



## **Cloud Native BNG Control Plane Command Reference Guide, Release 2021.01.0**

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# CHAPTER 1

## cnBNG CP Commands

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This guide describes the CLI commands that are used to configure a control plane in cnBNG.

Some keywords and commands are common across multiple commands and configuration modes respectively. Use the information in the Command Modes section only as a reference to navigate to the command in the applicable configuration modes.

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## clear subscriber

Clears BNG subscriber data.

### Command Modes

Exec

### Syntax Description

```
clear subscriber [ force ] type { [ ipv4-pool ipv4_pool_name ] [ ipv4-range
ipv4_address_range ] [ ipv6-addr-pool ipv6_address_pool_name ] [ ipv6-addr-range
ipv6_address_range ] [ ipv6-pfx-pool ipv6_prefix_pool_name ] [ ipv6-pfx-range
ipv6_prefix_range ] [ mac mac_address ] [ port-id upf_port_id ] [ sublabel
subscriber_label ] [ upf upf_name ] }
```

#### **force**

Specify to force session deletion, even if UP is down.

#### **ipv4-pool** *ipv4\_pool\_name*

Specify the IPv4 address pool name.

Must be a string.

#### **ipv4-range** *ipv4\_address\_range*

Specify the IPv4 address range in the format "*poolName/start-ip*".

Must be a string.

**ipv6-addr-pool *ipv6\_address\_pool\_name***

Specify the IPv6 address pool name.

Must be a string.

**ipv6-addr-range *ipv6\_address\_range***

Specify the IPv6 address range in the format "*poolName/start-ip*".

Must be a string.

**ipv6-pfx-pool *ipv6\_prefix\_pool\_name***

Specify the IPv6 prefix pool name.

Must be a string.

**ipv6-pfx-range *ipv6\_prefix\_range***

Specify the IPv6 prefix range in the format "*poolName/start-pfx*".

Must be a string.

**mac *mac\_address***

Specify the MAC address in the format "*aabb.cddd.eeff*".

Must be a string.

**port-id *upf\_port\_id***

Specify the user plane function port ID in the format "*upf/port-id*".

Must be a string.

**sublabel *subscriber\_label***

Specify the subscriber label.

Must be a string.

**upf *upf\_name***

Specify the user plane function name.

Must be a string.

**type**

Specify the type.

Must be one of the following:

- **dhcp**
- **pppoe**

- `sessmgr`

**Usage Guidelines** Use this command to clear BNG subscriber data.

## endpoint ep

Configures endpoint parameters.

**Command Modes** Exec > Global Configuration

**Syntax Description** `endpoint endpoint_type { replicas replicas_per_node | nodes node_replicas_for_resiliency | loopbackEth loopbackEth | loopbackPort loopbackPort }`

### **eptype** *endpoint\_type*

Specify the endpoint type.

### **loopbackEth** *loopbackEth*

Specify the endpoint local interface name or host IP.

Must be a string.

### **loopbackPort** *loopbackPort*

Specify the endpoint local port.

Must be an integer.

### **nodes** *node\_replicas\_for\_resiliency*

Specify the number of node replicas for resiliency.

Must be an integer.

Default Value: 1.

### **replicas** *replicas\_per\_node*

Specify the number of replicas per node.

Must be an integer.

Default Value: 1.

**Usage Guidelines** Use this command to configure endpoint parameters.

## endpoint ep interface

Configures the interface type.

**Command Modes** Exec > Global Configuration

---

**Syntax Description** `endpoint ep interface interface_type`

**loopbackEth *loopback\_eth***

Specify the loopback Eth.

Must be a string.

**loopbackPort *loopback\_port***

Specify the loopback port.

Must be an integer.

***interface\_type***

Specify the interface type.

---

**Usage Guidelines** Use this command to configure the interface type.

## endpoint ep interface sla

Configures SLA parameters.

---

**Command Modes** Exec > Global Configuration

---

**Syntax Description** `endpoint ep interface sla { response response_time | procedure procedure_time }`

**procedure *procedure\_time***

Specify the procedure time in milliseconds.

Must be an integer in the range of 1000-120000.

**response *response\_time***

Specify the response time in milliseconds.

Must be an integer in the range of 1000-180000.

---

**Usage Guidelines** Use this command to configure SLA parameters.

## endpoint ep interface vip

Configures VIP IP parameters.

---

**Command Modes** Exec > Global Configuration

---

**Syntax Description** `endpoint ep interface vip { vip-ip vip_ip | vip-port vip_port | offline }`

**offline**

Specify to mark the vip-ip as offline.

**vip-ip *vip\_ip***

Specify the host IP address.

Must be a string.

**vip-port *vip\_port***

Specify the port number.

Must be an integer.

---

**Usage Guidelines** Use this command to configure VIP IP parameters.

## endpoint ep vip

Configures VIP parameters.

---

**Command Modes** Exec > Global Configuration > Endpoint Configuration

---

**Syntax Description** `vip-ip vip_ip_address [ [ vip-port port_number ] [ offline ] ]`

**offline**

Specify the VIP-IP as offline.

**vip-ip *vip\_ip\_address***

Specify the VIP IP address.

Must be a string.

**vip-port *port\_number***

Specify the port number.

Must be an integer.

---

**Usage Guidelines** Use this command to configure VIP parameters.

## helm

Configures Helm configuration parameters.

---

**Command Modes** Exec > Global Configuration (config)

---

**Syntax Description** `helm default-repository default_repository_name`



**default-repository** *default\_repository\_name*

Specify the name of the default Helm repository.

**Usage Guidelines**

Use this command to configure Helm configuration parameters.

## helm charts

Displays Helm release details.

**Command Modes**

Exec > Global Configuration (config)

**Syntax Description**

**charts**

**Usage Guidelines**

Use this command to view Helm release details.

## helm repository

Configures Helm repository parameters.

**Command Modes**

Exec > Global Configuration (config)

**Syntax Description**

```
helm repository helm_repo_name [ [ access-token access_token ] [ url helm_repo_url ] [ username helm_repo_username ] [ password helm_repo_password ] ]
```

**access-token** *helm\_repo\_access\_token*

Specify the access token for the Helm repository.

Must be a string.

**password** *helm\_repo\_password*

Specify the password for the Helm repository.

Must be an aes-cfb-128-encrypted string.

**url** *helm\_repo\_url*

Specify the URL for the Helm repository.

Must be a string.

**username** *helm\_repo\_username*

Specify the username for the Helm repository.

Must be a string.

**helm\_repo\_name**

Specify the name of the Helm repository.

Must be a string.

**Usage Guidelines** Use this command to configure the Helm repository parameters.

## ipam address-pool

Configures IPAM address pools.

**Command Modes** Exec > Global Configuration (config) > IPAM Configuration (config-ipam)

**Syntax Description** `address-pool pool_name [ static | offline | vrf-name vrf_name ]`

**address-quarantine-timer *address\_quarantine\_timer\_interval***

Specify the address quarantine timer interval in seconds.

Must be an integer in the range of 4-60.

Default Value: 4.

**default-gateway *ip\_address***

Specify the default gateway IP address for static pool.

Must be an IPv4 address.

**offline**

Specify the pool as an offline pool.

**prefix-length *prefix\_length***

Specify the prefix length.

Must be an integer in the range of 1-64.

Default Value: 64.

**vrf-name *vrf\_name***

Specify the VRF name.

Must be a string.

***pool\_name***

Specify the address pool's name.

Must be a string.

**Usage Guidelines** Use this command to configure IPAM address pools.

## ipam address-pool ipv4 address-range

Configures IPv4 address ranges.

---

**Command Modes**

Exec > Global Configuration (config) > IPAM Configuration (config-ipam) > Address Pool Configuration

---

**Syntax Description**

**address-range** *start\_ipv4\_address end\_ipv4\_address* [ **offline** ]

**default-gateway** *ip\_address*

Specify the default gateway IP address for static pool.

Must be an IPv4 address.

**offline**

Specify the IPv4 address range as offline.

**end\_ipv4\_address**

Specify the end address of the IPv4 address range.

Must be an IPv4 address.

**start\_ipv4\_address**

Specify the start address of the IPv4 address range.

Must be an IPv4 address.

---

**Usage Guidelines**

Use this command to configure IPv4 address ranges.

## ipam address-pool ipv4 split-size

Configures chunk split size.

---

**Command Modes**

Exec > Global Configuration > IPAM Configuration

---

**Syntax Description**

**split-size** [ **per-cache** *number\_of\_addresses* ] [ **per-dp** *number\_of\_addresses* ]

**no-split**

Specify not to split the address range into smaller chunks.

**per-cache** *number\_of\_addresses*

Specify the number of addresses per chunk for IPAM cache allocation. Specify in power of 2.

Must be an integer in the range of 2-262144.

**per-dp number\_of\_addresses**

Specify the number of addresses per chunk for data-plane allocation. Specify in power of 2.

Must be an integer in the range of 2-262144.

**Usage Guidelines** Use this command to configure chunk split sizes.

## ipam address-pool ipv4 threshold

Configures pool thresholds.

**Command Modes** Exec > Global Configuration > IPAM Configuration

**Syntax Description** **threshold** **upper-threshold** *upper\_threshold*

**upper-threshold** *upper\_threshold*

Specify the upper threshold value in percentage.

Must be an integer in the range of 1-100.

**Usage Guidelines** Use this command to configure pool thresholds.

## ipam address-pool ipv6 address-ranges address-range

Configures IPv6 address ranges.

**Command Modes** Exec > Global Configuration (config) > IPAM Configuration (config-ipam) > Address Pool Configuration > Address Ranges Configuration

**Syntax Description** **address-range** *start\_ipv6\_address end\_ipv6\_address* [ **offline** ]

**default-gateway** *ip\_address*

Specify the default gateway IP address for static pool.

Must be an IPv4 address.

**offline**

Specify the IPv6 address range as offline.

**end\_ipv6\_address**

Specify the end address of the IPv6 address range.

Must be an IPv6 address.

**start\_ipv6\_address**

Specify the start address of the IPv6 address range.

Must be an IPv6 address.

**Usage Guidelines** Use this command to configure IPv6 address ranges.

## ipam address-pool ipv6 address-ranges split-size

Configures chunk split size.

**Command Modes** Exec > Global Configuration > IPAM Configuration

**Syntax Description** **split-size** [ **per-cache** *number\_of\_addresses* ] [ **per-dp** *number\_of\_addresses* ]

### **no-split**

Specify not to split the address range into smaller chunks.

### **per-cache** *number\_of\_addresses*

Specify the number of addresses per chunk for IPAM cache allocation. Specify in power of 2.

Must be an integer in the range of 2-262144.

### **per-dp** *number\_of\_addresses*

Specify the number of addresses per chunk for data-plane allocation. Specify in power of 2.

Must be an integer in the range of 2-262144.

**Usage Guidelines** Use this command to configure chunk split sizes.

## ipam address-pool ipv6 address-ranges threshold

Configures pool thresholds.

**Command Modes** Exec > Global Configuration > IPAM Configuration

**Syntax Description** **threshold** **upper-threshold** *upper\_threshold*

### **upper-threshold** *upper\_threshold*

Specify the upper threshold value in percentage.

Must be an integer in the range of 1-100.

**Usage Guidelines** Use this command to configure pool thresholds.

## ipam address-pool ipv6 prefix-ranges prefix-range

Configures IPv6 prefix ranges.

