



# I Commands

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This chapter describes the Cisco Nexus 1000V commands that begin with I.

# id

To associate a network segmentation policy with the tenant ID, use the **id** command.

**id** *isolation\_id*

<b>Syntax Description</b>	<i>isolation_id</i> The tenant ID of the network segmentation policy.
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<b>Defaults</b>	None
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<b>Command Modes</b>	Network Segment Policy configuration (config-network-segment-policy)
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<b>SupportedUserRoles</b>	network-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.2(1)SV1(5.1)	This command was introduced.

<b>Usage Guidelines</b>	The tenant ID correlates to the Organization UUID in the vCloud Director and cannot be changed once it is configured.
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<b>Examples</b>	<p>This example shows how associate a network segmentation policy with the tenant ID:</p> <pre>n1000v# <b>configure terminal</b> n1000v(config)# <b>network-segment policy abc-policy-vxlan</b> n1000v(config-network-segment-policy)#<b>id f5dcf127-cdb0-4bdd-8df5-9515d6dc8170</b></pre>
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<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>network-segment policy</b>	Creates a network segmentation policy.
	<b>show run network-segment policy</b>	Displays the network segmentation policy configuration.

# inherit port-profile

To add the inherited configuration to the new port profile as a default configuration, use the **inherit port-profile** command. To remove the inherited policies, use the **no** form of this command.

**inherit port-profile** *name*

**no inherit port-profile**

Syntax Description	<i>name</i>
	Name for the port profile whose policies are inherited. The name can be up to 80 characters and must be unique for each port profile on the Cisco Nexus 1000V.

Defaults	None
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Command Modes	Port profile configuration (config-port-prof)
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SupportedUserRoles	network-admin
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Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

Usage Guidelines	Any inherited setting, except the port profile type, can be changed using the CLI. When you use the <b>no</b> form of the command, the port profile settings are returned to the defaults, except for the port profile type and any settings that were explicitly configured independent of those inherited.
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Examples	This example shows how to designate <i>AllAccess1</i> as the port profile whose policies will be inherited:
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```
n1000v# config t
n1000v(config)# port-profile type vethernet AllAccess2
n1000v(config-port-prof)# inherit port-profile AllAccess1
```

This example shows how to remove the inherited policies:

```
n1000v# config t
n1000v(config)# port-profile type vethernet AllAccess2
n1000v(config-port-prof)# no port-profile inherit
```

Related Commands	Command	Description
	<b>show port-profile</b>	Displays the port profile inherited by the current port profile.
	<b>port-profile</b>	Places you into port profile configuration mode and defines the port profile.

# install certificate

To install a certificate, use the **install certificate** command. To remove a certificate, use the **no** form of this command.

```
install certificate { bootflash: | default }
```

```
no install certificate
```

## Syntax Description

<b>bootflash:</b>	Specifies the path.
<b>default</b>	Specifies the default certificate.

## Defaults

No certificate is installed.

## Command Modes

SVS connection configuration (config-svs-conn)

## Supported User Roles

network-admin

## Command History

Release	Modification
4.0(4)SV1(1)	This command was introduced.

## Usage Guidelines

Only one SVS connection can be created.

## Examples

This example shows how to install a certificate:

```
n1000v# configure terminal
n1000v(config)# svcs connect s1
n1000v(config-svs-conn)# install certificate default
n1000v(config-svs-conn)#
```

This example shows how to remove a certificate:

```
n1000v# configure terminal
n1000v(config)# svcs connect s1
n1000v(config-svs-conn)# no install certificate default
n1000v(config-svs-conn)#
```

## Related Commands

Command	Description
<b>show svcs</b>	Displays SVS information.

# install http certificate

To change the security certificate for the HTTP server, use the **install http certificate** **bootflash:<cert\_path>** command. To remove the security certificate, use the **no** form of this command.

```
install http certificate { bootflash: | default }
```

```
no install http certificate
```

## Syntax Description

<b>bootflash:</b>	Specifies the path.
<b>default</b>	Specifies the default certificate.

## Defaults

No HTTP certificate is installed.

## Command Modes

SVS connection configuration (config-svs-conn)

## Supported User Roles

network-admin

## Command History

Release	Modification
4.0(4)SV1(1)	This command was introduced.

## Usage Guidelines

Only one SVS connection can be created.

## Examples

This example shows how to install a HTTP certificate:

```
n1000v# configure terminal
n1000v(config)# svcs connect s1
n1000v(config-svs-conn)# install http certificate bootflash:<cert_path>
n1000v(config-svs-conn)#
```

This example shows how to remove a HTTP certificate:

```
n1000v# configure terminal
n1000v(config)# svcs connect s1
n1000v(config-svs-conn)# no install http certificate bootflash:<cert_path>
n1000v(config-svs-conn)#
```

## Related Commands

Command	Description
show svcs	Displays SVS information.

# install license bootflash:

To install a license file(s) on a VSM, use the **install license bootflash:** command.

**install license bootflash:** *filename*

<b>Syntax Description</b>	<i>filename</i>	(Optional) Specify a name for the license file. If you do not specify a name, then the license is installed using the default name.
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<b>Defaults</b>	None
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<b>Command Modes</b>	Any
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<b>SupportedUserRoles</b>	network-admin network-operator
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(4)SV1(1)	This command was introduced.

- Usage Guidelines**
- You must first uninstall an evaluation license if one is present on your VSM. For more information, see the *Cisco Nexus 1000V License Configuration Guide, Release 4.2(1)SV2(1.1)*.
  - You must be logged in to the active VSM console port.
  - This command installs the license file using the name, `license_file.lic`. You can specify a different name.
  - If you are installing multiple licenses for the same VSM, also called license stacking, make sure that each license key file name is unique.
  - Repeat this procedure for each additional license file you are installing, or stacking, on the VSM.

**Examples** This example shows how to install a license to bootflash on a VSM and then display the installed file:

```
n1000v# install license bootflash:license_file.lic
Installing license ..done
n1000v# show license file license.lic
SERVER this_host ANY
VENDOR cisco
INCREMENT NEXUS1000V_LAN_SERVICES_PKG cisco 1.0 permanent 1 \
    HOSTID=VDH=1575337335122974806 \
    NOTICE="<LicFileID>license.lic</LicFileID><LicLineID>0</LicLineID> \
    <PAK>PAK12345678</PAK>" SIGN=3AF5C2D26E1A
n1000v#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show license file</b>	Verifies the license installation by displaying the license configured for the VSM.
<b>clear license</b>	Uninstalls a license, that is, removes it from the VSM and shuts down the Ethernet interfaces to the VEMs covered by that license.
<b>logging level license</b>	Designates the level of severity at which license messages should be logged.
<b>install license</b>	Installs a license file(s) on a VSM
<b>svs license transfer src-vem</b>	Transfers licenses from a source VEM to another VEM, or to the VSM pool of available licenses.

# install service-module (kickstart and system image)

To upgrade a VXLAN gateway service module (standalone) or a VXLAN gateway high availability (HA) cluster by using the kickstart and the system images, use the **install service-module** command.

**install service-module kickstart bootflash:** *kickstart\_image* **system bootflash:** *system\_image*  
**{ module-num** *module\_number* **| cluster-id** *cluster\_id* }



## Note

Starting with Release 5.2(1)SV3(1.15), Cisco Nexus 1000V for VMware vSphere does not support the VXLAN gateway feature.

## Syntax Description

<i>kickstart_image</i>	Name of the kickstart image.
<i>system_image</i>	Name of the system image.
<i>module_number</i>	The module number. The module number range is from 3 to 130.
<i>cluster_id</i>	The cluster ID. The cluster ID range is from 1 to 8.

## Defaults

None

## Command Modes

Any

## Supported User Roles

network-admin  
network-operator

## Command History

Release	Modification
4.2(1)SV2(2.1a)	This command was introduced.

## Usage Guidelines

None

## Examples

This example shows how to upgrade a VXLAN gateway cluster:

```
n1000v# install service-module kickstart
bootflash:vxgw-kickstart-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg system
bootflash:vxgw-1000v-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg cluster-id 1
```

```
Verifying image bootflash:/vxgw-kickstart-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg for boot
variable "kickstart".
[#####] 100% -- SUCCESS
```

```
Verifying image bootflash:/vxgw-1000v-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg for boot
variable "system".
[#####] 100% -- SUCCESS
Output commands:
```



```

-----
Extracting SRG from the Service Module image
bootflash:/vxgw-1000v-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg.
[#####] 100% -- SUCCESS

Service Module compatibility check is done:
  VSM Version      Service Module Version  Compatible
-----
  4.2(1)SV2(2.1a)   4.2(1u)SV2(2.1au)       yes

Do you want to continue with the Service Module installation (y/n)? [n] y

Install is in progress, please wait.

Copying bootflash:/vxgw-kickstart-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg to Service Module
10.105.234.177.
[#####] 100% -- SUCCESS

Copying bootflash:/vxgw-1000v-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg to Service Module
10.105.234.177.
[#####] 100% -- SUCCESS

Copying bootflash:/vxgw-kickstart-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg to Service Module
10.105.234.176.
[#####] 100% -- SUCCESS

Copying bootflash:/vxgw-1000v-upgrade.4.2.1.SV2.1a.2.0.315.bin.upg to Service Module
10.105.234.176.
[#####] 100% -- SUCCESS

Set bootvariables on the standby Service Module.

Sent reboot message to standby Service Module.

```

**Related Commands**

Command	Description
<b>install service-module (iso image)</b>	Upgrades a VXLAN gateway service module (standalone) or a VXLAN gateway high availability (HA) cluster by using the iso image.
<b>show module service-module</b>	Displays Cluster-id, HA-role, HA mode, and HA-status for service modules attached to the VSM.

# install service-module (iso image)

To upgrade a VXLAN gateway service module (standalone) or a VXLAN gateway high availability (HA) cluster by using the iso image, use the **install service-module** command.

**install service-module iso bootflash:** *iso\_image* {**module-num** *module\_number* | **cluster-id** *cluster\_id*}



## Note

Starting with Release 5.2(1)SV3(1.15), Cisco Nexus 1000V for VMware vSphere does not support the VXLAN gateway feature.

## Syntax Description

<i>iso_image</i>	Name of the iso image.
<i>module_number</i>	The module number. The module number range is from 3 to 130.
<i>cluster_id</i>	The cluster ID. The cluster ID range is from 1 to 8.

## Defaults

None

## Command Modes

Any

## Supported User Roles

network-admin  
network-operator

## Command History

Release	Modification
4.2(1)SV2(2.1a)	This command was introduced.

