </table> | Option | Description | enable  | Enable MAC-addressed based filtering on the port. | disable | Disable MAC-addressed based filtering on the port. |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                 |        |             |         |                                                   |         |                                                    |  |  |  |
| enable    | Enable MAC-addressed based filtering on the port.                                                                                                                                                                                                                                           |        |             |         |                                                   |         |                                                    |  |  |  |
| disable   | Disable MAC-addressed based filtering on the port.                                                                                                                                                                                                                                          |        |             |         |                                                   |         |                                                    |  |  |  |

## 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                           |                                  |                |                                   |  |  |  |
|                  | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><i>enable</i></td> <td>Enable strong encryption for SSH</td> </tr> <tr> <td><i>disable</i></td> <td>Disable strong encryption for SSH</td> </tr> </tbody> </table> | Option | Description | <i>enable</i>                     | Enable strong encryption for SSH | <i>disable</i> | Disable strong encryption for SSH |  |  |  |
| Option           | Description                                                                                                                                                                                                                                                             |        |             |                                   |                                  |                |                                   |  |  |  |
| <i>enable</i>    | Enable strong encryption for SSH                                                                                                                                                                                                                                        |        |             |                                   |                                  |                |                                   |  |  |  |
| <i>disable</i>   | Disable strong encryption for SSH                                                                                                                                                                                                                                       |        |             |                                   |                                  |                |                                   |  |  |  |
| set ssh-enc-algo | Set supported ciphers for ssh-enc-algo.                                                                                                                                                                                                                                 | option | -           | aes256-ctr aes256-gcm@openssh.com |                                  |                |                                   |  |  |  |

| Parameter                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Type   | Size        | Default                                                                                                                                                                                                                                   |                              |                                             |                                      |                                      |                               |                     |              |                     |              |                    |             |  |  |  |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|---------------------|--------------|---------------------|--------------|--------------------|-------------|--|--|--|
|                                             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><i>aes256-ctr</i></td> <td>aes256-ctr</td> </tr> <tr> <td><i>aes256-gcm@openssh.com</i></td> <td>aes256-gcm@openssh.com</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                 | Option | Description | <i>aes256-ctr</i>                                                                                                                                                                                                                         | aes256-ctr                   | <i>aes256-gcm@openssh.com</i>               | 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<br>ecdsa-sha2-nistp384<br>ecdsa-sha2-nistp256<br>rsa-sha2-256<br>rsa-sha2-512<br>ssh-ed25519                                                                                                                          |                              |                                             |                                      |                                      |                               |                     |              |                     |              |                    |             |  |  |  |
|                                             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><i>ecdsa-sha2-nistp256</i></td> <td>ecdsa-sha2-nistp256</td> </tr> <tr> <td><i>ecdsa-sha2-nistp384</i></td> <td>ecdsa-sha2-nistp384</td> </tr> <tr> <td><i>ecdsa-sha2-nistp521</i></td> <td>ecdsa-sha2-nistp521</td> </tr> <tr> <td><i>rsa-sha2-256</i></td> <td>rsa-sha2-256</td> </tr> <tr> <td><i>rsa-sha2-512</i></td> <td>rsa-sha2-512</td> </tr> <tr> <td><i>ssh-ed25519</i></td> <td>ssh-ed25519</td> </tr> </tbody> </table> | 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 |  |  |  |
| 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<br>diffie-hellman-group16-sha512<br>diffie-hellman-group18-sha512<br>diffie-hellman-group-exchange-sha256<br>curve25519-sha256@libssh.org<br>ecdh-sha2-nistp256<br>ecdh-sha2-nistp384<br>ecdh-sha2-nistp521 |                              |                                             |                                      |                                      |                               |                     |              |                     |              |                    |             |  |  |  |
|                                             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><i>curve25519-sha256@libssh.org</i></td> <td>curve25519-sha256@libssh.org</td> </tr> <tr> <td><i>diffie-hellman-group-exchange-sha256</i></td> <td>diffie-hellman-group-exchange-sha256</td> </tr> <tr> <td><i>diffie-hellman-group14-sha256</i></td> <td>diffie-hellman-group14-sha256</td> </tr> </tbody> </table>                                                                                                                 | Option | Description | <i>curve25519-sha256@libssh.org</i>                                                                                                                                                                                                       | curve25519-sha256@libssh.org | <i>diffie-hellman-group-exchange-sha256</i> | diffie-hellman-group-exchange-sha256 | <i>diffie-hellman-group14-sha256</i> | diffie-hellman-group14-sha256 |                     |              |                     |              |                    |             |  |  |  |
| Option                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |                                                                                                                                                                                                                                           |                              |                                             |                                      |                                      |                               |                     |              |                     |              |                    |             |  |  |  |
| <i>curve25519-sha256@libssh.org</i>         | curve25519-sha256@libssh.org                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |                                                                                                                                                                                                                                           |                              |                                             |                                      |                                      |                               |                     |              |                     |              |                    |             |  |  |  |
| <i>diffie-hellman-group-exchange-sha256</i> | diffie-hellman-group-exchange-sha256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |             |                                                                                                                                                                                                                                           |                              |                                             |                                      |                                      |                               |                     |              |                     |              |                    |             |  |  |  |
| <i>diffie-hellman-group14-sha256</i>        | diffie-hellman-group14-sha256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |             |                                                                                                                                                                                                                                           |                              |                                             |                                      |                                      |                               |                     |              |                     |              |                    |             |  |  |  |

| Parameter                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   | Type   | Size        | Default                                                                                          |               |                                      |                               |                                      |                               |                                      |                               |  |  |  |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|--------------------------------------------------------------------------------------------------|---------------|--------------------------------------|-------------------------------|--------------------------------------|-------------------------------|--------------------------------------|-------------------------------|--|--|--|
|                                      | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><i>sha256</i></td> <td></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>sha256</i>                                                                                    |               | <i>diffie-hellman-group16-sha512</i> | diffie-hellman-group16-sha512 | <i>diffie-hellman-group18-sha512</i> | diffie-hellman-group18-sha512 |                                      |                               |  |  |  |
| Option                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |             |                                                                                                  |               |                                      |                               |                                      |                               |                                      |                               |  |  |  |
| <i>sha256</i>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |                                                                                                  |               |                                      |                               |                                      |                               |                                      |                               |  |  |  |
| <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<br>hmac-sha2-256-etm@openssh.com<br>hmac-sha2-512<br>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                                                                                                                                                                                                                                                                                                                                                                                                                 |        |             |                                                                                                  |               |                                      |                               |                                      |                               |                                      |                               |  |  |  |

## config system 802-1X-settings

Description: Configure global 802.1X settings.



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

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

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

## config system obm-console

Description: Redirect the out-of-band management (OBM) console output to a local USB, FTP, SFTP, SMB, or NFS server.

```

config system obm-console
  config log-storage
    edit <name>
      set protocol [local_usb | ftp | sftp | smb | nfs]
      set folder <string>
      set server <IP address>
      set port <integer>
      set username <string>
      set password <string>
      set share video
      set export <string>
    next
  end
end

```

| Parameter | Description                                                      | Type               | Size | Default |
|-----------|------------------------------------------------------------------|--------------------|------|---------|
| protocol  | Select which protocol to use to transfer the OOB console output. | option             | -    |         |
|           | <b>Option</b>                                                    | <b>Description</b> |      |         |
|           | local_usb                                                        | Local USB          |      |         |
|           | ftp                                                              | FTP                |      |         |
|           | sftp                                                             | SFTP               |      |         |
|           | smb                                                              | SMB                |      |         |
|           | nfs                                                              | NFS                |      |         |

| Parameter | Description                                                                                                                  | Type   | Size | Default |
|-----------|------------------------------------------------------------------------------------------------------------------------------|--------|------|---------|
| folder    | Enter the folder where the log file should be saved on the server.                                                           | string | -    |         |
| server    | Enter the IP address of the server.                                                                                          | string | -    |         |
| share     | If protocol is set to smb, enter which folder to share the output to.                                                        | string | -    |         |
| port      | Enter the remote server listening port.<br>When the port is set to 0, FortiExtender uses the default port for each protocol. | option | -    |         |
| username  | Enter the username of the server.                                                                                            | string | -    |         |
| password  | Enter the password of the server.                                                                                            | string | -    |         |
| export    | If protocol is set to nfs, enter which folder to export the output to.                                                       | string | -    |         |

# SNMP

This section shows the syntax of the following commands:

- [config sysinfo on page 90](#)
- [config community on page 90](#)
- [config user on page 93](#)
- [config hosts on page 94](#)