**Command Modes** Exec > Global Configuration (config) > IPAM Configuration (config-ipam) > Address Pool Configuration > Prefix Ranges Configuration

**Syntax Description** **prefix-range** *prefix\_value* **length** *prefix\_length* [ **offline** ]

**length** *prefix\_length*

Specify the prefix length.

Must be an integer in the range of 1-63.

**offline**

Specify the IPv6 prefix range as offline.

**prefix-range** *prefix\_value*

Specify the IPv6 prefix range.

Must be an IPv6 address.

**Usage Guidelines** Use this command to configure IPv6 prefix ranges.

## ipam address-pool ipv6 prefix-ranges split-size

Configures chunk split size.

**Command Modes** Exec > Global Configuration > IPAM Configuration

**Syntax Description** **split-size** [ **per-cache** *number\_of\_addresses* ] [ **per-dp** *number\_of\_addresses* ]

**no-split**

Specify not to split the address range into smaller chunks.

**per-cache** *number\_of\_addresses*

Specify the number of addresses per chunk for IPAM cache allocation. Specify in power of 2.

Must be an integer in the range of 2-262144.

**per-dp** *number\_of\_addresses*

Specify the number of addresses per chunk for data-plane allocation. Specify in power of 2.

Must be an integer in the range of 2-262144.

**Usage Guidelines** Use this command to configure chunk split sizes.

## ipam address-pool ipv6 prefix-ranges threshold

Configures pool thresholds.

<b>Command Modes</b>	Exec > Global Configuration > IPAM Configuration
<b>Syntax Description</b>	<p><b>threshold upper-threshold</b> <i>upper_threshold</i></p> <p><b>upper-threshold</b> <i>upper_threshold</i></p> <p>Specify the upper threshold value in percentage. Must be an integer in the range of 1-100.</p>
<b>Usage Guidelines</b>	Use this command to configure pool thresholds.

## ipam address-pool static

Configures static pool parameters.

<b>Command Modes</b>	Exec > Global Configuration (config) > IPAM Configuration (config-ipam) > Address Pool Configuration
<b>Syntax Description</b>	<p><b>static { enable   user-plane</b> <i>user_plane</i> }</p> <p><b>enable</b></p> <p>Specify to set pool as static.</p> <p><b>user-plane</b> <i>user_plane</i></p> <p>Specify to associate user plane for this static pool. Must be a string.</p>
<b>Usage Guidelines</b>	Use this command to configure static pool parameters.

## ipam source

Configures pool-datastore source selection.

<b>Command Modes</b>	Exec > Global Configuration (config)
<b>Syntax Description</b>	<p><b>ipam source local</b></p> <p><b>local</b></p> <p>Specify to use local address pool datastore.</p>
<b>Usage Guidelines</b>	Use this command to configure pool-datastore source selection. Enters the IPAM Configuration mode";

## ipam threshold

Configures global thresholds.

<b>Command Modes</b>	Exec > Global Configuration (config) > IPAM Configuration (config-ipam)
<b>Syntax Description</b>	<p><b>threshold</b> [ [ <b>ipv4-addr</b> <i>ipv4_address_threshold</i> ]   [ <b>ipv6-addr</b> <i>ipv6_address_threshold</i> ]   [ <b>ipv6-prefix</b> <i>ipv6_prefix_threshold</i> ] ]</p> <p><b>ipv4-addr</b> <i>ipv4_address_threshold</i> Specify the IPv4 address threshold in percentage. Must be an integer in the range of 1-100.</p> <p><b>ipv6-addr</b> <i>ipv6_address_threshold</i> Specify the IPv6 address threshold in percentage. Must be an integer in the range of 1-100.</p> <p><b>ipv6-prefix</b> <i>ipv6_prefix_threshold</i> Specify the IPv6 prefix threshold in percentage. Must be an integer in the range of 1-100.</p>
<b>Usage Guidelines</b>	Use this command to configure global thresholds.

## k8 bng

Configures k8 BNG parameters.

<b>Command Modes</b>	Exec > Global Configuration
<b>Syntax Description</b>	<p><b>bng</b> <b>etcd-endpoint</b> <i>etcd_endpoint</i> <b>datastore-endpoint</b> <i>datastore_endpoint</i> <b>coverage-build</b> { <b>false</b>   <b>true</b> }</p> <p><b>etcd-endpoint</b> <i>etcd_endpoint</i> Specify the Etcd endpoint configuration. For example, <i>hostname:port</i> Default Value: "etcd:2379".</p> <p><b>datastore-endpoint</b> <i>datastore_endpoint</i> Specify the Datastore endpoint configuration. For example, <i>hostname:port</i></p> <p><b>etcd-endpoint</b> <i>etcd_endpoint</i> Specify the Etcd endpoint configuration. For example, <i>hostname:port</i> Default Value: "datastore-ep-session:8882".</p> <p><b>coverage-build</b> { <b>false</b>   <b>true</b> } Specify to enable or disable coverage build. Must be one of the following:</p>



- **false**
- **true**

Default Value: false.

**datastore-endpoint *datastore\_endpoint***

Specify the Datastore endpoint configuration. For example, *hostname:port*

**etcd-endpoint *etcd\_endpoint***

Specify the Etcd endpoint configuration. For example, *hostname:port*

**Usage Guidelines**

Use this command to configure k8 BNG parameters.

## k8 label pod-group-config

Configures K8 node affinity label pod group configuration.

**Command Modes**

Exec > Global Configuration

**Syntax Description**

**k8 label pod-group-config pod-group** *pod\_group* **key** *label\_key* **value** *label\_value*

**key** *label\_key*

Specify the key for the label.

Must be a string.

**pod-group** *pod\_group*

Specify the pod group for the VMs.

Must be one of the following:

- **cdl-layer**
- **oam-layer**
- **protocol-layer**
- **service-layer**

**value** *label\_value*

Specify the value for the label.

Must be a string.

**Usage Guidelines**

Use this command to configure K8 node affinity label pod group configuration.

# kubernetes

Configures Kubernetes parameters.

## Command Modes

Exec > Global Configuration (config)

## Syntax Description

```
k8s name k8s_cluster_name [ [ image-pull-secrets image_pull_secrets ] [
ingress-host-name ingress_host_name ] [ namespace k8s_namespace ] [ nf-name nf_name
] [ registry image_registry ] [ single-node { false | true } ] [
use-volume-claims { false | true } ] ]
```

### **image-pull-secrets** *image\_pull\_secrets*

Specify the image pull secrets stored within K8s.

Must be a string.

### **ingress-host-name** *ingress\_host\_name*

Specify the generic ingress host name.

Must be a string.

### **name** *k8s\_cluster\_name*

Specify the K8s cluster name.

Must be a string.

### **namespace** *k8s\_namespace*

Specify the K8s namespace for the network function.

Must be a string.

### **nf-name** *nf\_name*

Specify the NF deployed in this k8s namespace.

Must be a string.

### **registry** *image\_registry*

This keyword is deprecated.

Must be a string.

### **single-node** { **false** | **true** }

Specify to enable or disable single node deployment.

Must be one of the following:

- **false**
- **true**

Default Value: false.

**use-volume-claims { false | true }**

Specify to enable or disable using volume claims when deploying.

Must be one of the following:

- false
- true

Default Value: false.

**Usage Guidelines** Use this command to configure Kubernetes parameters.

## kubernetes nodes

Configures list of k8s nodes.

**Command Modes** Exec > Global Configuration (config)

**Syntax Description** **k8s nodes** *k8s\_node\_name* [ [ **node-type** *node\_type* ] [ **worker-type** *worker\_type* ] ]

**node-type** *node\_type*

Specify the K8s node type.

Must be a string.

**worker-type** *worker\_type*

Specify the k8s worker type.

Must be a string.

**k8s\_node\_name**

Specify the K8s node name.

Must be a string.

**Usage Guidelines** Use this command to configure the list of k8s nodes.

## logging level

Configures the logging level.

**Command Modes** Exec > Global Configuration

**Syntax Description** **level** *log\_level*

**application** *application\_log\_level*

Specify the application logging level.

Must be one of the following:

- **debug**
- **error**
- **info**
- **off**
- **trace**
- **warn**

**monitor-subscriber** *monitor\_subscriber\_log\_level*

Specify the monitor subscriber logging level.

Must be one of the following:

- **debug**
- **error**
- **info**
- **off**
- **trace**
- **warn**

**tracing** *tracing\_log\_level*

Specify the tracing logging level.

Must be one of the following:

- **debug**
- **error**
- **info**
- **off**
- **trace**
- **warn**

**transaction** *transaction\_log\_level*

Specify the transaction logging level.

Must be one of the following:

- **debug**

- **error**
- **info**
- **off**
- **trace**
- **warn**

---

**Usage Guidelines** Use this command to configure the logging level.

## logging logger

Configures the log name.

---

**Command Modes** Exec > Global Configuration

---

**Syntax Description** **logger** *log\_name*

***log\_name***

Specify the log name in "module.component.interface" format.

Must be a string.

---

**Usage Guidelines** Use this command to configure the log name.

## logging logger level

Configures the logging level.

---

**Command Modes** Exec > Global Configuration

---

**Syntax Description** **logger level** *log\_type\_options*

***application application\_log\_level***

Specify the application logging level.

Must be one of the following:

- **debug**
- **error**
- **info**
- **off**
- **trace**
- **warn**

**monitor-subscriber *monitor\_subscriber\_log\_level***

Specify the monitor subscriber logging level.

Must be one of the following:

- **debug**
- **error**
- **info**
- **off**
- **trace**
- **warn**

**tracing *tracing\_log\_level***

Specify the tracing logging level.

Must be one of the following:

- **debug**
- **error**
- **info**
- **off**
- **trace**
- **warn**

**transaction *transaction\_log\_level***

Specify the transaction logging level.

Must be one of the following:

- **debug**
- **error**
- **info**
- **off**
- **trace**
- **warn**

---

**Usage Guidelines**

Use this command to configure the logging level.

# logging transaction

Configures the transaction logging parameters.

**Command Modes** Exec > Global Configuration

**Syntax Description** `transaction transaction_log_parameters`

## duplicate

Specify to enable duplicate in transaction logging.

Must be one of the following:

- **disable**
- **enable**

Default Value: disable.

## message

Specify to enable messages in transaction logging.

Must be one of the following:

- **disable**
- **enable**

Default Value: disable.

**Usage Guidelines** Use this command to configure the transaction logging parameters.

# profile aaa

Configures AAA profiles.

**Command Modes** Exec > Global Configuration (config)

**Syntax Description** `profile aaa aaa_profile_name`

## aaa\_profile\_name

Specify the AAA profile name.

Must be a string in the pattern (`[a-zA-Z1-9_]^[^\s,\\t,\\',;]*`).

**Usage Guidelines** Use this command to configure AAA profiles. Enters the AAA Profile Configuration mode.

## profile aaa accounting

Configures accounting configuration parameters.

**Command Modes** Exec > Global Configuration (config) > AAA Profile Configuration (config-aaa-aaa\_profile\_name)

**Syntax Description** **accounting method-order** *method\_list\_order*

**method-order** *method\_list\_order*

Specify the method list order.

Must be one of the following:

- **radius**

**Usage Guidelines** Use this command to configure accounting parameters.

You can configure a maximum of three elements with this command.