## Usage Guidelines

None

## Examples

This example shows how to upgrade a VXLAN gateway cluster:

```
n1000v# install service-module iso bootflash:vxgw.4.2.1.SV2.2.2.iso cluster-id 1
```

```
Verifying image bootflash:/vxgw-kickstart.4.2.1.SV2.2.2.gbin for boot variable "kickstart".
```

```
[#####] 100% -- SUCCESS
```

```
Verifying image bootflash:/vxgw.4.2.1.SV2.2.2.gbin for boot variable "system".
```

```
[#####] 100% -- SUCCESS
```

```
Extracting SRG from the Service Module image bootflash:/vxgw.4.2.1.SV2.2.2.gbin.
```

```
[#####] 100% -- SUCCESS
```

```
Service Module compatibility check is done:
```

```
VSM Version      Service Module Version  Compatible
```

```

-----
4.2(1)SV2(2.2)      4.2(1)SV2(2.2)      yes

Do you want to continue with the Service Module installation (y/n)? [n] y

Install is in progress, please wait.

Copying bootflash:/vxgw-kickstart.4.2.1.SV2.2.2.gbin to Service Module 10.105.232.77.
[#####] 100% -- SUCCESS

Copying bootflash:/vxgw.4.2.1.SV2.2.2.gbin to Service Module 10.105.232.77.
[#####] 100% -- SUCCESS

Copying bootflash:/vxgw-kickstart.4.2.1.SV2.2.2.gbin to Service Module 10.105.232.202.
[#####] 100% -- SUCCESS

Copying bootflash:/vxgw.4.2.1.SV2.2.2.gbin to Service Module 10.105.232.202.
[#####] 100% -- SUCCESS

Set bootvariables on the standby Service Module.

Sent reboot message to standby Service Module.
2014 Jan 15 07:02:34 CY %VEM_MGR-2-VEM_MGR_REMOVE_NO_HB: Removing VEM 9 (heartbeats lost)
2014 Jan 15 07:02:35 CY %VEM_MGR-2-MOD_OFFLINE: Module 9 is offline

```

**Related Commands**

Command	Description
<b>install service-module (kickstart and system image)</b>	Upgrades a VXLAN gateway service module (standalone) or a VXLAN gateway high availability (HA) cluster by using the kickstart and the system image.
<b>show module service-module</b>	Displays Cluster-id, HA-role, HA mode, and HA-status for service modules attached to the VSM.

# interface control

To configure the control interface and enter interface configuration mode, use the **interface control** command.

## **interface control0**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Global configuration (config)  
Interface configuration (config-if)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Usage Guidelines** None

**Examples** This example shows how to enter the interface configuration mode to configure the control interface:

```
n1000v(config)# interface control0
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show interface control0</b>	Displays information about the traffic on the control interface.

# interface ethernet

To configure an Ethernet interface, use the **interface ethernet** command.

```
interface ethernet slot/port
```

<b>Syntax Description</b>	<i>slot/port</i>	Specifies the slot number and port number for the Ethernet interface.
<b>Defaults</b>	None	
<b>Command Modes</b>	Global configuration (config) Interface configuration (config-if)	
<b>Supported User Roles</b>	network-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(4)SV1(1)	This command was introduced.
<b>Usage Guidelines</b>		
<b>Examples</b>	This example shows how to access the interface command mode for configuring the Ethernet interface on slot 2, port 1:  <pre>n1000v# <b>config t</b> n1000v(config)# <b>interface ethernet 2/1</b> n1000v(config-if)#</pre>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show interface ethernet</b> <i>slot/port</i>	Displays information about the Ethernet interface.

# interface loopback

To create and configure a loopback interface, use the **interface loopback** command. To remove a loopback interface, use the **no** form of this command.

**interface loopback** *number*

**no interface loopback** *number*

Syntax Description	<i>number</i>	Identifying interface number; valid values are from 0 to 1023.
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Defaults	None
----------	------

Command Modes	Global configuration (config) Interface configuration (config-if)
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SupportedUserRoles	network-admin
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Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

## Usage Guidelines

**Examples** This example shows how to create a loopback interface:

```
n1000v(config)# interface loopback 50
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show interface loopback</b>	Displays information about the traffic on the specified loopback interface.

# interface mgmt

To configure the management interface and enter interface configuration mode, use the **interface management** command.

**interface mgmt0**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Global configuration (config)  
Interface configuration (config-if)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

## Usage Guidelines

**Examples** This example shows how to enter the interface configuration mode to configure the management interface:

```
n1000v(config)# interface mgmt0
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show interface mgmt0</b>	Displays information about the traffic on the management interface.

# interface port-channel

To create a port-channel interface and enter interface configuration mode, use the **interface port-channel** command. To remove a logical port-channel interface or subinterface, use the **no** form of this command.

**interface port-channel** *channel-number*

**no interface port-channel** *channel-number*

## Syntax Description

*channel-number* Channel number that is assigned to this port-channel logical interface. The range of valid values is from 1 to 4096.

## Defaults

None

## Command Modes

Global configuration (config)  
Interface configuration (config-if)

## Supported User Roles

network-admin

## Command History

Release	Modification
4.0(4)SV1(1)	This command was introduced.

## Usage Guidelines

Use the **interface port-channel** command to create or delete port-channel groups and to enter the interface configuration mode for the port channel.

A port can belong to only one channel group.

When you use the **interface port-channel** command, follow these guidelines:

- If you are using CDP, you must configure it only on the physical interface and not on the port-channel interface.
- If you do not assign a static MAC address on the port-channel interface, a MAC address is automatically assigned. If you assign a static MAC address and then later remove it, the MAC address is automatically assigned.
- The MAC address of the port channel is the address of the first operational port added to the channel group. If this first-added port is removed from the channel, the MAC address comes from the next operational port added, if there is one.

## Examples

This example shows how to create a port-channel group interface with channel-group number 50:

```
n1000v(config)# interface port-channel 50
n1000v(config-if)#
```



Related Commands	Command	Description
	<b>show interface port-channel</b>	Displays information on traffic on the specified port-channel interface.
	<b>show port-channel summary</b>	Displays information on the port channels.

# interface vethernet

To create a virtual Ethernet interface and enter interface configuration mode, use the **interface vethernet** command. To remove a virtual Ethernet interface, use the **no** form of this command.

**interface vethernet** *number*

**no interface vethernet** *number*

Syntax Description	<i>number</i>	Identifying interface number; valid values are from 1 to 1048575.
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Defaults	None
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Command Modes	Global configuration (config) Interface configuration (config-if)
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SupportedUserRoles	network-admin
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Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

Usage Guidelines	Use the <b>interface vethernet</b> command to create a virtual Ethernet interface.
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Examples	This example shows how to create a virtual Ethernet interface:
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```
n1000v(config)# interface vethernet 50
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show interface vethernet</b> <i>number</i>	Displays information about the traffic on the specified virtual Ethernet interface.

# ip access-group

To create an IP access group for mgmt0 interface, use the **ip access-group** command. To remove the access group, use the **no** form of this command.

```
ip access-group name {in | out}
```

```
no ip access-group name {in | out}
```

Syntax	Description
<i>name</i>	List name.
<b>in</b>	Specify incoming (ingress) traffic direction.
<b>out</b>	Specify outgoing (egress) traffic direction.

**Defaults** None

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.2(1) SV1(4)	This command was introduced.

## Usage Guidelines

**Examples** This example shows how to configure an IP access group named Telnet for incoming traffic to the mgmt0 interface:

```
n1000v# config t
n1000v(config)# interface mgmt0
n1000v(config-if)# ip access-group telnet in
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show ip access-lists</b>	Displays the ACL configuration.

# ip access-list

To create an access list, use the **ip access-list** command. To remove an access list, use the **no** form of this command.

**ip access-list** {*name* | **match-local-traffic**}

**no ip access-list** {*name* | **match-local-traffic**}

Syntax Description	
<i>name</i>	List name.
<b>match-local-traffic</b>	Enables access list matching for locally generated traffic.

**Defaults** No access list exists.

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to create an access list:

```
n1000v# configure terminal
n1000v(config)# ip access-list acl1
n1000v(config)#
```

Related Commands	Command	Description
	<b>show access-lists</b>	Displays access lists.

# ip address

To create an IP route, use the **ip address** command. To remove an IP address, use the **no** form of this command.

```
ip address {address mask | prefix} {next-hop | next-hop-prefix | interface-type interface-number}
[tag tag-value | preference]
```

```
no ip address {address mask | prefix} {next-hop | next-hop-prefix | interface-type interface-number}
[secondary | tag tag-value | preference]
```

Syntax Description	
<i>address</i>	IP address, in format A.B.C.D.
<i>mask</i>	IP network mask, in format A.B.C.D.
<i>prefix</i>	IP prefix and network mask length, in format A.B.C.D./LEN.
<i>next-hop</i>	IP next-hop address, in format A.B.C.D.
<i>next-hop-prefix</i>	IP next-hop prefix in format A.B.C.D./LEN.
<i>interface-type</i>	Interface type.
<i>interface-number</i>	Interface or subinterface number.
<b>secondary</b>	(Optional) Configures additional IP addresses on the interface.
<b>tag</b>	(Optional) Specifies a supply tag.
<i>tag-value</i>	Supply tag value. The range of valid values is 0 to 4294967295. The default is 0.
<i>preference</i>	(Optional) Route preference.

**Defaults** None

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to create an IP address:

```
n1000v# configure terminal
n1000v(config)# ip address 209.165.200.225 255.255.255.224 x
n1000v(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip interface A.B.C.D.</b>	Displays interfaces for local IP addresses.

# ip arp inspection limit

To set the rate limit of ARP requests and responses, use the **ip arp inspection limit** command. To remove this setting, use the **no** form of this command. To set the rate limit to its default, use the **default** form of this command.