## 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 |
|                 | <b>Option</b>                                   | <b>Description</b>                        |           |         |
|                 | 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 |
|                 | <b>Option</b>                                   | <b>Description</b>                        |           |         |
|                 | 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 |
|----------------|----------------------------|--------------------------------------------|-----------|---------|
|                | <b>Option</b>              | <b>Description</b>                         |           |         |
|                | 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 |
|                | <b>Option</b>              | <b>Description</b>                         |           |         |
|                | 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 |
|                | <b>Option</b>              | <b>Description</b>                         |           |         |
|                | 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    |
|                | <b>Option</b>              | <b>Description</b>                         |           |         |
|                | 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.                                                                                                                                                                                                                            |        |             |         |                                     |         |                                      |  |  |  |

| Parameter      | Description                                               | Type                                       | Size      | Default         |
|----------------|-----------------------------------------------------------|--------------------------------------------|-----------|-----------------|
| trap-lport     | SNMPv3 trap local port.                                   | integer                                    | 1 - 65535 | 162             |
| trap-rport     | SNMPv3 trap remote port.                                  | integer                                    | 1 - 65535 | 162             |
| queries        | Status of SNMP queries for the user.                      | option                                     | -         | disable         |
| query-port     | SNMPv3 query port.                                        | integer                                    | 1 - 65535 | 161             |
| events         | SNMP trap events.                                         | option                                     | -         | none            |
|                | <b>Option</b>                                             | <b>Description</b>                         |           |                 |
|                | 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 |
|                | <b>Option</b>                                             | <b>Description</b>                         |           |                 |
|                | 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 or ipv6 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 or IPv6 address of the SNMP manager (host), syntax: X.X.X.X/prefix or h:h:h:h:h:h:h:h/prefix. | IPv4 or IPv6 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.   |

# HMON

This section shows the syntax of the following commands:

- [config hmon hchk on page 96](#)
- [config interface-monitoring on page 98](#)

## config hmon hchk

Description: Configure measuring latency/loss/jitter.

```
config hmon hchk
  edit <name>
    addr-mode [ipv4 | ipv6]
    set protocol [ping | http | dns]
    set interval [1 - 3600]
    set probe-cnt [1 - 10]
    set probe-tm [1 - 10]
    set *probe-target {ipv4-address or FQDN}
    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 | ip6]
    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 *src-ip6 {ipv6-address} *available when src-type is set to ip6
    set filter <name1>, <name2>, ...
  next
end
```

### Sample command:

```
config hmon
  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 port1
      set src-type interface
      set src-iface port1
```

```

set filter rtt loss
next
end
end

```

| Parameter    | Description                                                    | Type                                                  | Size      | Default |
|--------------|----------------------------------------------------------------|-------------------------------------------------------|-----------|---------|
| addr-mode    | Address mode (IPv4 or IPv6)                                    | option                                                | -         |         |
|              | <b>Option</b>                                                  | <b>Description</b>                                    |           |         |
|              | ipv4                                                           | Use IPv4 address.                                     |           |         |
|              | ipv6                                                           | Use IPv6 address.                                     |           |         |
| protocol     | The protocol to use for status checks.                         | option                                                | -         | ping    |
|              | <b>Option</b>                                                  | <b>Description</b>                                    |           |         |
|              | 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       |
| probe-target | IP address or FQDN name of the target to which a probe is sent |                                                       |           |         |
| port         | Port number used to communicate with the server.               | integer                                               | 1 - 65535 | 80      |
| http-get     | URL used to communicate with the server.                       | string                                                |           | /       |
| interface    | The outbound interface of probe packets.                       | option                                                | -         | none    |
|              | <b>Option</b>                                                  | <b>Description</b>                                    |           |         |
|              | 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     |
|           | <b>Option</b>                                                               | <b>Description</b>                                                       |      |          |
|           | 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.                                 |      |          |
|           | ip6                                                                         | Set the source address as a specific IPv6.                               |      |          |
| src-iface | Set the source address as the address derived from the specified interface. |                                                                          |      |          |
| src-ip    | Set the source address as a specific IPv4.                                  | IPv4 address                                                             | -    |          |
| src-ip6   | Set the source address as a specific IPv6                                   | IPv6 address                                                             | -    |          |
| filter    | Filter type.                                                                | option                                                                   | -    | rtt loss |
|           | <b>Option</b>                                                               | <b>Description</b>                                                       |      |          |
|           | rtt                                                                         | Round trip time.                                                         |      |          |
|           | loss                                                                        | Packet loss.                                                             |      |          |

## 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

```

# VPN

This section shows the syntax of the following commands:

- [config ipsec on page 99](#)
- [config vpn certificate on page 109](#)

## config ipsec

Description: Configure IPsec VPN settings.

- [config phase1-interface on page 99](#)
- [config phase2-interface on page 104](#)

## config phase1-interface

Description: Configure the VPN remote gateway.

```
config vpn ipsec phase1-interface
edit <name>
    set ip-version [4 | 6]
    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 *remote-gw6 {ipv6-address}
    set *remotegw-ddns {string} *available when type is set to ddns
    set authmethod [psk | signature]
    set *psksecret {string}
    set *certificate <local-cert-name>
    set *peer <ca-cert-name>
    set localid {string}
    set peerid {string}
    set add-gw-route [enable | disable]
    set dev-id-notification [enable | disable]
    set dev-id <name1> *available when dev-id-notification is enabled
    set monitor <name>
next
end
```

**Sample command:**

```

config vpn ipsec phase1-interface
edit phase1_1
  set ike-version 2
  set keylife 86400
  set proposal aes128-sha256 aes256-sha256 3des-sha256 aes128-sha1 aes256-sha1 3dessha1
  set dhgrp 14 5 31 20
  set interface port1
  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                                                                                  |           |   |           |  |  |  |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|------------------------------------------------------------------------------------------|-----------|---|-----------|--|--|--|
| ip-version  | Specify the IP version for the VPN interface.                                                                                                                                                   | option  | -            |                                                                                          |           |   |           |  |  |  |
|             | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>IPv4</td> </tr> <tr> <td>6</td> <td>IPv6</td> </tr> </tbody> </table>           | Option  | Description  | 4                                                                                        | IPv4      | 6 | IPv6      |  |  |  |
| Option      | Description                                                                                                                                                                                     |         |              |                                                                                          |           |   |           |  |  |  |
| 4           | IPv4                                                                                                                                                                                            |         |              |                                                                                          |           |   |           |  |  |  |
| 6           | IPv6                                                                                                                                                                                            |         |              |                                                                                          |           |   |           |  |  |  |
| ike-version | Specify the 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    | Specify Phase-1 proposal.                                                                                                                                                                       | option  | -            | aes128-sha256<br>aes256-sha256<br>3des-sha256<br>aes128-sha1<br>aes256-sha1<br>3des-sha1 |           |   |           |  |  |  |

| Parameter     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Type   | Size        | Default |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|--|----------|--|------------|--|----------|--|-----------|--|-------------|--|------------|--|-------------|--|---------------|--|------------|--|-------------|--|---------------|--|--|--|--|
|               | <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> <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 | des-md5 |  | des-sha1 |  | des-sha256 |  | 3des-md5 |  | 3des-sha1 |  | 3des-sha256 |  | aes128-md5 |  | aes128-sha1 |  | aes128-sha256 |  | aes256-md5 |  | aes256-sha1 |  | aes256-sha256 |  |  |  |  |
| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| des-md5       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| des-sha1      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| des-sha256    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 3des-md5      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 3des-sha1     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 3des-sha256   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| aes128-md5    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| aes128-sha1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| aes128-sha256 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| aes256-md5    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| aes256-sha1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| aes256-sha256 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| dhgrp         | <p>Diffie-Hellman (DH) key exchange in phase1 is used to negotiate and exchange private keys for phase2.</p> <p><b>Note:</b> Any DH groups less than 15 are not recommended due to their low security levels. Elliptic Curve Groups (19, 20, 21, 27, 28, 29, 30, 31, 32) offer better security compared to the MODP groups (1, 2, 5, 14, 15, 16, 17, 18).</p>                                                                                                                                                                                                                          | 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> </tbody> </table>                                                                                                                                                                                               | Option | Description | 1       |  | 2        |  | 5          |  | 14       |  | 15        |  | 16          |  | 17         |  | 18          |  | 19            |  |            |  |             |  |               |  |  |  |  |
| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 1             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 2             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 5             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 14            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 15            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 16            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 17            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 18            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |
| 19            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |         |  |          |  |            |  |          |  |           |  |             |  |            |  |             |  |               |  |            |  |             |  |               |  |  |  |  |