## profile aaa authentication

Configures authentication parameters.

**Command Modes** Exec > Global Configuration (config) > AAA Profile Configuration (config-aaa-aaa\_profile\_name)

**Syntax Description** **authentication** [ **method-order** *method\_list\_order* ]

**method-order** *method\_list\_order*

Specify the method list order.

Must be one of the following:

- **radius**

**Usage Guidelines** Use this command to configure authentication parameters.

You can configure a maximum of three elements with this command.

## profile aaa authorization

Configures authorization parameters.

**Command Modes** Exec > Global Configuration (config) > AAA Profile Configuration (config-aaa-aaa\_profile\_name)

**Syntax Description** **authorization** [ **password** *default\_password* ]



**password *default\_password***

Specify the default password.

Must be a string.

**Usage Guidelines**

Use this command to configure authorization parameters. Enters the Authorization Configuration mode.

## profile aaa authorization type subscriber

Configures authorization type subscriber.

**Command Modes**

Exec > Global Configuration (config) > AAA Profile Configuration (config-aaa-*aaa\_profile\_name*) > Authorization Configuration (config-authorization)

**Syntax Description**

**type subscriber method-order** *method\_list\_order*

**method-order *method\_list\_order***

Specify the method list order.

Must be one of the following:

- radius

**Usage Guidelines**

Use this command to configure authorization type subscriber.

You can configure a maximum of three elements with this command.

## profile aaa authorization username

Configures the default user name.

**Command Modes**

Exec > Global Configuration (config) > AAA Profile Configuration (config-aaa-*aaa\_profile\_name*) > Authorization Configuration (config-authorization)

**Syntax Description**

**username { format *attribute\_format* | identifier *identifier\_type* | value *user\_name* }**

**format *attribute\_format***

Specify the attribute format.

**identifier *identifier\_type***

Specify the identifier type.

**value *user\_name***

Specify the user name.

Must be a string.

**Usage Guidelines** Use this command to configure the default user name.

## profile attribute-format

Configures AAA attribute templates.

**Command Modes** Exec > Global Configuration (config)

**Syntax Description** `profile attribute-format profile_name [ format-order attributes_list ]`

**format-order *attributes\_list***

Specify the ordered list of attributes.

***profile\_name***

Specify the profile name.

Must be a string in the pattern (`[a-zA-Z1-9_][^\s,\\t,\\",;]*`).

Must be a string.

**Usage Guidelines** Use this command to configure AAA attribute templates. Enters the Attribute Format Profile Configuration mode.

You can configure a maximum of 32 elements with this command.

## profile coa

Configures RADIUS Dynamic-author/COA parameters.

**Command Modes** Exec > Global Configuration

**Syntax Description** `profile coa server-key server_shared_secret_key`

**server-key *server\_shared\_secret\_key***

Specify the COA server shared secret key.

Must be an aes-cfb-128-encrypted string.

**Usage Guidelines** Use this command to configure RADIUS Dynamic-author/COA parameters.

## profile coa client

Configures RADIUS COA client parameters.

**Command Modes** Exec > Global Configuration

---

**Syntax Description**    **client ip** *client\_ip\_address* **server-key** *client\_shared\_secret\_key*

**ip** *client\_ip\_address*

Specify the client IP address.

Must be an IP address.

**server-key** *client\_shared\_secret\_key*

Specify the client shared secret key.

Must be an aes-cfb-128-encrypted string.

---

**Usage Guidelines**    Use this command to configure RADIUS COA client parameters.

## profile dhcp

Configures DHCP profiles.

---

**Command Modes**    Exec > Global Configuration (config)

---

**Syntax Description**    **dhcp** *dhcp\_profile\_name*

**dhcp** *dhcp\_profile\_name*

Specify the DHCP profile name.

Must be a string in the pattern ([a-zA-Z1-9\_]^[^\s,\\t,\\",'])\*).

---

**Usage Guidelines**    Use this command to configure DHCP profiles. Enters the DHCP Profile Configuration mode.

## profile dhcp ipv4

Configures DHCP IPv4 parameters.

---

**Command Modes**    Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-*dhcp\_profile\_name*)

---

**Syntax Description**    **ipv4** [ **mode** *dhcp\_mode* ]

**mode** *dhcp\_mode*

Specify the DHCP server or proxy mode.

Default Value: server.

---

**Usage Guidelines**    Use this command to configure DHCP IPv4 parameters. Enters the DHCP IPv4 Configuration mode.

## profile dhcp ipv4 class

Configures DHCP IPv4 class configuration parameters.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4)

**Syntax Description** **class** dhcp\_class\_name

**dhcp\_class\_name**

Specify the DHCP class name.

Must be a string in the pattern ([a-zA-Z1-9\_]^[^\s,\\t,\\",']\*)

**Usage Guidelines** Use this command to configure DHCP IPv4 class configuration parameters. Enters the DHCP Class Configuration mode.

## profile dhcp ipv4 class matches

Configures the list of match values.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name)

**Syntax Description** matches [ match-type { all | any } ]

**match-type match\_type**

Specify the match type.

**Usage Guidelines** Use this command to configure the list of match values. Enters the Matches Configuration mode.

## profile dhcp ipv4 class matches match

Configures match key and value.

**Command Modes** Exec > Global Configuration (config) > DHCP Configuration (config-dhcp-dhcp\_profile\_name) > DHCP Class Configuration (config-class-dhcp\_class\_name) > Matches Configuration (config-matches)

**Syntax Description** match match\_key { ascii ascii\_string | hex hex\_string }

**match\_key**

Specify the match key.

**ascii *ascii\_string***

Specify the ASCII strings.

Must be a string.

**hex *hex\_string***

Specify the hexadecimal strings.

Must be a string in the pattern `(([0-9a-fA-F]{2})([0-9a-fA-F]{2})*)?`.

**match\_key**

Specify the match key.

You can configure a maximum of "8" elements with this command.

**Usage Guidelines**

Use this command to configure match key and value.

You can configure a maximum of "8" elements with this command.

## profile dhcp ipv4 class server

Configures DHCP server mode.

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4)

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name)

**Syntax Description**

```
server [ boot-filename boot_file_name | dns-servers ip_address | domain-name
domain_name | netbios-name-server ip_address | next-server ip_address |
ntp-servers ntp_servers | pool-name pool_name ]
```

**boot-filename *boot\_file\_name***

Specify the boot file name.

Must be a string in the pattern `([a-zA-Z1-9_]^[^\s,\\t,\\\"'])*`.

**dns-servers *ip\_address***

Specify the DNS server IP addresses.

Must be an IPv4 address.

**domain-name *domain\_name***

Specify the domain name.

Must be a string in the pattern `([a-zA-Z1-9_]^[^\s,\\t,\\\"'])*`.

**netbios-name-server *ip\_address***

Specify the NetBIOS name server IP addresses.

Must be an IPv4 address.

**next-server *ip\_address***

Specify the TFTP server IP address to be used by the client.

Must be an IPv4 address.

**ntp-servers *ntp\_servers***

Specify the NTP servers.

Must be an IPv4 address.

**pool-name *pool\_name***

Specify the pool name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,\,;]\*)

**Usage Guidelines**

Use this command to configure the DHCP server mode. Enters the DHCP Server Configuration mode.

You can configure a maximum of "8" elements with this command.

## profile dhcp ipv4 class server lease

Configures DHCP Server Lease parameters.

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server)

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

**Syntax Description**

**lease** { [ **days** *days* ] [ **hours** *hours* ] [ **minutes** *minutes* ] }

**days *days***

Specify the number of days.

Must be an integer in the range of 0-365.

**hours *hours***

Specify the hours.

Must be an integer in the range of 0-23.

**minutes** *minutes*

Specify the minutes.

Must be an integer in the range of 0-59.

**Usage Guidelines**

Use this command to configure the DHCP Server Lease parameters.

## profile dhcp ipv4 class server netbios-node-type

Configures NetBIOS node type.

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server)

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

**Syntax Description**

**netbios-node-type** { **broadcast-node** | **hexadecimal** *hex\_number* | **hybrid-node** | **mixed-node** | **peer-to-peer-node** }

**broadcast-node**

Specify broadcast node.

**hexadecimal** *hex\_number*

Specify the hexadecimal number.

Must be a string in the pattern ([0-9a-fA-F]{2}(:[0-9a-fA-F]{2})\*)?.

**hybrid-node**

Specify hybrid node.

**mixed-node**

Specify mixed node.

**peer-to-peer-node**

Specify peer-to-peer node.

**Usage Guidelines**

Use this command to configure the NetBIOS node type.

## profile dhcp ipv4 class server option-codes

Configures the OptionCode table.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server)

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

**Syntax Description** `option-codes`

**Usage Guidelines** Use this command to configure the OptionCode table. Enters the Option Codes Configuration mode.

## profile dhcp ipv4 class server option-codes option-code

Configures a DHCP option code.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server) > Option Codes Configuration (config-option-codes)

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server) > Option Codes Configuration (config-option-codes)

**Syntax Description** `option-code dhcp_option_code [ ascii-string ascii_string | force-insert { false | true } | hex-string hex_string | ip-address ip_address ]`

### **ascii-string** *ascii\_string*

Specify the ASCII string.

Must be a string in the pattern (`[a-zA-Z1-9][^\s,\\t,\\"]*`).

### **force-insert** { **false** | **true** }

Specify whether to force insert this option.

Must be one of the following:

- **false**
- **true**

### **hex-string** *hex\_string*

Specify the hexadecimal string.

Must be a string in the pattern (`([0-9a-fA-F]{2}([0-9a-fA-F]{2})*)?`).

### **ip-address** *ip\_address*

Specify the server's IP addresses.

Must be an IPv4 address.



**option-code** *dhcp\_option\_code*

Specify the DHCP option code.

Must be an integer in the range of 0-255.

**Usage Guidelines**

Use this command to configure a DHCP option code. Enters the Option Code Configuration mode.

You can configure a maximum of "8" elements with this command.

## profile dhcp ipv4 server

Configures DHCP server mode.

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4)

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name)

**Syntax Description**

```
server [ boot-filename boot_file_name | dns-servers ip_address | domain-name
domain_name | netbios-name-server ip_address | next-server ip_address |
ntp-servers ntp_servers | pool-name pool_name ]
```

**boot-filename** *boot\_file\_name*

Specify the boot file name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,"']\*).

**dns-servers** *ip\_address*

Specify the DNS server IP addresses.

Must be an IPv4 address.

**domain-name** *domain\_name*

Specify the domain name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,"']\*).

**netbios-name-server** *ip\_address*

Specify the NetBIOS name server IP addresses.

Must be an IPv4 address.

**next-server** *ip\_address*

Specify the TFTP server IP address to be used by the client.

Must be an IPv4 address.

**ntp-servers** *ntp\_servers*

Specify the NTP servers.

Must be an IPv4 address.

**pool-name** *pool\_name*

Specify the pool name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,\"']\*).

**Usage Guidelines**

Use this command to configure the DHCP server mode. Enters the DHCP Server Configuration mode.

You can configure a maximum of "8" elements with this command.

## profile dhcp ipv4 server lease

Configures DHCP Server Lease parameters.

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server)

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

**Syntax Description**

**lease** { [ **days** *days* ] [ **hours** *hours* ] [ **minutes** *minutes* ] }

**days** *days*

Specify the number of days.