```
ip arp inspection limit {rate pps [burst interval bint] | none }
```

```
no ip arp inspection limit {rate pps [burst interval bint] | none }
```

```
default ip arp inspection limit {rate pps [burst interval bint] | none }
```

## Syntax Description

<b>rate <i>pps</i></b>	Specifies the rate limit in packets per second.
<b>burst interval</b>	(Optional) Specifies the burst interval.
<i>bint</i>	(Optional) Burst interval in seconds.
<b>none</b>	Specifies that there is no limit.

## Defaults

None

## Command Modes

Interface configuration (config-if)  
Port profile configuration (config-port-prof)

## Supported User Roles

network-admin

## Command History

Release	Modification
4.0(4)SV1(2)	This command was introduced.

## Examples

This example shows how to set the rate limit of ARP requests to 20 pps:

```
n1000v(config)# ip arp inspection limit rate 20
```

This example shows how to remove the configuration:

```
n1000v(config)# no arp inspection limit rate 20
```

## Related Commands

Command	Description
<b>show ip arp inspection interface interface</b>	Displays the trust state and the ARP packet rate for a specified interface.

# ip arp inspection trust

To configure a Layer 2 interface as a trusted ARP interface, use the **ip arp inspection trust** command. To configure a Layer 2 interface as an untrusted ARP interface, use the **no** form of this command. To return a Layer 2 interface to its default, use the **default** form of this command.

**ip arp inspection trust**

**no ip arp inspection trust**

**default ip arp inspection trust**

**Syntax Description** This command has no arguments or keywords.

**Defaults** By default, all interfaces are untrusted ARP interfaces.

**Command Modes** Interface configuration (config-if)  
Port profile configuration (config-port-prof)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(2)	This command was introduced.

**Usage Guidelines** You can configure only Layer 2 virtual Ethernet interfaces as trusted ARP interfaces.

**Examples** This example shows how to configure a Layer 2 interface as a trusted ARP interface:

```
n1000v# configure terminal
n1000v(config)# interface vethernet 2
n1000v(config-if)# ip arp inspection trust
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show ip arp inspection interface</b>	Displays the trust state and the ARP packet rate for a specified interface.



# ip arp inspection validate

To enable additional Dynamic ARP Inspection (DAI) validation, use the **ip arp inspection validate** command. To disable additional DAI, use the **no** form of this command.

```
ip arp inspection validate {dst-mac [ip] [src-mac] | ip [dst-mac] [src-mac] | src-mac [dst-mac] [ip]}
```

```
no ip arp inspection validate {dst-mac [ip] [src-mac] | ip [dst-mac] [src-mac] | src-mac [dst-mac] [ip]}
```

Syntax Description	Parameter	Description
	<b>dst-mac</b>	(Optional) Enables validation of the destination MAC address in the Ethernet header against the target MAC address in the ARP body for ARP responses. The device classifies packets with different MAC addresses as invalid and drops them.
	<b>ip</b>	(Optional) Enables validation of the ARP body for invalid and unexpected IP addresses. Addresses include 0.0.0.0, 255.255.255.255, and all IP multicast addresses. The device checks the sender IP addresses in all ARP requests and responses and checks the target IP addresses only in ARP responses.
	<b>src-mac</b>	(Optional) Enables validation of the source MAC address in the Ethernet header against the sender MAC address in the ARP body for ARP requests and responses. The devices classifies packets with different MAC addresses as invalid and drops them.

**Defaults** None

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(2)	This command was introduced.

**Usage Guidelines** You must specify at least one keyword. If you specify more than one keyword, the order is irrelevant.

**Examples** This example shows how to enable additional DAI validation:

```
n1000v# configure terminal
n1000v(config)# ip arp inspection validate src-mac dst-mac ip
n1000v(config)#
```

## ■ ip arp inspection validate

Related Commands	Command	Description
	<b>show ip arp inspection</b>	Displays the DAI configuration status.

# ip arp inspection vlan

To enable Dynamic ARP Inspection (DAI) for a list of VLANs, use the **ip arp inspection vlan** command. To disable DAI for a list of VLANs, use the **no** form of this command.

**ip arp inspection vlan** *vlan-list*

**no ip arp inspection vlan** *vlan-list*

<b>Syntax Description</b>	<i>vlan-list</i>	VLANs on which DAI is active. The <i>vlan-list</i> argument allows you to specify a single VLAN ID, a range of VLAN IDs, or comma-separated IDs and ranges (see the “Examples” section). Valid VLAN IDs are from 1 to 4096.
---------------------------	------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Global configuration (config)
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<b>SupportedUserRoles</b>	network-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(4)SV1(2)	This command was introduced.

<b>Usage Guidelines</b>	By default, the device does not log packets inspected by DAI.
-------------------------	---

**Examples** This example shows how to enable DAI on VLANs 13, 15, and 17 through 23:

```
n1000v# configure terminal
n1000v(config)# ip arp inspection vlan 13,15,17-23
n1000v(config)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>ip arp inspection validate</b>	Enables additional DAI validation.
	<b>show ip arp inspection vlan</b>	Displays the DAI status for a specified list of VLANs.

# ip dhcp snooping

To globally enable DHCP snooping on the device, use the **ip dhcp snooping** command. To globally disable DHCP snooping, use the **no** form of this command.

**ip dhcp snooping**

**no ip dhcp snooping**

**Syntax Description** This command has no arguments or keywords.

**Defaults** By default, DHCP snooping is globally disabled.

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(2)	This command was introduced.

**Usage Guidelines** To use this command, you must enable the DHCP snooping feature (see the **feature dhcp** command). The device preserves DHCP snooping configuration when you disable DHCP snooping with the **no ip dhcp snooping** command.

**Examples** This example shows how to globally enable DHCP snooping:

```
n1000v# configure terminal
n1000v(config)# ip dhcp snooping
n1000v(config)#
```

Related Commands	Command	Description
	<b>feature dhcp</b>	Enables the DHCP snooping feature on the device.
	<b>ip dhcp snooping trust</b>	Configures an interface as a trusted source of DHCP messages.
	<b>ip dhcp snooping vlan</b>	Enables DHCP snooping on the specified VLANs.
	<b>show ip dhcp snooping</b>	Displays general information about DHCP snooping.

# ip dhcp snooping information option

To relay the VSM MAC address and vEthernet port information in DHCP packets, use the **ip dhcp snooping information option** command. To remove the configuration, use the **no** form of this command.

**ip dhcp snooping information option**

**no ip dhcp snooping information option**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.2(1)SV1(4)	This command was introduced.

## Usage Guidelines

**Examples** This example shows how to globally relay the VSM MAC address and vEthernet port information in DHCP packets:

```
n1000v# configure terminal
n1000v(config)# ip dhcp snooping information option
n1000v(config)#
```

This example shows how to remove global relaying of the VSM MAC address and vEthernet port information in DHCP packets:

```
n1000v# configure terminal
n1000v(config)# no ip dhcp snooping information option
n1000v(config)#
```

Related Commands	Command	Description
	<b>feature dhcp</b>	Enables the DHCP snooping feature on the device.
	<b>ip dhcp snooping trust</b>	Configures an interface as a trusted source of DHCP messages.
	<b>ip dhcp snooping vlan</b>	Enables DHCP snooping on the specified VLANs.
	<b>show ip dhcp snooping</b>	Displays general information about DHCP snooping.

# ip dhcp snooping limit rate

To configure a rate limit for DHCP packets that are received on a port, use the **ip dhcp snooping limit rate** command. To remove the rate limit for DHCP packets that are received on each port, use the **no** form of this command. To restore the default setting, use the **default** form of this command.

**ip dhcp snooping limit rate** *rate*

**no ip dhcp snooping limit rate**

**default ip dhcp snooping limit rate**

<b>Syntax Description</b>	<i>rate</i> Number of DHCP packets per second. The range is from 1 to 2048.
---------------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Interface configuration (config-if) Port profile configuration (config-port-prof)
----------------------	--

<b>Supported User Roles</b>	network-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(4)SV1(2)	This command was introduced.

**Examples**      This example shows how to limit the rate of DHCP packets to 30 pps on vEthernet interface 3:

```
n1000v# configure terminal
n1000v(config)# interface vethernet 3
n1000v(config-if)# ip dhcp snooping limit rate 30
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>feature dhcp</b>	Enables the DHCP snooping feature on the device.
	<b>ip dhcp snooping trust</b>	Configures an interface as a trusted source of DHCP messages.
	<b>ip dhcp snooping vlan</b>	Enables DHCP snooping on the specified VLANs.
	<b>show ip dhcp snooping</b>	Displays general information about DHCP snooping.

# ip dhcp snooping trust

To configure an interface as a trusted source of DHCP messages, use the **ip dhcp snooping trust** command. To configure an interface as an untrusted source of DHCP messages, use the **no** form of this command. To restore the default setting, use the **default** form of this command.

```

ip dhcp snooping trust
no ip dhcp snooping trust
default ip dhcp snooping trust

```

**Syntax Description** This command has no arguments or keywords.

**Defaults** By default, no interface is a trusted source of DHCP messages.

**Command Modes** Interface configuration (config-if)  
Port profile configuration (config-port-prof)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(2)	This command was introduced.

**Usage Guidelines** You can configure DHCP trust on the following types of interfaces:

- Layer 2 vEthernet interfaces
- Private VLAN interfaces

**Examples** This example shows how to configure an interface as a trusted source of DHCP messages:

```

n1000v# configure terminal
n1000v(config)# interface vethernet 2
n1000v(config-if)# ip dhcp snooping trust
n1000v(config-if)#

```

Related Commands	Command	Description
	<b>feature dhcp</b>	Enables the DHCP snooping feature on the device.
	<b>ip dhcp snooping</b>	Globally enables DHCP snooping on the device.
	<b>ip dhcp snooping verify mac-address</b>	Enables MAC address verification as part of DHCP snooping.

Command	Description
<b>ip dhcp snooping vlan</b>	Enables DHCP snooping on the specified VLANs.
<b>show ip dhcp snooping</b>	Displays general information about DHCP snooping.



# ip dhcp snooping verify mac-address

To enable DHCP snooping MAC address verification, use the **ip dhcp snooping verify mac-address** command. To disable MAC address verification, use the **no** form of this command.

**ip dhcp snooping verify mac-address**

**no ip dhcp snooping verify mac-address**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to enable DHCP snooping MAC address verification:

```
n1000v(config)# config t
n1000v(config)# ip dhcp snooping verify mac-address
n1000v(config)#
```

This example shows how to disable DHCP snooping MAC address verification:

```
n1000v(config)# config t
n1000v(config)# no ip dhcp snooping verify mac-address
n1000v(config)#
```

Related Commands	Command	Description
	<b>feature dhcp</b>	Enables the DHCP snooping feature on the device.
	<b>show running-config dhcp</b>	Displays the DHCP snooping configuration.
	<b>ip dhcp snooping</b>	Enables DHCP snooping globally.
	<b>ip dhcp snooping vlan</b>	Enables DHCP snooping on the VLANs specified by <i>vlan-list</i> .
	<b>clear ip dhcp snooping binding</b>	Clears dynamically added entries from the DHCP snooping binding database.

Command	Description
<b>ip dhcp snooping trust</b>	Configures the interface as a trusted interface for DHCP snooping.
<b>ip dhcp snooping limit rate</b>	Configures the DHCP limit rate.