| Parameter     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               | Type         | Size        | Default |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|---------|--------------------------------|------|-------------------------------------|------|----------------------------------|-----|--------------------------------|-------|-----------------------------------|----|--|----|--|----|--|--|--|--|
|               | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <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 | 20      |                                | 21   |                                     | 27   |                                  | 28  |                                | 29    |                                   | 30 |  | 31 |  | 32 |  |  |  |  |
| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |             |         |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| 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> <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.                                                                                                                                                                                                                                                                                                                                                                                                                         |              |             |         |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| type          | Select a remote gateway type.                                                                                                                                                                                                                                                                                                                                                                                                                             |              |             | none    |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
|               | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>static</td> <td>Static gateway.</td> </tr> <tr> <td>ddns</td> <td>Dynamic DNS gateway.</td> </tr> </tbody> </table>                                                                                                                                                                                                                                  | Option       | Description | static  | Static gateway.                | ddns | Dynamic DNS gateway.                |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |             |         |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| static        | Static gateway.                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |             |         |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| ddns          | Dynamic DNS gateway.                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |             |         |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| remote-gw     | The IPv4 address of the remote gateway's external interface.                                                                                                                                                                                                                                                                                                                                                                                              | IPv4 address | -           | none    |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| remote-gw6    | The IPv6 address of the remote gateway's external interface.                                                                                                                                                                                                                                                                                                                                                                                              | IPv6 address | -           | none    |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| remotegw-ddns | Specify the domain name of the remote gateway, for example, name.DDNS.com.<br>Available when type is set to ddns.                                                                                                                                                                                                                                                                                                                                         | string       | -           | none    |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |
| authmethod    | Authentication method.                                                                                                                                                                                                                                                                                                                                                                                                                                    | option       | -           | psk     |                                |      |                                     |      |                                  |     |                                |       |                                   |    |  |    |  |    |  |  |  |  |

| Parameter           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type   | Size        | Default |                                                            |           |                                                             |  |  |  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|------------------------------------------------------------|-----------|-------------------------------------------------------------|--|--|--|
|                     | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>psk</td> <td>Preshared key.</td> </tr> <tr> <td>signature</td> <td>Signature certificate.</td> </tr> </tbody> </table>                                                                                                                                                                                                                                              | Option | Description | psk     | Preshared key.                                             | signature | Signature certificate.                                      |  |  |  |
| Option              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |         |                                                            |           |                                                             |  |  |  |
| psk                 | Preshared key.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |             |         |                                                            |           |                                                             |  |  |  |
| signature           | Signature certificate.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |             |         |                                                            |           |                                                             |  |  |  |
| certificate         | <p>Specify the name of up to four local signed personal certificates.</p> <p><b>Note:</b> This entry is only available when authmethod is set to signature. The certificates must have already been installed on the FortiExtender before you are trying to enter them here.</p>                                                                                                                                                                                         |        |             | none    |                                                            |           |                                                             |  |  |  |
| peer                | <p>The name of the CA certificate used to authenticate that the peer certificate is issued by it or its sub-CA.</p> <p>This entry is available only when authmethod is set to signature. The certificates must have already been installed on the FortiExtender before you are trying to enter them here.</p> <p><b>Note:</b> If no peer is set, the peer certificate can still be accepted as long as a CA certificate that can verify the peer certificate exists.</p> |        |             | none    |                                                            |           |                                                             |  |  |  |
| psksecret           | Specify the pre-shared secret created when configuring the VPN client for PSK authentication (ASCII string or hexadecimal encoded with a leading 0x).                                                                                                                                                                                                                                                                                                                    | string | -           | none    |                                                            |           |                                                             |  |  |  |
| localid             | Local ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | string | -           | none    |                                                            |           |                                                             |  |  |  |
| peerid              | Peer identity to accept.                                                                                                                                                                                                                                                                                                                                                                                                                                                 | string | -           | none    |                                                            |           |                                                             |  |  |  |
| add-gw-route        | Whether to automatically add a route to the remote gateway.                                                                                                                                                                                                                                                                                                                                                                                                              | option | -           | disable |                                                            |           |                                                             |  |  |  |
|                     | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable automatically adding a route to the remote gateway.</td> </tr> <tr> <td>disable</td> <td>Disable automatically adding a route to the remote gateway.</td> </tr> </tbody> </table>                                                                                                                                                            | Option | Description | enable  | Enable automatically adding a route to the remote gateway. | disable   | Disable automatically adding a route to the remote gateway. |  |  |  |
| 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 |                                                            |           |                                                             |  |  |  |

| 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 device ID notification.</td> </tr> <tr> <td>disable</td> <td>Disable device ID notification.</td> </tr> </tbody> </table> | Option | Description | enable  | Enable device ID notification. | disable | Disable device ID notification. |  |  |  |
| Option    | Description                                                                                                                                                                                                                                           |        |             |         |                                |         |                                 |  |  |  |
| enable    | Enable device ID notification.                                                                                                                                                                                                                        |        |             |         |                                |         |                                 |  |  |  |
| disable   | Disable device ID notification.                                                                                                                                                                                                                       |        |             |         |                                |         |                                 |  |  |  |
| dev-id    | The Device ID carried by the device ID notification.<br>Available when dev-id-notification is enabled.                                                                                                                                                | 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 *phase1name
  set proposal {option1}, {option2}, ...
  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 keylifekbs [5120 - 4294967295]
  set encapsulation [tunnel-mode | transport-mode]
  set protocol [0 - 255]
  set src-addr-type [subnet | range | ip | name | subnet6 | range6 | ip6 | name6]
  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-subnet6 {ipv6-subnet}
  set *src-start-ip6 {ipv6-address} *available when src-addr-type is range6 and ip6
  set *src-end-ip6 {ipv6-address} *available when src-addr-type is range6
  set *src-name6 {string} *available when src-addr-type is name6
  set src-port [0 - 65535]
  set dst-addr-type [subnet | range | ip | name | subnet6 | range6 | ip6 | name6]
  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-subnet6 {ipv6-subnet}
  set *dst-start-ip6 {ipv6-address} *available when dst-addr-type is range6 and ip6
  set *dst-end-ip6 {ipv6-address} *available when dst-addr-type is range6
  set *dst-name6 {string} *available when dst-addr-type is name6

```

```

    set dst-port [0 - 65535]
unset
next
show
abort
end
delete <name>
purge
show
end
show
end

```

### Sample command:

```

config vpn ipsec phase2-interface
edit phase2_1
set phase1name phase1_1
set proposal aes128-sha1 aes256-sha1 3des-sha1 aes128-sha256 aes256-sha256 3dessha256
set pfs enable
set dhgrp 14 5 31 20
set keylife-type seconds
set keylifeseconds 43200
set encapsulation tunnel-mode
set protocol 0
set src-addr-type subnet
set src-subnet 0.0.0.0/0
set src-port 0
set dst-addr-type subnet
set dst-subnet 107.204.148.0/24
set dst-port 234
next
end

```

| Parameter  | Description                                                       | Type   | Size | Default                                                                                  |
|------------|-------------------------------------------------------------------|--------|------|------------------------------------------------------------------------------------------|
| phase1name | Phase 1 name (which determines the options required for phase 2). | string | -    | none                                                                                     |
| proposal   | Phase 2 proposal.                                                 | option | -    | aes128-sha1<br>aes256-sha1<br>3des-sha1<br>aes128-sha256<br>aes256-sha256<br>3des-sha256 |

| Parameter     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Type   | Size        | Default |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|-------------|----------|--------------|------------|-------------|----------|--------------|-----------|--------------|-------------|--------------|------------|--------------|-------------|--------------|---------------|---------------|------------|------------|-------------|-------------|---------------|---------------|-----------|-----------|-------------|-------------|--|--|--|
|               | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>des-md5</td> <td>des-md5</td> </tr> <tr> <td>des-sha1</td> <td>des-sha1</td> </tr> <tr> <td>des-sha256</td> <td>des-sha256</td> </tr> <tr> <td>3des-md5</td> <td>3des-md5</td> </tr> <tr> <td>3des-sha1</td> <td>3des-sha1</td> </tr> <tr> <td>3des-sha256</td> <td>3des-sha256</td> </tr> <tr> <td>aes128-md5</td> <td>aes128-md5</td> </tr> <tr> <td>aes128-sha1</td> <td>aes128-sha1</td> </tr> <tr> <td>aes128-sha256</td> <td>aes128-sha256</td> </tr> <tr> <td>aes256-md5</td> <td>aes256-md5</td> </tr> <tr> <td>aes256-sha1</td> <td>aes256-sha1</td> </tr> <tr> <td>aes256-sha256</td> <td>aes256-sha256</td> </tr> <tr> <td>null-sha1</td> <td>null-sha1</td> </tr> <tr> <td>null-sha256</td> <td>null-sha256</td> </tr> </tbody> </table> | Option | Description | des-md5 | des-md5     | des-sha1 | des-sha1     | des-sha256 | des-sha256  | 3des-md5 | 3des-md5     | 3des-sha1 | 3des-sha1    | 3des-sha256 | 3des-sha256  | aes128-md5 | aes128-md5   | aes128-sha1 | aes128-sha1  | aes128-sha256 | aes128-sha256 | aes256-md5 | aes256-md5 | aes256-sha1 | aes256-sha1 | aes256-sha256 | aes256-sha256 | null-sha1 | null-sha1 | null-sha256 | null-sha256 |  |  |  |
| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| des-md5       | des-md5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| des-sha1      | des-sha1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| des-sha256    | des-sha256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 3des-md5      | 3des-md5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 3des-sha1     | 3des-sha1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 3des-sha256   | 3des-sha256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| aes128-md5    | aes128-md5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| aes128-sha1   | aes128-sha1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| aes128-sha256 | aes128-sha256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| aes256-md5    | aes256-md5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| aes256-sha1   | aes256-sha1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| aes256-sha256 | aes256-sha256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| null-sha1     | null-sha1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| null-sha256   | null-sha256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| pfs           | Status of the PFS feature.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | option | -           | enable  |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
|               | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable PFS.</td> </tr> <tr> <td>disable</td> <td>Disable PFS.</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Option | Description | enable  | Enable PFS. | disable  | Disable PFS. |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| enable        | Enable PFS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| disable       | Disable PFS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| dhgrp         | Phase 2 DH group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | option | -           | 14, 5   |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
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| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 1             | DH Group 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 2             | DH Group 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 5             | DH Group 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 14            | DH Group 14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 15            | DH Group 15.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 16            | DH Group 16.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 17            | DH Group 17.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |
| 18            | DH Group 18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |         |             |          |              |            |             |          |              |           |              |             |              |            |              |             |              |               |               |            |            |             |             |               |               |           |           |             |             |  |  |  |

| Parameter      | Description                                         | Type                      | Size              | Default     |
|----------------|-----------------------------------------------------|---------------------------|-------------------|-------------|
|                | <b>Option</b>                                       | <b>Description</b>        |                   |             |
|                | 19                                                  | DH Group 19.              |                   |             |
|                | 20                                                  | DH Group 20.              |                   |             |
|                | 21                                                  | DH Group 21.              |                   |             |
|                | 27                                                  | DH Group 27.              |                   |             |
|                | 28                                                  | DH Group 28.              |                   |             |
|                | 29                                                  | DH Group 29.              |                   |             |
|                | 30                                                  | DH Group 30.              |                   |             |
|                | 31                                                  | DH Group 31.              |                   |             |
|                | 32                                                  | DH Group 32.              |                   |             |
| keylife-type   | Keylife type                                        | option                    | -                 | seconds     |
|                | <b>Option</b>                                       | <b>Description</b>        |                   |             |
|                | 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 |
|                | <b>Option</b>                                       | <b>Description</b>        |                   |             |
|                | 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      |
|                | <b>Option</b>                                       | <b>Description</b>        |                   |             |
|                | subnet                                              | IPv4 subnet.              |                   |             |
|                | range                                               | IPv4 range.               |                   |             |
|                | ip                                                  | IPv4 address.             |                   |             |
|                | name                                                | IPv4 address object name. |                   |             |

| Parameter     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Type         | Size                    | Default   |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------|-----------|--------------|--------|-------------|-----|---------------|-------|---------------------------|---------|--------------|--------|-------------|-----|---------------|-------|---------------------------|--|--|--|
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| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| subnet6       | IPv6 subnet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| range6        | IPv6 range.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| ip6           | IPv6 address.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| name6         | IPv6 address object 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         |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| src-start-ip  | Local proxy ID start when src-addr-type is range and ip.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IPv4 address | -                       | none      |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| src-end-ip    | Local proxy ID end when src-addr-type is range.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | IPv4 address | -                       | none      |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| src-name      | Local proxy ID name when src-addr-type is name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | string       | -                       | none      |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| src-subnet6   | Local proxy ID IPv6 subnet when src-addr-type is subnet6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | IPv6 address | -                       | 0::0/0    |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| src-start-ip6 | Local proxy ID IPv6 start when src-addr-type is range6 and ip6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | IPv6 address | -                       | none      |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| src-end-ip6   | Local proxy ID IPv6 end when src-addr-type is range6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | IPv6 address | -                       | none      |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| src-name6     | Local proxy ID IPv6 name when src-addr-type is name6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | string       | -                       | none      |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| dst-addr-type | Remote proxy ID type.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | option       | -                       | subnet    |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
|               | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>subnet</td> <td>IPv4 subnet.</td> </tr> <tr> <td>range</td> <td>IPv4 range.</td> </tr> <tr> <td>ip</td> <td>IPv4 address.</td> </tr> <tr> <td>name</td> <td>IPv4 address object name.</td> </tr> <tr> <td>subnet6</td> <td>IPv6 subnet.</td> </tr> <tr> <td>range6</td> <td>IPv6 range.</td> </tr> <tr> <td>ip6</td> <td>IPv6 address.</td> </tr> <tr> <td>name6</td> <td>IPv6 address object name.</td> </tr> </tbody> </table> | Option       | Description             | subnet    | IPv4 subnet. | range  | IPv4 range. | ip  | IPv4 address. | name  | IPv4 address object name. | subnet6 | IPv6 subnet. | range6 | IPv6 range. | ip6 | IPv6 address. | name6 | IPv6 address object name. |  |  |  |
| Option        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| subnet        | IPv4 subnet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| range         | IPv4 range.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| ip            | IPv4 address.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| name          | IPv4 address object name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| subnet6       | IPv6 subnet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| range6        | IPv6 range.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| ip6           | IPv6 address.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                         |           |              |        |             |     |               |       |                           |         |              |        |             |     |               |       |                           |  |  |  |
| name6         | IPv6 address object 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         |
| dst-start-ip  | Remote proxy ID start when dst-addr-type is range and ip.        | IPv4 address | -                       | none      |
| dst-end-ip    | Remote proxy ID end when dst-addr-type is range.                 | IPv4 address | -                       | none      |
| dst-name      | Remote proxy ID name when dst-addr-type is name.                 | string       | -                       | none      |
| dst-subnet6   | Remote proxy ID IPv6 subnet when dst-addr-type is subnet6.       | IPv6 address | -                       | 0::0/0    |
| dst-start-ip6 | Remote proxy ID IPv6 start when dst-addr-type is range6 and ip6. | IPv6 address | -                       | none      |
| dst-end-ip6   | Remote proxy ID IPv6 end when dst-addr-type is range6.           | IPv6 address | -                       | none      |
| dst-name6     | Remote proxy ID IPv6 name when dst-addr-type is name6.           | string       | -                       | none      |

## config vpn certificate

Description: Configure VPN certificates.

- [config vpn certificate ca on page 109](#)
- [config vpn certificate local on page 110](#)

## config vpn certificate ca

Description: Configure CA certificates.

```

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

```

```
end
```

### Sample command:

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

## config vpn certificate local

Description: Configure local keys and certificates.

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

### Sample command:

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

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

| Parameter       | Description                                                                                                                                                                                               | Type   | Size        | Default |                        |      |                |  |  |  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|------------------------|------|----------------|--|--|--|
|                 | <table border="1"><thead><tr><th>Option</th><th>Description</th></tr></thead><tbody><tr><td>factory</td><td>From the manufacturer.</td></tr><tr><td>user</td><td>From the user.</td></tr></tbody></table> | Option | Description | factory | From the manufacturer. | user | From the user. |  |  |  |
| Option          | Description                                                                                                                                                                                               |        |             |         |                        |      |                |  |  |  |
| factory         | From the manufacturer.                                                                                                                                                                                    |        |             |         |                        |      |                |  |  |  |
| user            | From the user.                                                                                                                                                                                            |        |             |         |                        |      |                |  |  |  |
| enroll-protocol | Certificate enrollment protocol.                                                                                                                                                                          | option | -           |         |                        |      |                |  |  |  |
|                 | <table border="1"><thead><tr><th>Option</th><th>Description</th></tr></thead><tbody><tr><td>None</td><td>None.</td></tr><tr><td>scep</td><td>Use SCEP.</td></tr></tbody></table>                          | Option | Description | None    | None.                  | scep | Use SCEP.      |  |  |  |
| Option          | Description                                                                                                                                                                                               |        |             |         |                        |      |                |  |  |  |
| None            | None.                                                                                                                                                                                                     |        |             |         |                        |      |                |  |  |  |
| scep            | Use SCEP.                                                                                                                                                                                                 |        |             |         |                        |      |                |  |  |  |

# Network

This section shows the syntax of the following commands:

- [config address on page 112](#)
- [config service-custom on page 113](#)

## 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:

```
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 command:

```

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 api-user generate-key on page 115](#)
- [execute api-user show-key on page 115](#)
- [execute log statistic speedtest on page 116](#)
- [execute speed-test on page 116](#)
- [execute SSH username serverip on page 116](#)
- [execute test authserver ldap on page 117](#)
- [execute test authserver ldap-direct on page 117](#)
- [execute vpn certificate local generate rsa on page 118](#)

## execute api-user generate-key

Description: Generate an API token and token expiration time for an API user.