Must be an integer in the range of 0-365.

**hours** *hours*

Specify the hours.

Must be an integer in the range of 0-23.

**minutes** *minutes*

Specify the minutes.

Must be an integer in the range of 0-59.

**Usage Guidelines**

Use this command to configure the DHCP Server Lease parameters.

## profile dhcp ipv4 server netbios-node-type

Configures NetBIOS node type.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server)

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

**Syntax Description** **netbios-node-type** { **broadcast-node** | **hexadecimal** *hex\_number* | **hybrid-node** | **mixed-node** | **peer-to-peer-node** }

**broadcast-node**

Specify broadcast node.

**hexadecimal** *hex\_number*

Specify the hexadecimal number.

Must be a string in the pattern ([0-9a-fA-F]{2}(:[0-9a-fA-F]{2})\*)?.

**hybrid-node**

Specify hybrid node.

**mixed-node**

Specify mixed node.

**peer-to-peer-node**

Specify peer-to-peer node.

**Usage Guidelines** Use this command to configure the NetBIOS node type.

## profile dhcp ipv4 server option-codes

Configures the OptionCode table.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server)

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

**Syntax Description** **option-codes**

**Usage Guidelines** Use this command to configure the OptionCode table. Enters the Option Codes Configuration mode.

# profile dhcp ipv4 server option-codes option-code

Configures a DHCP option code.

## Command Modes

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Server Configuration Mode (config-server) > Option Codes Configuration (config-option-codes)

## Command Modes

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv4 Configuration (config-ipv4) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server) > Option Codes Configuration (config-option-codes)

## Syntax Description

**option-code** *dhcp\_option\_code* [ **ascii-string** *ascii\_string* | **force-insert** { **false** | **true** } | **hex-string** *hex\_string* | **ip-address** *ip\_address* ]

### **ascii-string** *ascii\_string*

Specify the ASCII string.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\'"]\*)).

### **force-insert** { **false** | **true** }

Specify whether to force insert this option.

Must be one of the following:

- **false**
- **true**

### **hex-string** *hex\_string*

Specify the hexadecimal string.

Must be a string in the pattern ([0-9a-fA-F]{2}([0-9a-fA-F]{2})\*)?.

### **ip-address** *ip\_address*

Specify the server's IP addresses.

Must be an IPv4 address.

### **option-code** *dhcp\_option\_code*

Specify the DHCP option code.

Must be an integer in the range of 0-255.

## Usage Guidelines

Use this command to configure a DHCP option code. Enters the Option Code Configuration mode.

You can configure a maximum of "8" elements with this command.

## profile dhcp ipv6

Configures DHCP IPv6 parameters.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name)

**Syntax Description** `ipv6 [ mode dhcp_mode ]`

**mode dhcp\_mode**

Specify the DHCP mode server or proxy.

Default Value: server.

**Usage Guidelines** Use this command to configure DHCP IPv6 parameters. Enters the DHCP IPv6 Configuration mode.

## profile dhcp ipv6 class

Configures DHCP IPv6 class configuration parameters.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv6 Configuration (config-ipv6)

**Syntax Description** `class dhcp_class_name`

**dhcp\_class\_name**

Specify the DHCP class name.

Must be a string in the pattern (`[a-zA-Z1-9][^\s,\t,']*`).

**Usage Guidelines** Use this command to configure DHCP IPv6 class configuration parameters.

## profile dhcp ipv6 class server

Configures DHCP server mode.

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv6 Configuration (config-ipv6)

**Command Modes** Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv6 Configuration (config-ipv6) > DHCP Class Configuration (config-class-dhcp\_class\_name)

**Syntax Description** `server { aftr-name aftr_name | dns-servers ip_address | domain-name domain_name | iana-pool-name iana_pool_name | iapd-pool-name iapd_pool_name | preference server_preference | rapid-commit }`

**aftr-name** *aftr\_name*

Specify the Address Family Transition Router (AFTR) name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,'])\*).

**dns-servers** *ip\_address*

Specify the DNS server IP addresses.

Must be an IPv6 address.

**domain-name** *domain\_name*

Specify the domain name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,'])\*).

**iana-pool-name** *iana\_pool\_name*

Specify the IANA pool name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,'])\*).

**iapd-pool-name** *iapd\_pool\_name*

Specify the IAPD pool name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,'])\*).

**preference** *server\_preference*

Specify the DHCP server preference.

Must be an integer in the range of 1-255.

**rapid-commit**

Specify to allow rapid commit.

**Usage Guidelines**

Use this command to configure the DHCP server mode.

You can configure a maximum of "8" elements with this command.

## profile dhcp ipv6 class server lease

Configures the lease parameters.

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv6 Configuration (config-ipv6) > DHCP Server Configuration Mode (config-server)

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv6 Configuration (config-ipv6) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

---

**Syntax Description**    `lease { [ days days ] [ hours hours ] [ minutes minutes ] }`

**days** *days*

Specify the number of days.

Must be an integer in the range of 0-365.

**hours** *hours*

Specify the hours.

Must be an integer in the range of 0-23.

**minutes** *minutes*

Specify the minutes.

Must be an integer in the range of 1-59.

---

**Usage Guidelines**    Use this command to configure lease parameters.

## profile dhcp ipv6 server

Configures DHCP server mode.

---

**Command Modes**    Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-*dhcp\_profile\_name*) > DHCP IPv6 Configuration (config-ipv6)

---

**Command Modes**    Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-*dhcp\_profile\_name*) > DHCP IPv6 Configuration (config-ipv6) > DHCP Class Configuration (config-class-*dhcp\_class\_name*)

---

**Syntax Description**    `server { aftr-name aftr_name | dns-servers ip_address | domain-name domain_name | iana-pool-name iana_pool_name | iapd-pool-name iapd_pool_name | preference server_preference | rapid-commit }`

**aftr-name** *aftr\_name*

Specify the Address Family Transition Router (AFTR) name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,'])\*).

**dns-servers** *ip\_address*

Specify the DNS server IP addresses.

Must be an IPv6 address.

**domain-name** *domain\_name*

Specify the domain name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,'])\*).

**iana-pool-name** *iana\_pool\_name*

Specify the IANA pool name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,'])\*).

**iapd-pool-name** *iapd\_pool\_name*

Specify the IAPD pool name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,'])\*).

**preference** *server\_preference*

Specify the DHCP server preference.

Must be an integer in the range of 1-255.

**rapid-commit**

Specify to allow rapid commit.

**Usage Guidelines**

Use this command to configure the DHCP server mode.

You can configure a maximum of "8" elements with this command.

## profile dhcp ipv6 server lease

Configures the lease parameters.

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv6 Configuration (config-ipv6) > DHCP Server Configuration Mode (config-server)

**Command Modes**

Exec > Global Configuration (config) > DHCP Profile Configuration (config-dhcp-dhcp\_profile\_name) > DHCP IPv6 Configuration (config-ipv6) > DHCP Class Configuration (config-class-dhcp\_class\_name) > DHCP Server Configuration Mode (config-server)

**Syntax Description**

**lease** { [ **days** *days* ] [ **hours** *hours* ] [ **minutes** *minutes* ] }

**days** *days*

Specify the number of days.

Must be an integer in the range of 0-365.

**hours** *hours*

Specify the hours.

Must be an integer in the range of 0-23.

**minutes** *minutes*

Specify the minutes.



Must be an integer in the range of 1-59.

**Usage Guidelines** Use this command to configure lease parameters.

## profile feature-template

Configures feature templates.

**Command Modes** Exec > Global Configuration (config)

**Syntax Description** **feature-template** *feature\_template\_name* [ [ **vrf-name** *vrf\_name* ] [ **httpr-policy** *httpr\_policy\_name* ] ]

**httpr-policy** *httpr\_policy\_name*

Specify the PBR HTTPR policy name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,"']\*).

**vrf-name** *vrf\_name*

Specify the VRF name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,"']\*).

**feature\_template\_name**

Specify the feature template name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,"']\*).

**Usage Guidelines** Use this command to configure feature templates. Enters the Feature Template Configuration mode.

## profile feature-template ipv4

Configures IPv4 features.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*)

**Syntax Description** **ipv4** [ [ **mtu** *maximum\_transmission\_unit* ] [ **ingress-acl** *ingress\_ipv4\_acl\_name* ] [ **egress-acl** *egress\_ipv4\_acl\_name* ] [ **disable-unreachables** ] ]

**disable-unreachables**

Specify to disable sending ICMP Unreachable messages.

**egress-acl** *egress\_ipv4\_acl\_name*

Specify the egress IPV4 ACL name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,"']\*).

**ingress-acl *ingress\_ipv4\_acl\_name***

Specify the ingress IPV4 ACL name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,\"']\*).

**mtu *maximum\_transmission\_unit***

Specify the Maximum Transmission Unit in bytes.

Must be an integer in the range of 68-65535.

**Usage Guidelines** Use this command to configure IPv4 features. Enters the IPv4 Configuration mode.

## profile feature-template ipv4 verify-unicast-source

Enables per-packet validation for unicast.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > IPv4 Configuration (config-ipv4)

**Syntax Description** **verify-unicast-source reachable-via-rx**

**reachable-via-rx**

Specify the source is reachable via interface on which packet was received.

**Usage Guidelines** Use this command to enable per-packet validation for unicast.

## profile feature-template ipv6

Configures IPv6 features.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*)

**Syntax Description** **ipv6 [ [ mtu *maximum\_transmission\_unit* ] [ ingress-acl *ingress\_ipv6\_acl\_name* ] [ egress-acl *egress\_ipv6\_acl\_name* ] ]**

**disable-unreachables**

Specify to disable sending ICMP Unreachable messages.

**egress-acl *egress\_ipv6\_acl\_name***

Specify the egress IPV6 ACL name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,\"']\*).

**ingress-acl *ingress\_ipv6\_acl\_name***

Specify the ingress IPV6 ACL name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\";']\*)).

**mtu *maximum\_transmission\_unit***

Specify the Maximum Transmission Unit in bytes.

Must be an integer in the range of 1280-65535.

**Usage Guidelines** Use this command to configure IPv6 features. Enters the IPv6 Configuration mode.

## profile feature-template ipv6 verify-unicast-source

Configures per packet validation for unicast.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > IPv6 Configuration (config-ipv6)

**Syntax Description** **verify-unicast-source reachable-via-rx**

**reachable-via-rx**

Specify source is reachable via interface on which packet was received.

**Usage Guidelines** Use this command to configure per packet validation for unicast.

## profile feature-template ppp

Configures PPP feature.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*)

**Syntax Description** **ppp [ [ authentication *authentication\_method* ] [ max-bad-auth *max\_auth\_failures* ] [ max-configure *max\_configure* ] [ max-failure *max\_conf\_naks* ] ]**

**authentication *authentication\_method***

Specify the authentication method.

Must be one of the following:

- chap
- pap

**max-bad-auth *max\_auth\_failures***

Specify the maximum authentication failures to allow.

Must be an integer in the range of 0-10.

**max-configure *max\_configure***

Specify the maximum conf-reqs to send without response.

Must be an integer in the range of 1-10.

**max-failure *max\_conf\_naks***

Specify the maximum conf-naks to receive.

Must be an integer in the range of 1-5.