```
# execute api-user generate-key [entry-name] [expire duration in seconds]
```

### Sample command:

```
execute api-user generate-key user1 500
```

| Field                      | Description                                                              |
|----------------------------|--------------------------------------------------------------------------|
| entry-name                 | Enter the name of the API user.                                          |
| expire duration in seconds | Enter the API token expiration time in seconds. Default is 3600 seconds. |

## execute api-user show-key

Description: Show key for API users.

```
# execute api-user show-key [entry-name]
```

### Sample command:

```
execute api-user show-key user1
```

| Field      | Description                     |
|------------|---------------------------------|
| entry-name | Enter the name of the API user. |

## execute log statistic speedtest

Description: Display speedtest log messages.

```
# execute log statistic speedtest
```

### Sample command:

```
execute log statistic speedtest
```

## execute speed-test

Description: Run a speed test to measure bandwidth.

```
# execute speed-test [interface] [Auto|TCP|UDP]
```

### Sample command:

```
execute speedtest
```

```
execute speedtest lte1 auto
```

| Field     | Description                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| interface | Optionally, specify a network interface to bind to (for example, lte1, wan).<br>If you do not specify an interface, the protocol defaults to Auto. |
| protocol  | Optionally, specify a protocol.<br>Default is Auto.                                                                                                |

## execute SSH username serverip

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

```
#execute ssh username serverip
```

## Sample command:

```
execute ssh admin 192.168.1.115
```

## execute test authserver ldap

Description: Test if you can authenticate against the LDAP server.

```
# execute test authserver ldap <server_name> <username> <password>
```

### Sample command:

```
# execute test authserver ldap 389_ldap_svr user0325 qwer1234  
authenticate 'user0325' against '389_ldap_svr' succeeded!
```

| Field       | Description                   |
|-------------|-------------------------------|
| server_name | Specify the LDAP server name. |
| username    | Enter your username.          |
| password    | Enter your password.          |

## execute test authserver ldap-direct

Description: Test the LDAP server connection status.

```
# execute test authserver ldap-direct <server_name or IP> [port number]
```

### Sample command:

```
# execute test authserver ldap-direct 192.168.120.10 389  
LDAP server '192.168.120.10' status is OK
```

| Field             | Description                         |
|-------------------|-------------------------------------|
| server_name or IP | Specify the LDAP server name or IP. |
| port number       | Specify the port number,            |

## execute vpn certificate local generate rsa

Description: Generate a Certificate Signing Request.

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

### Sample command:

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

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

# WiFi

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

- [config vap on page 119](#)
- [config ap-security on page 122](#)
- [config wifi-networks on page 124](#)
- [config radio-profile on page 127](#)
- [config wifi-general on page 128](#)

## config vap

Description: Configure WiFi virtual access point.

```
config wifi
  config vap
    edit <WiFi Access Point Name>
      set ssid <string>
      set broadcast-ssid [enable | disable]
      set dtim {integer}
      set rts-threshold {integer}
      set max-clients {integer}
      set target-wake-time [enable | disable]
      set bss-color-partial [enable | disable]
      set mu-mimo [enable | disable]
      set wlan-bridge [yes |no ]
      set wlan-members
      config ap-security
        set security-mode <encryption mode>
      end
    end
  next
end
end
```

### Sample command:

```
config wifi
  config vap
    edit fbs-home-2g-1
      set ssid fbs-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 fbs-home-5g-1
  set ssid fbs-home-5g-1
  set broadcast-ssid enable
  set dtim 1
  set rts-threshold 2347
  set max-clients 9
  set target-wake-time enable
  set bss-color-partial enable
  set mu-mimo enable
  set wlan-bridge yes
  set wlan-members
  config ap-security
    set security-mode WPA2-Personal
    set pmf required
    set passphrase *****
  end
next
end
end

```

| Parameter      | Description                                                                                                                                                                                                                                         | Type    | Size        | Default |                               |         |                                |  |  |  |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|---------|-------------------------------|---------|--------------------------------|--|--|--|
| ssid           | IEEE 802.11 service set identifier (SSID) for the wireless interface. Users who wish to use the wireless network must configure their computers to access this SSID name.                                                                           | string  | -           |         |                               |         |                                |  |  |  |
| broadcast-ssid | Enable/disable broadcasting the SSID                                                                                                                                                                                                                | option  | -           |         |                               |         |                                |  |  |  |
|                | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable broadcasting the SSID.</td> </tr> <tr> <td>disable</td> <td>Disable broadcasting the SSID.</td> </tr> </tbody> </table> | Option  | Description | enable  | Enable broadcasting the SSID. | disable | Disable broadcasting the SSID. |  |  |  |
| Option         | Description                                                                                                                                                                                                                                         |         |             |         |                               |         |                                |  |  |  |
| enable         | Enable broadcasting the SSID.                                                                                                                                                                                                                       |         |             |         |                               |         |                                |  |  |  |
| disable        | Disable broadcasting the SSID.                                                                                                                                                                                                                      |         |             |         |                               |         |                                |  |  |  |
| dtim           | Wi-Fi Delivery Traffic Indication                                                                                                                                                                                                                   | integer | 1-255       |         |                               |         |                                |  |  |  |

| Parameter         | Description                                                                                                                             | Type                                           | Size     | Default |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|----------|---------|
|                   | Map (DTIM)                                                                                                                              |                                                |          |         |
| rts-threshold     | Maximum packet size for RTS transmissions.                                                                                              | integer                                        | 256-2347 |         |
| max-clients       | Maximum number of clients that can connect simultaneously to the VAP.                                                                   | integer                                        | 0-512    |         |
| target-wake-time  | Enable/disable 802.11ax target wake time.                                                                                               | option                                         |          |         |
|                   | <b>Option</b>                                                                                                                           | <b>Description</b>                             |          |         |
|                   | enable                                                                                                                                  | Enable 802.11ax target wake time.              |          |         |
|                   | disable                                                                                                                                 | Disable 802.11ax target wake time.             |          |         |
| bss-color-partial | Enable/disable 802.11ax partial BSS color.                                                                                              | option                                         |          |         |
|                   | <b>Option</b>                                                                                                                           | <b>Description</b>                             |          |         |
|                   | enable                                                                                                                                  | Enable 802.11ax partial BSS color.             |          |         |
|                   | disable                                                                                                                                 | Disable 802.11ax partial BSS color.            |          |         |
| mu-mimo           | Enable/disable Multi-user MIMO.                                                                                                         | option                                         |          |         |
|                   | <b>Option</b>                                                                                                                           | <b>Description</b>                             |          |         |
|                   | enable                                                                                                                                  | Enable Multi-user MIMO.                        |          |         |
|                   | disable                                                                                                                                 | Disable Multi-user MIMO.                       |          |         |
| wlan-bridge       | Select if you want the SSID to act as a bridge between wireless and wired networks, integrating wireless devices into the same network. | option                                         |          |         |
|                   | <b>Option</b>                                                                                                                           | <b>Description</b>                             |          |         |
|                   | yes                                                                                                                                     | Allow the SSID to act as a WLAN bridge.        |          |         |
|                   | no                                                                                                                                      | Do not allow the SSID to act as a WLAN bridge. |          |         |
| wlan-members      | When WLAN Bridge is enabled, you can add WLAN members to the SSID configuration.                                                        |                                                |          |         |

- [config ap-security on page 122](#)

## config ap-security

Description: Configure security mode for WiFi access point.