**Usage Guidelines**

Use this command to configure the PPP feature. Enters the PPP Configuration mode.

You can configure a maximum of "2" elements with this command.

## profile feature-template ppp chap

Configures Challenge Handshake Authentication Protocol (CHAP) parameters.

**Command Modes**

Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

**Syntax Description**

**chap hostname** *chap\_host\_name* [ **password** *chap\_password* ]

**hostname *chap\_host\_name***

Specify the CHAP host name.

**hostname *chap\_host\_name***

Specify the CHAP host name.

**password *chap\_password***

Specify the CHAP password.

Must be an aes-cfb-128-encrypted string.

**Usage Guidelines**

Use this command to configure CHAP parameters.

## profile feature-template ppp ipcp

Configures PPP IPCP negotiation parameters.

**Command Modes**

Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

**Syntax Description**

**ipcp peer-address-pool** *peer\_address\_pool\_name*

**peer-address-pool** *peer\_address\_pool\_name*

Specify the peer-address pool name.

---

**Usage Guidelines**

Use this command to configure PPP IPCP negotiation parameters.

## profile feature-template ppp ipcp dns

Configures DNS address to be used for peer.

---

**Command Modes**

Exec > Global Configuration (config) > Feature Template Profile Configuration  
(config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

---

**Syntax Description**

**ipcp dns primary-address** *primary\_address* **secondary-address** *secondary\_address*

**primary-address** *primary\_address*

Specify the primary address. The first address is considered as Primary and second address as Secondary.  
Must be an IPv4 address.

**secondary-address** *secondary\_address*

Specify the secondary address.

Must be an IPv4 address.

---

**Usage Guidelines**

Use this command to configure DNS address to be used for peer.

## profile feature-template ppp ipcp renegotiation

Configures renegotiation parameters.

---

**Command Modes**

Exec > Global Configuration (config) > Feature Template Profile Configuration  
(config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

---

**Syntax Description**

**ipcp renegotiation ignore**

**ignore**

Specify to ignore attempts by the peer to renegotiate LCP.

---

**Usage Guidelines**

Use this command to configure renegotiation parameters.

## profile feature-template ppp ipcp wins

Configures WINS address to be used for peer.

<b>Command Modes</b>	Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template- <i>feature_template_name</i> ) > PPP Configuration (config-ppp)
<b>Syntax Description</b>	<p><b>ipcp wins primary-address</b> <i>primary_ip_address</i> <b>secondary-address</b> <i>secondary_ip_address</i></p> <p><b>primary-address</b> <i>primary_ip_address</i> Specify the primary address. Must be an IPv4 address.</p> <p><b>secondary-address</b> <i>secondary_ip_address</i> Specify the secondary address. Must be an IPv4 address.</p>
<b>Usage Guidelines</b>	Use this command to configure WINS address to be used for peer.

## profile feature-template ppp ipv6cp renegotiation

Configures IPv6CP renegotiation parameters.

<b>Command Modes</b>	Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template- <i>feature_template_name</i> ) > PPP Configuration (config-ppp)
<b>Syntax Description</b>	<p><b>ipv6cp renegotiation ignore</b></p> <p><b>ignore</b> Specify to ignore attempts by the peer to renegotiate LCP.</p>
<b>Usage Guidelines</b>	Use this command to configure IPv6CP renegotiation parameters.

## profile feature-template ppp keepalive

Configures PPP Keepalive parameters.

<b>Command Modes</b>	Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template- <i>feature_template_name</i> ) > PPP Configuration (config-ppp)
<b>Syntax Description</b>	<p><b>keepalive { disable   interval</b> <i>keepalive_interval</i> <b>  retry</b> <i>keepalive_retries</i> <b>}</b></p> <p><b>disable</b> Specify to disable PPP keepalive.</p> <p><b>interval</b> <i>keepalive_interval</i> Specify the keepalive interval in minutes.</p>

Must be an integer in the range of 10-120.

**retry *keepalive\_retries***

Specify the number of keepalive retries.

Must be an integer in the range of 1-255.

**Usage Guidelines** Use this command to configure PPP Keepalive parameters.

## profile feature-template ppp lcp delay

Configures the time to delay before starting active LCP negotiations.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

**Syntax Description** `lcp delay seconds delay_value milliseconds delay_value`

**milliseconds *delay\_value***

Specify the delay value in milliseconds.

Must be an integer in the range of 0-70000000.

**seconds *delay\_value***

Specify the delay value in seconds.

Must be an integer in the range of 0-255.

**Usage Guidelines** Use this command to configure the time to delay before starting active LCP negotiations.

## profile feature-template ppp lcp renegotiation

Configures LCP renegotiation feature.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

**Syntax Description** `lcp renegotiation ignore`

**ignore**

Specify to ignore attempts by the peer to renegotiate LCP.

**Usage Guidelines** Use this command to configure LCP renegotiation feature.

## profile feature-template ppp pap

Configures PAP parameters.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

**Syntax Description** **pap accept-null-password**

**accept-null-password**

Specify to accept null-password option.

**Usage Guidelines** Use this command to configure PAP parameters.

## profile feature-template ppp timeout

Configures PPP timeout parameters.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

**Syntax Description** **timeout { [ authentication total\_auth\_complete\_time ] [ retry max\_response\_time ] }**

**Command Modes** Exec > Global Configuration (config) > Endpoint N4 Protocol Configuration (config-endpoint-n4-protocol)

**Syntax Description** **retransmission timeout total\_auth\_complete\_time [ retry max\_response\_time ]**

**authentication total\_auth\_complete\_time**

Specify the total time to allow for authentication to complete.

Must be an integer in the range of 3-30.

**retry max\_response\_time**

Specify the maximum time to wait for a response to a Conf-Req in seconds.

Must be an integer in the range of 1-10.

**Usage Guidelines** Use this command to configure PPP timeout parameters.

## profile feature-template ppp timeout absolute

Configures the absolute timeout period for a PPP session.



**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*) > PPP Configuration (config-ppp)

**Syntax Description** **timeout absolute minutes** *timeout\_minutes* **seconds** *timeout\_seconds*

**minutes** *timeout\_minutes*

Specify the timeout period in minutes.

Must be an integer in the range of 0-70000000.

**Usage Guidelines** Use this command to configure the absolute timeout period for a PPP session.

## profile feature-template qos

Configures QoS input policy parameters.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*)

**Syntax Description** **qos** [ **in-policy** *in\_policy\_name* | **out-policy** *out\_policy\_name* | **merge-level** *merge\_level* ]

**in-policy** *in\_policy\_name*

Specify the QoS input policy name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\";'])\*).

**merge-level** *merge\_level*

Specify the merge level. 0 = merge disabled, 0 = merge enabled + level.

Must be an integer.

**out-policy** *out\_policy\_name*

Specify the QoS output policy name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\";'])\*).

**Usage Guidelines** Use this command to configure QoS input policy parameters.

## profile feature-template service-accounting

Configures service accounting parameters.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*)

**Syntax Description** `service-accounting [ [ enable ] [ aaa-profile aaa_profile_name ] [ periodic-interval interim_interval ] ]`

**aaa-profile *aaa\_profile\_name***

Specify the AAA profile to use for service accounting.

**enable**

Specify to enable service accounting.

**periodic-interval *interim\_interval***

Specify the interim interval in seconds.

Must be an integer in the range of 60-4320000.

**Usage Guidelines** Use this command to configure service accounting parameters.

## profile feature-template session-accounting

Configures session accounting parameters.

**Command Modes** Exec > Global Configuration (config) > Feature Template Profile Configuration (config-feature-template-*feature\_template\_name*)

**Syntax Description** `session-accounting enable { aaa-profile aaa_profile_name | periodic-interval interim_interval | dual-stack-delay dual_stack_delay_wait }`

**aaa-profile *aaa\_profile\_name***

Specify the AAA profile to use for session accounting.

**dual-stack-delay *dual\_stack\_delay\_wait***

Specify the dual stack set delay wait in seconds.

Must be an integer in the range of 1-30.

**enable**

Specify to enable session accounting.

**periodic-interval *interim\_interval***

Specify the interim interval in seconds.

Must be an integer in the range of 60-4320000.

**Usage Guidelines** Use this command to configure session accounting parameters.

# profile pppoe

Configures PPPOE Subscriber profiles.

## Command Modes

Exec > Global Configuration (config)

## Syntax Description

```
profile pppoe pppoe_profile_name [ [ ac-cookie ac_cookie ] [ ac-name ac_name ] [ ctrl-pkt-priority priority ] [ service-name pppoe_service_names ] [ service-selection-disable { false | true } ] [ timeout-completion session_completion_timeout ] ]
```

### **ctrl-pkt-priority** *priority*

Specify the CoS bits to use in PADx packets.

Must be an integer in the range of 0-7.

Default Value: 0.

### **mtu** *pppoe\_mtu*

Specify the PPPOE MTU for LCP negotiation.

Must be an integer in the range of 500-2000.

Default Value: 1492.

### **service-name** *pppoe\_service\_names*

Specify the supported PPPoE service names. You can simultaneously configure multiple service names.

### **service-selection-disable** { **false** | **true** }

Specify to disable or enable the advertising of extra service names in PADO packets.

Must be one of the following:

- **false**
- **true**

Default Value: false.

### **pppoe\_profile\_name**

Specify the PPPOE profile name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\";'])\*).

### **ac-name** *ac\_name*

Specify the the AC-Name to use in PADO packets.

**ctrl-pkt-priority *priority***

Specify the CoS bits to use in PADx packets.

Must be an integer in the range of 0-7.

Default Value: 0.

**mtu *pppoe\_mtu***

Specify the PPPOE MTU for LCP negotiation.

Must be an integer in the range of 500-2000.

Default Value: 1492.

**service-name *pppoe\_service\_names***

Specify the supported PPPoE service names. You can simultaneously configure multiple service names.

**service-selection-disable { *false* | *true* }**

Specify to disable or enable the advertising of extra service names in PADO packets.

Must be one of the following:

- **false**
- **true**

Default Value: false.

***pppoe\_profile\_name***

Specify the PPPOE profile name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\\t,\\"]\*).

**ac-cookie *ac\_cookie***

Specify the AC-Cookie to use in PADO packets.

**ac-name *ac\_name***

Specify the the AC-Name to use in PADO packets.

**ctrl-pkt-priority *priority***

Specify the CoS bits to use in PADx packets.

Must be an integer in the range of 0-7.

Default Value: 0.

**mtu *pppoe\_mtu***

Specify the PPPOE MTU for LCP negotiation.

Must be an integer in the range of 500-2000.

Default Value: 1492.

**service-name *pppoe\_service\_names***

Specify the supported PPPoE service names. You can simultaneously configure multiple service names.

**service-selection-disable { false | true }**

Specify to disable or enable the advertising of extra service names in PADO packets.

Must be one of the following:

- **false**
- **true**

Default Value: false.

**pppoe\_profile\_name**

Specify the PPPOE profile name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\"']\*).

**ac-cookie *ac\_cookie***

Specify the AC-Cookie to use in PADO packets.

**ac-name *ac\_name***

Specify the the AC-Name to use in PADO packets.

**ctrl-pkt-priority *priority***

Specify the CoS bits to use in PADx packets.

Must be an integer in the range of 0-7.

Default Value: 0.

**mtu *pppoe\_mtu***

Specify the PPPOE MTU for LCP negotiation.

Must be an integer in the range of 500-2000.

Default Value: 1492.

**service-name *pppoe\_service\_names***

Specify the supported PPPoE service names. You can simultaneously configure multiple service names.

**service-selection-disable { false | true }**

Specify to disable or enable the advertising of extra service names in PADO packets.

Must be one of the following:

- **false**
- **true**

Default Value: false.

#### **timeout-completion *session\_completion\_timeout***

Specify the maximum wait time for session to be completed.

Must be an integer in the range of 3-600.

Default Value: 180.

#### ***pppoe\_profile\_name***

Specify the PPPOE profile name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,']\*)

#### **Usage Guidelines**

Use this command to configure PPPOE Subscriber profiles. Enters the PPPOE Profile Configuration mode.

## profile pppoe max-payload

Configures a range for the ppp-max payload tag value.

#### **Command Modes**

Exec > Global Configuration (config) > PPPOE Profile Configuration (config-pppoe-*pppoe\_profile\_name*)

#### **Syntax Description**

```
max-payload { deny | minimum minimum_payload_value | maximum maximum_payload_value
}
```

#### **deny**

Specify to deny the PPP-max payload value.

#### **maximum *maximum\_payload\_value***

Specify the maximum payload value.

Must be an integer in the range of 1-40000.

Default Value: "1500".

#### **minimum *minimum\_payload\_value***

Specify the minimum value for the payload.

Must be an integer in the range of 1-40000.

Default Value: "1492".

#### **Usage Guidelines**

Use this command to configure a range for the ppp-max payload tag value.

## profile pppoe session-limit circuit-id

Configures the maximum number of sessions allowed per Circuit-ID.

---

**Command Modes**

Exec > Global Configuration (config) > PPPOE Profile Configuration (config-pppoe-*pppoe\_profile\_name*)

---

**Syntax Description**

**session-limit circuit-id** *value* [ **threshold** *threshold\_count* ]

**threshold** *threshold\_count*

Specify the threshold count.

Must be an integer in the range of 1-65535.

**value** *attribute\_value*

Specify the attribute value.

Must be an integer in the range of 1-65535.

---

**Usage Guidelines**

Use this command to configure the maximum number of sessions allowed per Circuit-ID.

## profile pppoe session-limit mac

Configures the maximum number of sessions allowed per peer MAC address.

---

**Command Modes**

Exec > Global Configuration (config) > PPPOE Profile Configuration (config-pppoe-*pppoe\_profile\_name*)

---

**Syntax Description**

**session-limit mac** *value* [ **threshold** *threshold\_count* ]

**threshold** *threshold\_count*

Specify the threshold count.

Must be an integer in the range of 1-65535.

**value** *attribute\_value*

Specify the attribute value.

Must be an integer in the range of 1-65535.

---

**Usage Guidelines**

Use this command to configure the maximum number of sessions allowed per peer MAC address.

## profile pppoe session-limit max

Configures the maximum number of sessions allowed under the PPPoE profile.

---

**Command Modes**

Exec > Global Configuration (config) > PPPOE Profile Configuration (config-pppoe-*pppoe\_profile\_name*)

**Syntax Description** `session-limit max value [ threshold threshold_count ]`

**threshold** *threshold\_count*

Specify the threshold count.

Must be an integer in the range of 1-65535.

**value** *attribute\_value*

Specify the attribute value.

Must be an integer in the range of 1-65535.

**Usage Guidelines** Use this command to configure the maximum number of sessions allowed under the PPPoE profile.

## profile pppoe session-limit outer-vlan

Configures the maximum number of sessions allowed per outer-vlan, per access interface.

**Command Modes** Exec > Global Configuration (config) > PPPOE Profile Configuration (config-pppoe-*pppoe\_profile\_name*)

**Syntax Description** `session-limit outer-vlan value [ threshold threshold_count ]`

**threshold** *threshold\_count*

Specify the threshold count.

Must be an integer in the range of 1-65535.

**value** *attribute\_value*

Specify the attribute value.

Must be an integer in the range of 1-65535.

**Usage Guidelines** Use this command to configure the maximum number of sessions allowed per outer-vlan, per access interface.

## profile radius

Configures RADIUS client profile parameters.

**Command Modes** Exec > Global Configuration (config)

**Syntax Description** `profile radius [ algorithm radius_server_selection_algorithm | deadtime dead_time | max-retry max_retry | timeout retransmit_timeout_duration ]`

**algorithm** *radius\_server\_selection\_algorithm*

Specify the algorithm for selecting RADIUS server.

Must be one of the following:



- **first-server**: Highest priority first.
- **round-robin**: Round-robin.

**deadtime *dead\_time***

Specify the time to elapse, in minutes, between RADIUS server marked unreachable and when connection can be re-attempted.

Must be an integer in the range of 0-65535.

**max-retry *max\_retry***

Specify the maximum number of times the system must attempt retry with the RADIUS server.

Must be an integer in the range of 0-65535.

**timeout *retransmit\_timeout\_duration***

Specify the time duration to wait for response from the RADIUS server before retransmitting.

Must be an integer in the range of 1-65535.

**Usage Guidelines**

Use this command to configure RADIUS client parameters. Enters the RADIUS Client Profile Configuration mode.

## profile radius accounting

Configures RADIUS accounting parameters.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Syntax Description**

**accounting** [ **algorithm** *radius\_server\_selection\_algorithm* | **deadtime** *dead\_time* | **max-retry** *max\_retry* | **timeout** *retransmit\_timeout\_duration* ]

**algorithm *radius\_server\_selection\_algorithm***

Specify the algorithm for selecting RADIUS server.

Must be one of the following:

- **first-server**: Highest priority first.
- **round-robin**: Round-robin.

**deadtime *dead\_time***

Specify the time to elapse, in minutes, between RADIUS server marked unreachable and when connection can be re-attempted.

Must be an integer in the range of 0-65535.

**max-retry** *max\_retry*

Specify the maximum number of times the system must attempt retry with the RADIUS server.

Must be an integer in the range of 0-65535.

**timeout** *retransmit\_timeout\_duration*

Specify the time duration to wait for response from the RADIUS server before retransmitting.

Must be an integer in the range of 1-65535.

**Usage Guidelines**

Use this command to configure RADIUS accounting parameters. Enters the RADIUS Accounting Configuration mode.

## profile radius accounting attribute called-station-id

Configures the AAA called-station-id attribute.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute called-station-id** *value*

**value**

Specify the value of the AAA called-station-id attribute.

Must be a string.

**Usage Guidelines**

Use this command to configure the AAA called-station-id attribute.

## profile radius accounting attribute calling-station-id

Configures the AAA calling-station-id attribute.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute calling-station-id** *value*

**value**

Specify the value of the AAA calling-station-id attribute.

Must be a string.

**Usage Guidelines** Use this command to configure the AAA calling-station-id attribute.

## profile radius accounting attribute nas-identifier-format

Configures the AAA nas-identifier-format attribute.

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description** **attribute nas-identifier-format** *value*

**Usage Guidelines** Use this command to configure the AAA nas-identifier-format attribute.

## profile radius accounting attribute nas-port-id

Configures the AAA nas-port-id attribute.

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description** **attribute nas-port-id** *value*

***value***

Specify value of the AAA nas-port-id attribute.

Must be a string.

**Usage Guidelines** Use this command to configure the AAA nas-port-id attribute.

## profile radius accounting detect-dead-server

Configures parameters to detect a dead RADIUS server.

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description** **detect-dead-server response-timeout** *response\_timeout\_duration*

***response-timeout response\_timeout\_duration***

Specify the time duration, in seconds, for a response from the RADIUS server to mark it as unreachable.

Must be an integer in the range of 1-65535.

**Usage Guidelines** Use this command to configure parameters to detect a dead RADIUS server.

## profile radius attribute called-station-id

Configures the AAA called-station-id attribute.

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description** `attribute called-station-id value`

**format-name** *format\_name*

Specify the attribute format name.

Must be a string.

**value**

Specify the value of the AAA called-station-id attribute.

Must be a string.

**Usage Guidelines** Use this command to configure the AAA called-station-id attribute.

## profile radius attribute called-station-id format

Configures node parameters.

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes** Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description** `attribute attribute_name format nas-port-type nas_port_type format-name format_name`

**nas-port-type** *nas\_port\_type*

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**format-name** *format\_name*

Specify the attribute format name.

Must be a string.

**nas-port-type *nas\_port\_type***

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**Usage Guidelines**

Use this command to configure node parameters for nas-port-id, calling-station-id, called-station-id, nas-identifier-format.

## profile radius attribute calling-station-id

Configures the AAA calling-station-id attribute.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute calling-station-id** *value*

**format-name *format\_name***

Specify the attribute format name.

Must be a string.

***value***

Specify the value of the AAA calling-station-id attribute.

Must be a string.

**Usage Guidelines**

Use this command to configure the AAA calling-station-id attribute.

## profile radius attribute calling-station-id format

Configures node parameters.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute** *attribute\_name* **format nas-port-type** *nas\_port\_type* **format-name** *format\_name*

**nas-port-type *nas\_port\_type***

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**format-name** *format\_name*

Specify the attribute format name.

Must be a string.

**nas-port-type** *nas\_port\_type*

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**Usage Guidelines**

Use this command to configure node parameters for nas-port-id, calling-station-id, called-station-id, nas-identifier-format.

## profile radius attribute nas-identifier-format

Configures the AAA nas-identifier-format attribute.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute nas-identifier-format** *value*

**format-name** *format\_name*

Specify the attribute format name.

Must be a string.

**Usage Guidelines**

Use this command to configure the AAA nas-identifier-format attribute.

## profile radius attribute nas-identifier-format format

Configures node parameters.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute** *attribute\_name* **format nas-port-type** *nas\_port\_type* **format-name** *format\_name*

**nas-port-type** *nas\_port\_type*

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**format-name** *format\_name*

Specify the attribute format name.

Must be a string.

**nas-port-type** *nas\_port\_type*

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**Usage Guidelines**

Use this command to configure node parameters for nas-port-id, calling-station-id, called-station-id, nas-identifier-format.

## profile radius attribute nas-port-id

Configures the AAA nas-port-id attribute.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute nas-port-id** *value*

**format-name** *format\_name*

Specify the attribute format name.

Must be a string.

**value**

Specify value of the AAA nas-port-id attribute.

Must be a string.

**Usage Guidelines**

Use this command to configure the AAA nas-port-id attribute.

## profile radius attribute nas-port-id format

Configures node parameters.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**attribute** *attribute\_name* **format nas-port-type** *nas\_port\_type* **format-name** *format\_name*

**nas-port-type *nas\_port\_type***

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**format-name *format\_name***

Specify the attribute format name.

Must be a string.

**nas-port-type *nas\_port\_type***

Specify the Nas-Port-Type value to apply format name on.

Must be an integer.

**Usage Guidelines**

Use this command to configure node parameters for nas-port-id, calling-station-id, called-station-id, nas-identifier-format.

## profile radius detect-dead-server

Configures parameters to detect a dead RADIUS server.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Accounting Configuration (config-accounting)

**Syntax Description**

**detect-dead-server response-timeout** *response\_timeout\_duration*

**response-timeout *response\_timeout\_duration***

Specify the time duration, in seconds, for a response from the RADIUS server to mark it as unreachable.