```
config wifi
  config vap
    edit <WiFi Access Point Name>
      config ap-security
        set security-mode <encryption mode>
        set pmf <option>
        set source-ip <ipv4 or ipv6 address>
        set password-complexity [enable | disable]
        set passphrase <password>
        set auth-server-addr <ipv4 or ipv6 address>
        set auth-server-port <port number>
        set auth-server-secret <password>
      end
    next
  end
end
```

### Sample command

```
config wifi vap
  edit fbs-home-2g-1
    set ssid fbs-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 fbs-home-5g-1
    set ssid fbs-home-5g-1
    set broadcast-ssid enable
    set wlan-members
    config ap-security
      set security-mode WPA2-Personal
      set pmf disabled
      set passphrase *****
    end
  next
end
```

| Parameter                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Type   | Size        | Default  |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|----------|------------------------------------------|---------------|------------------------------------------------------------------|-------------------|-------------------------------------------|----------|-------------------------|---------------------|------------------------------------|-----------------|--------------------------------|----------------------|-------------------------------------|----------------------------|-------------------------------------------|-------------------------|----------------------------------------|--|--|--|
| security-mode              | Select which security mode to use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | option | -           |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
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| Option                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| OPEN                       | Wi-Fi security OPEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA2-Personal              | Wi-Fi security WPA2 Personal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA-WPA2-Personal          | Wi-Fi security WPA-WPA2 Personal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA3-SAE                   | Wi-Fi security WPA3 SAE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA3-SAE-Transition        | Wi-Fi security WPA3 SAE Transition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA2-Enterprise            | Wi-Fi security WPA2 Enterprise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA3-Enterprise-Only       | Wi-Fi security WPA3 Enterprise only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA3-Enterprise-Transition | Wi-Fi security WPA3 Enterprise Transition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| WPA3-Enterprise-192-bit    | Wi-Fi security WPA3 Enterprise 192-bit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| pmf                        | <p>Protected Management Frames (PMF) support.</p> <p>This option is available if security-mode is set to OPEN, WPA2-Personal, WPA-WPA2-Personal, WPA3-SAE, or WPA3-SAE-Transition.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | option | -           |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
|                            | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>disabled</td> <td>Disable PMF completely.</td> </tr> <tr> <td>required</td> <td>Enable PMF and deny clients without PMF.</td> </tr> <tr> <td>optional</td> <td>Enable PMF and allow clients without PMF.</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Option | Description | disabled | Disable PMF completely.                  | required      | Enable PMF and deny clients without PMF.                         | optional          | Enable PMF and allow clients without PMF. |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| Option                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| disabled                   | Disable PMF completely.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| required                   | Enable PMF and deny clients without PMF.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| optional                   | Enable PMF and allow clients without PMF.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| password-complexity        | <p>Enable or disable password-complexity enforcement.</p> <p>This option is available if available it security-mode is set to WPA2-Personal or WPA3-SAE.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | option | -           | disable  |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
|                            | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>disable</td> <td>Disable password-complexity enforcement.</td> </tr> <tr> <td>enable</td> <td>Enforces the complex password policy for passphrase/sae-password</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Option | Description | disable  | Disable password-complexity enforcement. | enable        | Enforces the complex password policy for passphrase/sae-password |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| Option                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| disable                    | Disable password-complexity enforcement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |
| enable                     | Enforces the complex password policy for passphrase/sae-password                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |             |          |                                          |               |                                                                  |                   |                                           |          |                         |                     |                                    |                 |                                |                      |                                     |                            |                                           |                         |                                        |  |  |  |

| Parameter          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      | Type     | Size | Default |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|---------|
|                    | <b>Option</b><br><b>Description</b><br>Newly configured VAPs must use a password that meets the following requirements: <ul style="list-style-type: none"> <li>• At least 1 uppercase letter (A-Z)</li> <li>• At least 1 lowercase letter (a-z)</li> <li>• At least 1 number (0-9)</li> <li>• At least 1 special character (\~`!#\$%^&amp;* _+= :;&lt;, &gt;./-)</li> <li>• Minimum length of 12 characters, maximum 63 (128 for SAE)</li> </ul> |          |      |         |
| passphrase         | WPA pre-shared key (PSK) to be used to authenticate WiFi users.<br>This option is available if <code>security-mode</code> is set to WPA2-Personal, WPA-WPA2-Personal, WPA3-SAE, or or WPA3-SAE-Transition.                                                                                                                                                                                                                                       | password |      |         |
| source-ip          | Source IP address for communications to the RADIUS server (IPv4 and IPv6 format).                                                                                                                                                                                                                                                                                                                                                                | string   |      |         |
| auth-server-addr   | RADIUS authentication server (IPv4 and IPv6 format).<br>This option is available if <code>security-mode</code> is set to WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-Enterprise-Transition, or WPA3-Enterprise-192-bit.                                                                                                                                                                                                                          | string   |      |         |
| auth-server-port   | Wi-Fi Authentication Server Port.<br>This option is available if <code>security-mode</code> is set to WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-Enterprise-Transition, or WPA3-Enterprise-192-bit.                                                                                                                                                                                                                                             | integer  |      | 1812    |
| auth-server-secret | Wi-Fi Authentication Server Secret.<br>This option is available if <code>security-mode</code> is set to WPA2-Enterprise, WPA3-Enterprise-Only, WPA3-Enterprise-Transition, or WPA3-Enterprise-192-bit.                                                                                                                                                                                                                                           | string   |      |         |

## config wifi-networks

Description: Configure WiFi networks for Station Mode.

```

config wifi
  config wifi-networks
    edit <name>
      set ssid <id>
      set security-mode <encryption mode>
      set eap-method [peap | tls]
      set eap-ca-cert <CA certificate name>
      set eap-user-cert <User/client certificate name>
      set pmf <option>
      set identity <string>
      set password <string>
      set sae-password <string>
    next
  end
end

```

**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

```

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

| Parameter                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Type   | Size | Default |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|---------|--------|-------------|------|---------------------|--------------|-----------------------------|---------------|------------------------------|-------------------|----------------------------------|----------|-------------------------|---------------------|------------------------------------|----------------|-------------------------------|-----------------|--------------------------------|---------------------|------------------------------------|----------------------|-------------------------------------|----------------------------|-------------------------------------------|
| mode                       | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>OPEN</td> <td>Wi-Fi security OPEN</td> </tr> <tr> <td>WPA-Personal</td> <td>Wi-Fi security WPA Personal</td> </tr> <tr> <td>WPA2-Personal</td> <td>Wi-Fi security WPA2 Personal</td> </tr> <tr> <td>WPA-WPA2-Personal</td> <td>Wi-Fi security WPA-WPA2 Personal</td> </tr> <tr> <td>WPA3-SAE</td> <td>Wi-Fi security WPA3 SAE</td> </tr> <tr> <td>WPA3-SAE-Transition</td> <td>Wi-Fi security WPA3 SAE Transition</td> </tr> <tr> <td>WPA-Enterprise</td> <td>Wi-Fi security WPA Enterprise</td> </tr> <tr> <td>WPA2-Enterprise</td> <td>Wi-Fi security WPA2 Enterprise</td> </tr> <tr> <td>WPA-WPA2-Enterprise</td> <td>Wi-Fi security WPA-WPA2 Enterprise</td> </tr> <tr> <td>WPA3-Enterprise-Only</td> <td>Wi-Fi security WPA3 Enterprise only</td> </tr> <tr> <td>WPA3-Enterprise-Transition</td> <td>Wi-Fi security WPA3 Enterprise Transition</td> </tr> </tbody> </table> |        |      |         | Option | Description | OPEN | Wi-Fi security OPEN | WPA-Personal | Wi-Fi security WPA Personal | WPA2-Personal | Wi-Fi security WPA2 Personal | WPA-WPA2-Personal | Wi-Fi security WPA-WPA2 Personal | WPA3-SAE | Wi-Fi security WPA3 SAE | WPA3-SAE-Transition | Wi-Fi security WPA3 SAE Transition | WPA-Enterprise | Wi-Fi security WPA Enterprise | WPA2-Enterprise | Wi-Fi security WPA2 Enterprise | WPA-WPA2-Enterprise | Wi-Fi security WPA-WPA2 Enterprise | WPA3-Enterprise-Only | Wi-Fi security WPA3 Enterprise only | WPA3-Enterprise-Transition | Wi-Fi security WPA3 Enterprise Transition |
| Option                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| OPEN                       | Wi-Fi security OPEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA-Personal               | Wi-Fi security WPA Personal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA2-Personal              | Wi-Fi security WPA2 Personal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA-WPA2-Personal          | Wi-Fi security WPA-WPA2 Personal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA3-SAE                   | Wi-Fi security WPA3 SAE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA3-SAE-Transition        | Wi-Fi security WPA3 SAE Transition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA-Enterprise             | Wi-Fi security WPA Enterprise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA2-Enterprise            | Wi-Fi security WPA2 Enterprise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA-WPA2-Enterprise        | Wi-Fi security WPA-WPA2 Enterprise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA3-Enterprise-Only       | Wi-Fi security WPA3 Enterprise only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| WPA3-Enterprise-Transition | Wi-Fi security WPA3 Enterprise Transition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| eap-method                 | Select an EAP authentication method.<br>Only available when security-mode is set to an Enterprise mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | option |      | peap    |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
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| Option                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| peap                       | PEAP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| tls                        | TLS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| eap-ca-cert                | CA certificate name for EAP-TLS validation.<br>Only used when eap-method is set to tls.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | string |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| eap-user-cert              | User/client certificate name for EAP-TLS.<br>Only used when eap-method is set to tls.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | string |      |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |
| pmf                        | Protected Management Frames (PMF) support.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | option | -    |         |        |             |      |                     |              |                             |               |                              |                   |                                  |          |                         |                     |                                    |                |                               |                 |                                |                     |                                    |                      |                                     |                            |                                           |