Must be an integer in the range of 1-65535.

**Usage Guidelines**

Use this command to configure parameters to detect a dead RADIUS server.

## profile radius server

Configures RADIUS external server configuration.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Syntax Description**

**server** *radius\_server\_ip\_address radius\_server\_port\_number* [ **priority** *radius\_server\_priority* | **secret** *radius\_server\_secret* | **type** *server\_type* ]

**priority *radius\_server\_priority***

Specify the priority of the RADIUS server.



Must be an integer in the range of 1-100.

**secret radius\_server\_secret**

Specify the secret of the RADIUS server.

Must be an aes-cfb-128-encrypted string.

**type server\_type**

Specify the server type.

Must be one of the following:

- **acct**
- **auth**

Default Value: auth.

**radius\_server\_ip\_address**

Specify the IP address of the RADIUS server.

Must be an IP address.

**radius\_server\_port\_number**

Specify the port number of the RADIUS server.

Must be an integer in the range of 1-65535.

**Usage Guidelines**

Use this command to configure RADIUS external server configuration.

## profile radius server-group

Configures association of RADIUS servers to groups.

**Command Modes**

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius)

**Syntax Description**

**server-group** *server\_group\_name*

**server\_group\_name**

Specify the server group name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\"']\*).

**Usage Guidelines**

Use this command to configure association of RADIUS servers to groups. Enters the Server Group Configuration mode.

## profile radius server-group server

Configures RADIUS server information.

### Command Modes

Exec > Global Configuration (config) > RADIUS Profile Configuration (config-radius) > RADIUS Server Group Configuration (config-server-group-*server\_group\_name*)

### Syntax Description

**server** *radius\_server\_type* **ip** *radius\_server\_ip\_address* **port** *radius\_port\_number*

**ip** *radius\_server\_ip\_address*

Specify IP address of the RADIUS server.

**port** *radius\_port\_number*

Specify the port number of the RADIUS server.

**radius\_server\_type**

Specify the server type.

Must be one of the following:

- **acct**: Server used for accounting requests.
- **auth**: Server is used for authentication/authorization requests.

### Usage Guidelines

Use this command to configure RADIUS server information.

## profile server-group

Configures AAA custom server groups.

### Command Modes

Exec > Global Configuration (config)

### Syntax Description

**server-group** *server\_group\_name* **radius-group** *radius\_server\_group\_name*

**radius-group** *radius\_server\_group\_name*

Specify the RADIUS server group name.

**aaa\_server\_group\_name**

Specify the AAA server group name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,'])\*).

### Usage Guidelines

Use this command to configure AAA custom server groups.

# profile subscriber

Configures subscriber profiles.

---

**Command Modes**

Exec > Global Configuration (config)

---

**Syntax Description**

```
profile subscriber subscriber_profile_name [ [ activate-feature-templates template_names ] [ apply-all-class ] [ dhcp-profile dhcp_profile_name ] [ pppoe-profile pppoe_profile_name ] [ session-type session_type ] ]
```

**activate-feature-templates** *template\_names*

Specify the list of feature templates to activate.

**apply-all-class**

Specify to apply all classes if enabled.

**dhcp-profile** *dhcp\_profile\_name*

Specify the DHCP-FSOL profile name.

**pppoe-profile** *pppoe\_profile\_name*

Specify the PPPOE-FSOL profile name.

**session-type** *session\_type*

Specify the allowed session type.

Must be one of the following:

- **ipv4**
- **ipv4v6**
- **ipv6**

Default Value: ipv4v6.

**subscriber\_profile\_name**

Specify the subscriber profile name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\"']\*).

---

**Usage Guidelines**

Use this command to configure subscriber profiles. Enters the Subscriber Profile Configuration mode.

You can configure a maximum of "8" elements with this command.

## profile subscriber aaa

Configures AAA operations.

---

### Command Modes

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*)

---

### Command Modes

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Class Configuration (config-class-*class\_name*)

---

### Command Modes

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Event Configuration (config-event-*event\_name*)

---

### Command Modes

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Event Configuration (config-event-*event\_name*) > Class Configuration (config-class-*class\_name*)

---

### Syntax Description

**aaa** *aaa\_option* *aaa\_profile\_name*

#### **aaa\_option**

Specify the AAA option.

Must be one of the following:

- **authenticate**
- **authorize**

#### **aaa\_profile\_name**

Specify the AAA profile name.

---

### Usage Guidelines

Use this command to configure AAA operations.

## profile subscriber class

Configures subscriber classification parameters.

---

### Command Modes

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*)

---

### Command Modes

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Event Configuration (config-event-*event\_name*)

---

### Syntax Description

**class** *class\_name* [ **activate-feature-templates** *feature\_template\_names* ]

#### **activate-feature-templates** *feature\_template\_names*

Specify the list of feature template names to activate.

***class\_name***

Specify the class name.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\\t,\\',;])\*).

**Usage Guidelines**

Use this command to configure subscriber classification parameters. Enters the Subscriber Class Configuration mode.

You can configure a maximum of "8" elements with this command.

## profile subscriber class aaa

Configures AAA operations.

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration  
(config-subscriber-subscriber\_profile\_name) > Subscriber Class Configuration (config-class-class\_name)

**Syntax Description**

**aaa** *aaa\_option profile\_name*

***aaa\_option***

Specify the AAA option.

Must be one of the following:

- **authenticate**
- **authorize**

***profile\_name***

Specify the AAA profile name.

**Usage Guidelines**

Use this command to configure AAA operations.

## profile subscriber class matches

Configures the list of match values.

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration  
(config-subscriber-subscriber\_profile\_name) > Class Configuration (config-class-class\_name)

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration  
(config-subscriber-subscriber\_profile\_name) > Event Configuration (config-event-event\_name) > Class Configuration (config-class-class\_name)

**Syntax Description**

**matches** [ **match-type** { **all** | **any** } ]

**match-type** *match\_type*

Specify the match type.

**Usage Guidelines**

Use this command to configure the list of match values. Enters the Matches Configuration mode.

## profile subscriber class matches match

Configures match key and value.

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Class Configuration (config-class-*class\_name*) > Matches Configuration (config-matches)

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Event Configuration (config-event-*event\_name*) > Class Configuration (config-class-*class\_name*) > Matches Configuration (config-matches)

**Syntax Description**

**match** *match\_key* { *match\_protocol* | **ascii** *ascii\_string* | **regex** *regex\_string* }

***match\_key***

Specify the match key.

***ascii ascii\_string***

Specify the ASCII string.

Must be a string.

***regex regex\_string***

Specify the regular expression string.

Must be a string.

***match\_key***

Specify the match key.

***match\_protocol***

Specify the match protocol.

Must be one of the following:

- **dhcp**
- **ppp**

You can configure a maximum of "2" elements with this command.

You can configure a maximum of "8" elements with this command.

**Usage Guidelines**

Use this command to configure match key and value.

You can configure a maximum of "8" elements with this command.

## profile subscriber event

Configures subscriber events.

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration  
(config-subscriber-subscriber\_profile\_name) > Event Configuration (config-event-event\_name)

**Syntax Description**

```
event event_name [ activate-feature-templates template_names | apply-all-class
| deactivate-feature-templates template_names ]
```

**event event\_name**

Specify the event name.

**activate-feature-templates template\_names**

Specify the list of feature templates to activate.

**apply-all-class**

Specify to apply all classes if enabled.

**deactivate-feature-templates template\_names**

Specify the list of feature templates to deactivate.

**event event\_name**

Specify the event name.

You can configure a maximum of "8" elements with this command.

**Usage Guidelines**

Use this command to configure subscriber events.

You can configure a maximum of "8" elements with this command.

## profile subscriber event aaa

Configures AAA operations.

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration  
(config-subscriber-subscriber\_profile\_name)

**Command Modes**

Exec > Global Configuration (config) > Subscriber Profile Configuration  
(config-subscriber-subscriber\_profile\_name) > Class Configuration (config-class-class\_name)

<b>Command Modes</b>	Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber- <i>subscriber_profile_name</i> ) > Event Configuration (config-event- <i>event_name</i> )
<b>Command Modes</b>	Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber- <i>subscriber_profile_name</i> ) > Event Configuration (config-event- <i>event_name</i> ) > Class Configuration (config-class- <i>class_name</i> )
<b>Syntax Description</b>	<p><b>aaa</b> <i>aaa_option</i> <i>aaa_profile_name</i></p> <p><b>aaa_option</b></p> <p>Specify the AAA option.</p> <p>Must be one of the following:</p> <ul style="list-style-type: none"> <li>• <b>authenticate</b></li> <li>• <b>authorize</b></li> </ul> <p><b>aaa_profile_name</b></p> <p>Specify the AAA profile name.</p>
<b>Usage Guidelines</b>	Use this command to configure AAA operations.

## profile subscriber event class

Configures subscriber classification.

<b>Command Modes</b>	Exec > Global Configuration
<b>Syntax Description</b>	<p><b>class</b> { <b>class-name</b> <i>class_name</i>   <b>deactivate-feature-templates</b> <i>template_names</i>   <b>activate-feature-templates</b> <i>template_names</i> }</p> <p><b>activate-feature-templates</b> <i>template_names</i></p> <p>Specify the list of feature template names to activate.</p> <p><b>class-name</b> <i>class_name</i></p> <p>Specify the class name.</p> <p>Must be a string in the pattern (<code>[a-zA-Z1-9][^\s\\t\\\"']*</code>).</p> <p><b>deactivate-feature-templates</b> <i>template_names</i></p> <p>Specify the list of feature template names to deactivate.</p> <p>You can configure a maximum of "8" elements with this command.</p>
<b>Usage Guidelines</b>	<p>Use this command to configure subscriber classification.</p> <p>You can configure a maximum of "8" elements with this command.</p>



## profile subscriber event class aaa

Configures AAA operations.

**Command Modes** Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-subscriber\_profile\_name) > Subscriber Class Configuration (config-class-class\_name)

**Syntax Description** **aaa** *aaa\_option* *profile\_name*

### **aaa\_option**

Specify the AAA option.

Must be one of the following:

- **authenticate**
- **authorize**

### **profile\_name**

Specify the AAA profile name.

**Usage Guidelines** Use this command to configure AAA operations.

## profile subscriber event class matches

Configures the list of match values.

**Command Modes** Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-subscriber\_profile\_name) > Class Configuration (config-class-class\_name)

**Command Modes** Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-subscriber\_profile\_name) > Event Configuration (config-event-event\_name) > Class Configuration (config-class-class\_name)

**Syntax Description** **matches** [ **match-type** { **all** | **any** } ]

### **match-type match\_type**

Specify the match type.

**Usage Guidelines** Use this command to configure the list of match values. Enters the Matches Configuration mode.

## profile subscriber event class matches match

Configures match key and value.

---

**Command Modes** Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Class Configuration (config-class-*class\_name*) > Matches Configuration (config-matches)

---

**Command Modes** Exec > Global Configuration (config) > Subscriber Profile Configuration (config-subscriber-*subscriber\_profile\_name*) > Event Configuration (config-event-*event\_name*) > Class Configuration (config-class-*class\_name*) > Matches Configuration (config-matches)

---

**Syntax Description** **match** *match\_key* { *match\_protocol* | **ascii** *ascii\_string* | **regex** *regex\_string* }

***match\_key***

Specify the match key.

***ascii ascii\_string***

Specify the ASCII string.

Must be a string.

***regex regex\_string***

Specify the regular expression string.

Must be a string.

***match\_key***

Specify the match key.

***match\_protocol***

Specify the match protocol.

Must be one of the following:

- **dhcp**
- **ppp**

---

**Usage Guidelines** Use this command to configure match key and value.  
You can configure a maximum of "8" elements with this command.

## show sessions

Displays pending session commits in the database.

---

**Command Modes** Exec

---

**Syntax Description** **show sessions**

---

**Usage Guidelines** Use this command to view pending session commits in the database.

## show sessions affinity

Displays instance-wise affinity count.

---

**Command Modes** Exec

---

**Syntax Description** `show sessions affinity`

---

**Usage Guidelines** Use this command to view the instance-wise affinity count.

## show sessions commit-pending

Displays all pending session commits.

---

**Command Modes** Exec

---

**Syntax Description** `show sessions commit-pending`

---

**Usage Guidelines** Use this command to view all pending session commits.

## show diagnostics

Displays diagnostics information.

---

**Command Modes** Exec

---

**Syntax Description** `show diagnostics`

---

**Usage Guidelines** Use this command to view diagnostics information.

## show diagnostics info

Displays diagnostics information.

---

**Command Modes** Exec

---

**Syntax Description** `show diagnostics info`

---

**Usage Guidelines** Use this command to view diagnostics information.

## show endpoint all

Displays endpoint status.

**show endpoint info**

---

**Command Modes** Exec

---

**Syntax Description** `show endpoint all`

---

**Usage Guidelines** Use this command to view endpoint status for all endpoints.

## show endpoint info

Displays endpoint information.

---

**Command Modes** Exec

---

**Syntax Description** `show endpoint info`

---

**Usage Guidelines** Use this command to view endpoint information.

## show ipam dp

Displays IPAM data-plane allocations.

---

**Command Modes** Exec

---

**Syntax Description** `show ipam dp`

---

**Usage Guidelines** Use this command to view IPAM data-plane allocations.

## show ipam pool

Displays pool allocation information.

---

**Command Modes** Exec

---

**Syntax Description** `show ipam pool`

---

**Usage Guidelines** Use this command to view pool allocation information.

## show peers

Displays peer information.

---

**Command Modes** Exec

---

**Syntax Description** `show peers`

---

**Usage Guidelines** Use this command to view peer information.

## show peers all

Displays information for all peers.

---

**Command Modes** Exec

---

**Syntax Description** `show peers all`

---

**Usage Guidelines** Use this command to view information for all peers.

## show resources

Displays resources information.

---

**Command Modes** Exec

---

**Syntax Description** `show resources`

---

**Usage Guidelines** Use this command to view resources information.

## show resources info

Displays resources information.

---

**Command Modes** Exec

---

**Syntax Description** `show resources info`

---

**Usage Guidelines** Use this command to view resources information.

## show rpc

Displays RPC information.

---

**Command Modes** Exec

---

**Syntax Description** `show rpc`

---

**Usage Guidelines** Use this command view RPC information.

## show rpc all

Displays information for all RPCs.

<b>Command Modes</b>	Exec
<b>Syntax Description</b>	<code>show rpc all</code>
<b>Usage Guidelines</b>	Use this command to view information for all RPCs.

## show running-status

Displays system running status information.

<b>Command Modes</b>	Exec
<b>Syntax Description</b>	<code>show running-status</code>
<b>Usage Guidelines</b>	Use this command to view system running status information.

## show running-status info

Displays system running status information.

<b>Command Modes</b>	Exec
<b>Syntax Description</b>	<code>show running-status info</code>
<b>Usage Guidelines</b>	Use this command to view system running status information.

## show subscriber

Displays BNG subscriber data.

<b>Command Modes</b>	Exec
<b>Syntax Description</b>	<p><code>show subscriber <i>type</i> [ <i>count</i>   <i>detail</i>   <i>sublabel</i> <i>subscriber_label</i> ]</code></p> <p><b>acct-sess-id</b> <i>accounting_session_id</i></p> <p>Specify the accounting session ID. Must be a string.</p> <p><b>count</b></p> <p>Specify to display the number of sessions.</p> <p><b>debug</b></p> <p>Specify debug information.</p>

**detail**

Specify to display detailed information.

**sublabel *subscriber\_label***

Specify the subscriber label.

Must be a string.

**sync *sync\_info***

Specify synchronization information.

Must be one of the following:

- **synchronize**

**upf *upf\_info***

Specify UPF information.

Must be a string.

**upmgr**

Specify SMUP information.

**type**

Specify the type.

Must be one of the following:

- **charging**
- **dhcp**
- **pppoe**
- **session**

---

**Usage Guidelines** Use this command to view BNG subscriber data.

## show subscriber

Displays subscriber information.

---

**Command Modes** Exec

---

**Syntax Description** `show subscriber { all | supi supi_id }`

**all**

Specify all SUPI.

**supi *supi\_id***

Specify the SUPI.

Must be a string.

**Usage Guidelines**

Use this command to view summary and detailed subscriber information for all subscribers or specific subscribers based on SUPI.

## show subscriber filter

Configures additional filters.

**Command Modes**

Exec

**Syntax Description**

```
show subscriber type filter [ afi address_family | iana-state-bound
iana_bound_state | iapd-state-bound iapd_bound_state | ipv4-addr ipv4_address |
ipv4-pool ipv4_pool_name | ipv4-range ipv4_address_range | ipv4-state-bound
ipv4_bound_state | ipv6-addr ipv6_address | ipv6-addr-pool ipv6_address_pool_name |
ipv6-addr-range ipv6_address_range | ipv6-pfx ipv6_prefix | ipv6-pfx-pool
ipv6_prefix_pool | ipv6-pfx-range ipv6_prefix_range | mac mac_address | port-id
upf_port_id | state session_state | up-subs-id up_subscriber_id | upf upf_name |
upmgr sm_up_info | username session_user_name | vrf vrf_name ]
```

**afi *address\_family***

Specify the address family.

Must be one of the following:

- **dual**
- **ipv4**
- **ipv6**
- **pending**

**iana-state-bound *iana\_bound\_state***

Specify the IANA bound state.

Must be one of the following:

- **iana-state-bound**

**iapd-state-bound *iapd\_bound\_state***

Specify the IAPD bound state.

Must be one of the following:

- **iapd-state-bound**



**ipv4-addr *ipv4\_address***

Specify the IPv4 address in the format "*pool-name/ipv4-addr*".

Must be a string.

**ipv4-pool *ipv4\_pool\_name***

Specify the IPv4 pool name.

Must be a string.

**ipv4-range *ipv4\_address\_range***

Specify the IPv4 address range in the format "*poolName/start-ip*".

Must be a string.

**ipv4-state-bound *ipv4\_bound\_state***

Specify the IPv4 bound state.

Must be one of the following:

- **ipv4-state-bound**

**ipv6-addr-pool *ipv6\_address\_pool\_name***

Specify the IPv6 address pool name.

Must be a string.

**ipv6-addr-range *ipv6\_address\_range***

Specify the IPv6 address range in the format "*poolName/start-ip*".

Must be a string.

**ipv6-addr *ipv6\_address***

Specify the IPv6 address in the format "*pool-name/ipv6-addr*".

Must be a string.

**ipv6-pfx-pool *ipv6\_prefix\_pool***

Specify the IPv6 prefix pool name.

Must be a string.

**ipv6-pfx-range *ipv6\_prefix\_range***

Specify the IPv6 prefix range in the format "*poolName/start-pfx*".

Must be a string.

**ipv6-pfx *ipv6\_prefix***

Specify the IPv6 prefix in the format "*pool-name/ipv6-pfx*".

Must be a string.

**mac *mac\_address***

Specify the MAC address in the format "aabb.ccdd.eeff".

Must be a string.

**port-id *upf\_port\_id***

Specify the user plane function port ID in the format "*upf/portid*".

Must be a string.

**smstate *sm\_session\_state***

Specify the state of the SM session.

Must be one of the following:

- **created**
- **deleted**
- **established**

**smupstate *smup\_session\_state***

Specify the state of the SMUP session.

Must be one of the following:

- **smUpSessionCreated**
- **smUpSessionDeleted**
- **smUpSessionWait4SmCreate**

**state *session\_state***

Specify the session state.

Must be one of the following:

- **complete**
- **incomplete**

**up-subs-id *up\_subscriber\_id***

Specify the UP subscriber ID.

Must be a string.

**upf *upf\_name***

Specify the user plane function name.

Must be a string.

**upmgr *upmgr***

Specify the UPMgr.

Must be one of the following:

- **upmgr**

**username *session\_user\_name***

Specify the user name of the session.

Must be a string.

**Usage Guidelines** Use this command to configure additional filters.

## subscriber route-synchronize

Synchronizes routes to UPF.

**Command Modes** Exec

**Syntax Description** **subscriber route-synchronize upf** *user\_plane\_name*

**upf *user\_plane\_name***

Specify the user plane name.

Must be a string.

**Usage Guidelines** Use this command to synchronize routes to UPF.

## subscriber session-synchronize

Synchronizes sessions to UPF.

**Command Modes** Exec

**Syntax Description** **subscriber session-synchronize upf** *user\_plane\_name* [ **abort** | **timeout** *sla\_timeout* ]

**abort**

Specify to abort synchronization.

**timeout *sla\_timeout***

Specify the SLA timeout duration in seconds.

Must be an integer in the range of 10-1800.

**upf *user\_plane\_name***

Specify the user plane name.

Must be a string.

**Usage Guidelines** Use this command to synchronize sessions to UPF.

## user-plane

Configures the userplane configuration.

**Command Modes** Exec > Global Configuration (config)

**Syntax Description** **user-plane** *userplane\_name* [ **offline** | **subscriber-profile** *subscriber\_profile* ]

**offline**

Specify as offline.

**subscriber-profile *subscriber\_profile\_name***

Specify the Subscriber Profile to associate at current level.

***userplane\_name***

Specify the userplane name.

Must be a string in the pattern ([a-zA-Z1-9][^\s,\t,']\*)).

**Usage Guidelines** Use this command to configure the userplane configuration. Enters the Userplane Configuration mode.

## user-plane peer-address

Configures the userplane IP address.

**Command Modes** Exec > Global Configuration (config) > User Plane Configuration (config-user-plane-*userplane\_name*)

**Syntax Description** **peer-address ipv4** *ipv4\_address*

**ipv4 *ipv4\_address***

Specify the IPv4 address.

Must be an IPv4 address.

**Usage Guidelines** Use this command to configure the userplane IP address.

## user-plane port-id

Configures Port Identifier parameters.

**Command Modes** Exec > Global Configuration (config) > User Plane Configuration (config-user-plane-*userplane\_name*)

**Syntax Description** **port-id** *port\_number* [ **subscriber-profile** *subscriber\_profile\_name* ]

**subscriber-profile** *subscriber\_profile\_name*

Specify the Subscriber Profile to associate to the Port Identifier level.

**port\_number**

Specify the port identifier.

Must be a string in the pattern ([a-zA-Z1-9\_][^\s,\t,\"']\*).

**Usage Guidelines** Use this command to configure Port Identifier parameters.

user-plane port-id