| Parameter    | Description                                                                                                                                                                                                                                                                                                                                | Type   | Size        | Default  |                         |          |                                          |          |                                           |  |  |  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|----------|-------------------------|----------|------------------------------------------|----------|-------------------------------------------|--|--|--|
|              | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>disabled</td> <td>Disable PMF completely.</td> </tr> <tr> <td>required</td> <td>Enable PMF and deny clients without PMF.</td> </tr> <tr> <td>optional</td> <td>Enable PMF and allow clients without PMF.</td> </tr> </tbody> </table> | Option | Description | disabled | Disable PMF completely. | required | Enable PMF and deny clients without PMF. | optional | Enable PMF and allow clients without PMF. |  |  |  |
| Option       | Description                                                                                                                                                                                                                                                                                                                                |        |             |          |                         |          |                                          |          |                                           |  |  |  |
| disabled     | Disable PMF completely.                                                                                                                                                                                                                                                                                                                    |        |             |          |                         |          |                                          |          |                                           |  |  |  |
| required     | Enable PMF and deny clients without PMF.                                                                                                                                                                                                                                                                                                   |        |             |          |                         |          |                                          |          |                                           |  |  |  |
| optional     | Enable PMF and allow clients without PMF.                                                                                                                                                                                                                                                                                                  |        |             |          |                         |          |                                          |          |                                           |  |  |  |
| identity     | Wi-Fi identity                                                                                                                                                                                                                                                                                                                             | string |             |          |                         |          |                                          |          |                                           |  |  |  |
| password     | Wi-Fi passphrase.                                                                                                                                                                                                                                                                                                                          | string |             |          |                         |          |                                          |          |                                           |  |  |  |
| sae-password | WPA3 SAE password to be used to authenticate WiFi users.                                                                                                                                                                                                                                                                                   | string |             |          |                         |          |                                          |          |                                           |  |  |  |

## config radio-profile

Description: Configure WiFi Radio profile.

```

config wifi 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:

```

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 fbs-home-2g-1 fbs-home-2g-3 fbs-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 group on page 129](#)
- [config user ldap on page 129](#)
- [config user radius on page 131](#)
- [config user security-exempt-list on page 133](#)
- [config user security-exempt-list6 on page 133](#)

## 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]
    set ldap-member [LDAP member name]
  next
end
```

| Parameter   | Description                                                                                                                             |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| name        | Name of the FortiBranchSASE 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. |
| ldap-member | Name of LDAP member you want to add to the user group.                                                                                  |

## config user ldap

Configure a LDAP user.

```
config user ldap
  edit <name>
    set server {string}
    set source-ip {string}
    set cn-id {string}
    set dn {string}
    set type [simple | regular]
```

```

set secure [disable | starttls | ldaps]
set ca-cert [datasource]
set port {integer}
set server-identity-check [enable | disable]
next
end

```

**Sample syntax:**

```

config user ldap
edit ldap_svr
set server 192.168.120.10
set source-ip
set cn-id cn
set dn ou=users,dc=example,dc=com
set type simple
set secure disable
set port 389
next
end

```

| Parameter | Description                                                                                                                                                                                                                                                                         | Type   | Size        | Default |                                                |          |                                               |       |            |  |  |  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|---------|------------------------------------------------|----------|-----------------------------------------------|-------|------------|--|--|--|
| server    | Primary LDAP server, CN domain name, or IP address.                                                                                                                                                                                                                                 | string | -           | NULL    |                                                |          |                                               |       |            |  |  |  |
| source-ip | IP address used for communication with the LDAP server.                                                                                                                                                                                                                             | string | -           | 0.0.0.0 |                                                |          |                                               |       |            |  |  |  |
| cn-id     | Common name identifier for the LDAP server. The common name identifier for most LDAP servers is "cn".                                                                                                                                                                               | string | -           | cn      |                                                |          |                                               |       |            |  |  |  |
| dn        | Distinguished name used to look up entries on the LDAP server.                                                                                                                                                                                                                      | string | -           | NULL    |                                                |          |                                               |       |            |  |  |  |
| type      | Authentication type for LDAP searches.                                                                                                                                                                                                                                              | option | -           | simple  |                                                |          |                                               |       |            |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>simple</td> <td>Simple password authentication without search.</td> </tr> <tr> <td>regular</td> <td>Bind using username/password and then search.</td> </tr> </tbody> </table> | Option | Description | simple  | Simple password authentication without search. | regular  | Bind using username/password and then search. |       |            |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                         |        |             |         |                                                |          |                                               |       |            |  |  |  |
| simple    | Simple password authentication without search.                                                                                                                                                                                                                                      |        |             |         |                                                |          |                                               |       |            |  |  |  |
| regular   | Bind using username/password and then search.                                                                                                                                                                                                                                       |        |             |         |                                                |          |                                               |       |            |  |  |  |
| secure    | Method for LDAP communication.                                                                                                                                                                                                                                                      | option | -           | disable |                                                |          |                                               |       |            |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>disable</td> <td>No SSL.</td> </tr> <tr> <td>starttls</td> <td>Use StartTLS.</td> </tr> <tr> <td>ldaps</td> <td>Use LDAPS.</td> </tr> </tbody> </table>                        | Option | Description | disable | No SSL.                                        | starttls | Use StartTLS.                                 | ldaps | Use LDAPS. |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                         |        |             |         |                                                |          |                                               |       |            |  |  |  |
| disable   | No SSL.                                                                                                                                                                                                                                                                             |        |             |         |                                                |          |                                               |       |            |  |  |  |
| starttls  | Use StartTLS.                                                                                                                                                                                                                                                                       |        |             |         |                                                |          |                                               |       |            |  |  |  |
| ldaps     | Use LDAPS.                                                                                                                                                                                                                                                                          |        |             |         |                                                |          |                                               |       |            |  |  |  |



```

set timeout 5
set transport-protocol udp
set nas-ip 0.0.0.0
set nas-identifier
set port 1812
set source-ip 1.1.1.4
next
end

```

| Parameter          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Type         | Size  | Default |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------|---------|
| name               | Name of the RADIUS server table.                                                                                                                                                                                                                                                                                                                                                                                                                                             | string       | -     | none    |
| server             | Primary RADIUS FQDN or IP address.                                                                                                                                                                                                                                                                                                                                                                                                                                           | string       | -     | none    |
| secret             | Pre-shared secret key used to access the primary RADIUS server.                                                                                                                                                                                                                                                                                                                                                                                                              | password     | 1-128 | none    |
| auth-type          | <p>Authentication protocols permitted for this RADIUS server. You can select the following options:</p> <ul style="list-style-type: none"> <li>• auto</li> <li>• ms_chap_v2</li> <li>• ms_chap</li> <li>• chap</li> <li>• pap</li> </ul> <p>If the authentication type is set to auto, FortiBranchSASE uses the following protocols in sequence:<br/>PAP → MSCHAP_v2 → CHAP<br/>FortiBranchSASE will only try the next protocol once it receives a RADIUS-reject message</p> | option       | -     | auto    |
| timeout            | Time in seconds to retry connecting to the RADIUS server.                                                                                                                                                                                                                                                                                                                                                                                                                    | integer      | -     | 5       |
| transport-protocol | <p>Transport protocol to be used.</p> <ul style="list-style-type: none"> <li>• udp</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                | option       | -     | udp     |
| nas-ip             | IPv4 address used for the FortiBranchSASE to communicate with the RADIUS server. It is also used as the NAS-IP-Address and Called-Station-ID attributes.                                                                                                                                                                                                                                                                                                                     | string       | -     | none    |
| nas-identifier     | Optional NAS-Identifier string for RADIUS messages                                                                                                                                                                                                                                                                                                                                                                                                                           | string       | -     | none    |
| port               | Primary RADIUS server port number                                                                                                                                                                                                                                                                                                                                                                                                                                            | integer      | -     | none    |
| source-ip          | Source IP address for communications to the RADIUS server.                                                                                                                                                                                                                                                                                                                                                                                                                   | IPv4 address | -     | 0.0.0.0 |

## config user security-exempt-list

Configure security exemption list.

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

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

## config rule

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

## config user security-exempt-list6

Configure IPv6 security exemption list.

```
config user security-exempt-list6
  edit <name>
    set description {string}
```

```

config rule
  edit <id>
    set srcaddr6 <name1>, <name2>, ...
    set dstaddr6 <name1>, <name2>, ...
    set service <name1>, <name2>, ...
  next
end
next
end

```

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

## config rule

| Parameter | Description                                             | Type   | Size               | Default |
|-----------|---------------------------------------------------------|--------|--------------------|---------|
| id        | Security exempt rule name.                              | string | Maximum length: 30 | none    |
| srcaddr6  | The IPv6 network address IDs of the exempt source.      | string | -                  | none    |
| dstaddr6  | The IPv6 network address IDs of the exempt destination. | string | -                  | none    |
| service   | The IDs of the exempt destination service.              | string | -                  | none    |



| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Type   | Size        | Default  |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------|--|--|--|
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>wildcard</td> <td>Matches using regex rules for advanced pattern matching.<br/><b>Note:</b> If the domain string contains the character ?, it can only be configured through the GUI.</td> </tr> <tr> <td>regex</td> <td>Matches patterns using wildcards (e.g., *.example.com).<br/><b>Note:</b> Only the * wildcard is supported.</td> </tr> </tbody> </table> | Option | Description | wildcard | Matches using regex rules for advanced pattern matching.<br><b>Note:</b> If the domain string contains the character ?, it can only be configured through the GUI. | regex   | Matches patterns using wildcards (e.g., *.example.com).<br><b>Note:</b> Only the * wildcard is supported.                   |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| wildcard  | Matches using regex rules for advanced pattern matching.<br><b>Note:</b> If the domain string contains the character ?, it can only be configured through the GUI.                                                                                                                                                                                                                                                                                                    |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| regex     | Matches patterns using wildcards (e.g., *.example.com).<br><b>Note:</b> Only the * wildcard is supported.                                                                                                                                                                                                                                                                                                                                                             |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| action    | Select if you want to Block or Allow this entry.                                                                                                                                                                                                                                                                                                                                                                                                                      | option | -           |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>block</td> <td>If the local domain filter action is set to block and an entry matches, then that DNS query is blocked or redirected.</td> </tr> <tr> <td>allow</td> <td>If the local domain filter action is set to allow and an entry matches, it will directly return to the client DNS resolver.</td> </tr> </tbody> </table>                                 | Option | Description | block    | If the local domain filter action is set to block and an entry matches, then that DNS query is blocked or redirected.                                              | allow   | If the local domain filter action is set to allow and an entry matches, it will directly return to the client DNS resolver. |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| block     | If the local domain filter action is set to block and an entry matches, then that DNS query is blocked or redirected.                                                                                                                                                                                                                                                                                                                                                 |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| allow     | If the local domain filter action is set to allow and an entry matches, it will directly return to the client DNS resolver.                                                                                                                                                                                                                                                                                                                                           |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| status    | Enable/Disable this domain filter entry.                                                                                                                                                                                                                                                                                                                                                                                                                              | option | -           |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
|           | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>enable</td> <td>Enable this domain filter to take effect.</td> </tr> <tr> <td>disable</td> <td>Disable this domain filter.</td> </tr> </tbody> </table>                                                                                                                                                                                                          | Option | Description | enable   | Enable this domain filter to take effect.                                                                                                                          | disable | Disable this domain filter.                                                                                                 |  |  |  |
| Option    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| enable    | Enable this domain filter to take effect.                                                                                                                                                                                                                                                                                                                                                                                                                             |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |
| disable   | Disable this domain filter.                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |             |          |                                                                                                                                                                    |         |                                                                                                                             |  |  |  |

## config dnsfilter profile

Description: Configure the DNS filter profile.

```

config dnsfilter profile
  edit <name>
    config domain-filter
      set domain-filter-table <name>
    end
    set block-action [block| redirect | block-servfail]
    set block-botnet [enable | disable]
    set safe-search [enable | disable]
    set youtube-restrict [strict | moderate]
    set redirect-portal {ipv4-address}
    set redirect-portal6 {ipv6-address}
  
```

```
next
end
```

| Parameter        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type         | Size        | Default  |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------|--|--|--|
| block-action     | Action to take for blocked domains.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | option       | -           |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
|                  | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>block</td> <td>The DNS request is blocked and a DNS response with NXDOMAIN is returned.</td> </tr> <tr> <td>redirect</td> <td>A DNS response containing the portal IP address is returned, redirecting blocked domains to the SDNS portal.</td> </tr> <tr> <td>block-sevrfail</td> <td>The DNS request is blocked, and a DNS response with SERVFAIL is returned.</td> </tr> </tbody> </table> | Option       | Description | block    | The DNS request is blocked and a DNS response with NXDOMAIN is returned.                                                                  | redirect | A DNS response containing the portal IP address is returned, redirecting blocked domains to the SDNS portal.                                        | block-sevrfail | The DNS request is blocked, and a DNS response with SERVFAIL is returned. |  |  |  |
| Option           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| block            | The DNS request is blocked and a DNS response with NXDOMAIN is returned.                                                                                                                                                                                                                                                                                                                                                                                                                           |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| redirect         | A DNS response containing the portal IP address is returned, redirecting blocked domains to the SDNS portal.                                                                                                                                                                                                                                                                                                                                                                                       |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| block-sevrfail   | The DNS request is blocked, and a DNS response with SERVFAIL is returned.                                                                                                                                                                                                                                                                                                                                                                                                                          |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| block-botnet     | Enable/disable blocking botnet C&C DNS lookups.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | option       |             | disabled |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
|                  | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>disable</td> <td>Disable blocking botnet C&amp;C DNS lookups.</td> </tr> <tr> <td>enable</td> <td>Enable blocking botnet C&amp;C DNS lookups.</td> </tr> </tbody> </table>                                                                                                                                                                                                                    | Option       | Description | disable  | Disable blocking botnet C&C DNS lookups.                                                                                                  | enable   | Enable blocking botnet C&C DNS lookups.                                                                                                             |                |                                                                           |  |  |  |
| Option           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| disable          | Disable blocking botnet C&C DNS lookups.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| enable           | Enable blocking botnet C&C DNS lookups.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| safe-search      | Enable/disable Google, Bing, YouTube, Qwant, DuckDuckGo safe search.                                                                                                                                                                                                                                                                                                                                                                                                                               | option       |             | disabled |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
|                  | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>disable</td> <td>Disable Google, Bing, YouTube, Qwant, DuckDuckGo safe search.</td> </tr> <tr> <td>enable</td> <td>Enable to avoid explicit and inappropriate results in the Google, Bing, and YouTube search engines.</td> </tr> </tbody> </table>                                                                                                                                           | Option       | Description | disable  | Disable Google, Bing, YouTube, Qwant, DuckDuckGo safe search.                                                                             | enable   | Enable to avoid explicit and inappropriate results in the Google, Bing, and YouTube search engines.                                                 |                |                                                                           |  |  |  |
| Option           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| disable          | Disable Google, Bing, YouTube, Qwant, DuckDuckGo safe search.                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| enable           | Enable to avoid explicit and inappropriate results in the Google, Bing, and YouTube search engines.                                                                                                                                                                                                                                                                                                                                                                                                |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| youtube-restrict | When safe-search is enabled, you can set safe search for YouTube restriction level.                                                                                                                                                                                                                                                                                                                                                                                                                | option       |             | disabled |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
|                  | <table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>strict</td> <td>Enable strict safe search for YouTube.<br/>This restricts YouTube access by responding to DNS resolutions with CNAME restrict.youtube.com.</td> </tr> <tr> <td>moderate</td> <td>Enable moderate safe search for YouTube.<br/>This restricts YouTube access by responding to DNS resolutions with CNAME restrictmoderate.youtube.com.</td> </tr> </tbody> </table>            | Option       | Description | strict   | Enable strict safe search for YouTube.<br>This restricts YouTube access by responding to DNS resolutions with CNAME restrict.youtube.com. | moderate | Enable moderate safe search for YouTube.<br>This restricts YouTube access by responding to DNS resolutions with CNAME restrictmoderate.youtube.com. |                |                                                                           |  |  |  |
| Option           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| strict           | Enable strict safe search for YouTube.<br>This restricts YouTube access by responding to DNS resolutions with CNAME restrict.youtube.com.                                                                                                                                                                                                                                                                                                                                                          |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| moderate         | Enable moderate safe search for YouTube.<br>This restricts YouTube access by responding to DNS resolutions with CNAME restrictmoderate.youtube.com.                                                                                                                                                                                                                                                                                                                                                |              |             |          |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| redirect-portal  | Enter the IPv4 address of the SDNS redirect portal                                                                                                                                                                                                                                                                                                                                                                                                                                                 | IPv4 address |             | 0.0.0.0  |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |
| redirect-portal6 | Enter the IPv6 address of the SDNS redirect portal                                                                                                                                                                                                                                                                                                                                                                                                                                                 | IPv6 address |             | ::       |                                                                                                                                           |          |                                                                                                                                                     |                |                                                                           |  |  |  |

**config domain filter**

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



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