# ip dhcp snooping vlan

To enable DHCP snooping on one or more VLANs, use the **ip dhcp snooping vlan** command. To disable DHCP snooping on one or more VLANs, use the **no** form of this command.

**ip dhcp snooping vlan** *vlan-list*

**no ip dhcp snooping vlan** *vlan-list*

## Syntax Description

<i>vlan-list</i>	Range of VLANs on which to enable DHCP snooping. The <i>vlan-list</i> argument allows you to specify a single VLAN ID, a range of VLAN IDs, or comma-separated IDs and ranges (see the “Examples” section). Valid VLAN IDs are from 1 to 4096.
------------------	--

## Defaults

By default, DHCP snooping is not enabled on any VLAN.

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin

## Command History

Release	Modification
4.0(4)SV1(2)	This command was introduced.

## Examples

This example shows how to enable DHCP snooping on VLANs 100, 200, and 250 through 252:

```
n1000v# configure terminal
n1000v(config)# ip dhcp snooping vlan 100,200,250-252
n1000v(config)#
```

## Related Commands

Command	Description
<b>feature dhcp</b>	Enables the DHCP snooping feature on the device.
<b>ip dhcp snooping</b>	Globally enables DHCP snooping on the device.
<b>ip dhcp snooping trust</b>	Configures an interface as a trusted source of DHCP messages.
<b>show ip dhcp snooping</b>	Displays general information about DHCP snooping.

# ip directed-broadcast

To enable IP directed broadcast, use the **ip directed-broadcast** command. To disable IP directed broadcast, use the **no** form of this command.

**ip directed-broadcast**

**no ip directed-broadcast**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Interface configuration (config-if)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to enable IP directed broadcast:

```
n1000v# configure terminal
n1000v(config)# interface mgmt 0
n1000v(config-if)# ip directed-broadcast
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show ip interface</b>	Displays IP interface information.

# ip dscp

To specify the IP DSCP value for the packets in the ERSPAN traffic and save it in the running configuration, use the **ip dscp** command.

```
ip dscp dscp_value
```

<b>Syntax Description</b>	<i>dscp_value</i> DSCP value, in seconds, for ERSPAN traffic packets. The value can range from 0–63.
---------------------------	--

<b>Defaults</b>	The default DSCP value is 0.
-----------------	------------------------------

<b>Command Modes</b>	CLI ERSPAN source configuration (config-erspan-src)
----------------------	---

<b>Supported User Roles</b>	network-admin
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Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

<b>Examples</b>	This example shows how to specify the DSCP value of 25 for packets in the ERSPAN traffic:
-----------------	---

```
n1000v# config t
n1000v(config)# monitor session 3 type erspa
n1000v(config-erspan-src)# ip dscp 25
n1000v(config-erspan-src)#
```

Related Commands	Command	Description
	<b>monitor session type erspan-source</b>	
<b>description</b>		For the specified ERSPAN session, adds a description and saves it in the running configuration.
<b>source</b>		Configures the sources and the direction of traffic to monitor for the specified session, and saves the information in the running configuration.
<b>filter vlan</b>		Configures the VLANs, VLAN lists, or VLAN ranges to be monitored for the specified session; and saves this information in the running configuration.
<b>destination ip</b>		Configures the IP address of the host to which the encapsulated traffic is sent and saves it in the running configuration.
<b>ip ttl</b>		Specifies the IP time-to-live value for the packets in the ERSPAN traffic, and saves it in the running configuration.

Command	Description
<b>ip prec</b>	Specifies the IP precedence value for the packets in the ERSPAN traffic, and saves it in the running configuration.
<b>mtu</b>	Specifies a maximum transmission unit (MTU) size for the ERSPAN traffic, and saves it in the running configuration.
<b>erspan-id</b>	Adds an ERSPAN ID to the session configuration and saves it in the running configuration.
<b>no shut</b>	Enables the ERSPAN session and saves it in the running configuration.
<b>show monitor session session_id</b>	Displays the ERSPAN session configuration as it exists in the running configuration.

# ip flow monitor

To enable a Flexible NetFlow flow monitor for traffic that the router is receiving or forwarding, use the **ip flow monitor** interface configuration mode command. To disable a Flexible NetFlow flow monitor, use the **no** form of this command.

```
ip flow monitor monitor-name {input | output}
```

```
no ip flow monitor monitor-name {input | output}
```

Syntax Description		
	<i>monitor-name</i>	Name of a flow monitor that you previously configured.
	<b>input</b>	Monitors traffic that the routers is receiving on the interface.
	<b>output</b>	Monitors traffic that the routers is transmitting on the interface.

**Defaults** Disabled.

**Command Modes** Interface configuration (config-if)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Usage Guidelines** You must have already created a flow monitor by using the **flow monitor** command before you can apply the flow monitor to an interface with the **ip flow monitor** command to enable traffic monitoring with Flexible NetFlow.

**Examples** The following example enables a flow monitor for monitoring input traffic:

```
n1000v(config)# interface ethernet0/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 input
```

The following example enables a flow monitor for monitoring output traffic:

```
n1000v(config)# interface ethernet0/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 output
```

The following example enables the same flow monitor on the same interface for monitoring input and output traffic:

```
n1000v(config)# interface ethernet0/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 input
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 output
```

The following example enables two different flow monitors on the same interface for monitoring input and output traffic:

```
n1000v(config)# interface ethernet0/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 input
n1000v(config-if)# ip flow monitor FLOW-MONITOR-2 output
```

The following example enables the same flow monitor on two different interfaces for monitoring input and output traffic:

```
n1000v(config)# interface ethernet0/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 input
n1000v(config)# interface ethernet1/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 output
```

The following example enables two different flow monitors on two different interfaces for monitoring input and output traffic:

```
n1000v(config)# interface ethernet0/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-1 input
n1000v(config)# interface ethernet1/0
n1000v(config-if)# ip flow monitor FLOW-MONITOR-2 output
```

#### Related Commands

Command	Description
<b>flow exporter</b>	Creates a flow exporter.
<b>flow monitor</b>	Creates a flow monitor.
<b>flow record</b>	Creates a flow record.



# ip igmp snooping (Global)

To enable IGMP snooping, use the **ip igmp snooping** command. To disable IGMP snooping, use the **no** form of this command.

**ip igmp snooping**

**no ip igmp snooping**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Usage Guidelines** If the global configuration of IGMP snooping is disabled, then all VLANs are treated as disabled, whether they are enabled or not.

**Examples** This example shows how to enable IGMP snooping:

```
n1000v(config)# ip igmp snooping
n1000v(config)#
```

This example shows how to disable IGMP snooping:

```
n1000v(config)# no ip igmp snooping
n1000v(config)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping (VLAN)

To enable IGMP snooping on a VLAN interface, use the **ip igmp snooping** command. To disable IGMP snooping on the interface, use the **no** form of this command.

**ip igmp snooping**

**no ip igmp snooping**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Usage Guidelines** If the global configuration of IGMP snooping is disabled, then all VLANs are treated as disabled, whether they are enabled or not.

**Examples** This example shows how to enable IGMP snooping on a VLAN interface:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping
n1000v(config-vlan)#
```

This example shows how to disable IGMP snooping on a VLAN interface:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping explicit-tracking

To enable tracking of IGMPv3 membership reports from individual hosts for each port on a per-VLAN basis, use the **ip igmp snooping explicit-tracking** command. To disable tracking, use the **no** form of this command.

**ip igmp snooping explicit-tracking**

**no ip igmp snooping explicit-tracking**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to enable tracking of IGMPv3 membership reports on a VLAN interface:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping explicit-tracking
n1000v(config-vlan)#
```

This example shows how to disable IGMP snooping on a VLAN interface:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping explicit-tracking
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping fast-leave

To enable support of IGMPv2 hosts that cannot be explicitly tracked because of the host report suppression mechanism of the IGMPv2 protocol, use the **ip igmp snooping fast-leave** command. To disable support of IGMPv2 hosts, use the **no** form of this command.

**ip igmp snooping fast-leave**

**no ip igmp snooping fast-leave**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** VLAN configuration (config-vlan)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Usage Guidelines** When you enable fast leave, the IGMP software assumes that no more than one host is present on each VLAN port.

**Examples** This example shows how to enable support of IGMPv2 hosts:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping fast-leave
n1000v(config-vlan)#
```

This example shows how to disable support of IGMPv2 hosts:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping fast-leave
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping last-member-query-interval

To configure a query interval in which the software removes a group, use the **ip igmp snooping last-member-query-interval** command. To reset the query interval to the default, use the **no** form of this command.

**ip igmp snooping last-member-query-interval** *interval*

**no ip igmp snooping last-member-query-interval** [*interval*]

Syntax Description	<i>interval</i>	Query interval in seconds. The range is from 1 to 25. The default is 1.
--------------------	-----------------	---

Defaults	The query interval is 1.
----------	--------------------------

Command Modes	VLAN configuration (config-vlan)
---------------	----------------------------------

SupportedUserRoles	network-admin
--------------------	---------------

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

Examples	This example shows how to configure a query interval in which the software removes a group:
----------	---

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping last-member-query-interval 3
n1000v(config-vlan)#
```

This example shows how to reset a query interval to the default:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping last-member-query-interval
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping link-local-groups-suppression (VLAN)

To suppress snooping on link-local group IPs, use the **ip igmp snooping link-local-groups-suppression** command. To allow unlimited snooping, use the no form of this command.

**ip igmp snooping link-local-groups-suppression**

**no ip igmp snooping link-local-groups-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.2(1) SV1(4)	This command was introduced.

**Usage Guidelines** You can apply link-local groups suppression to all interfaces in the VSM by entering this command in global configuration mode.

**Examples** This example shows how to limit IGMP traffic sent from VLAN2:

```
n1000v# config t
n1000v(config)# vlan vlan2
n1000v(config-vlan)# ip igmp snooping link-local-groups-suppression
```

This example shows how to resume IGMP traffic sent from VLAN2:

```
n1000v# config t
n1000v(config)# vlan vlan2
n1000v(config-vlan)# no ip igmp snooping link-local-groups-suppression
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.
	<b>ip igmp snooping</b>	Enables IGMP snooping on a VLAN.

# ip igmp snooping link-local-groups-suppression (Global)

To suppress snooping on link-local group IPs, use the **ip igmp snooping link-local-groups-suppression** command. To allow unlimited snooping, use the no form of this command.

**ip igmp snooping link-local-groups-suppression**

**no ip igmp snooping link-local-groups-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.2(1) SV1(4)	This command was introduced.

**Usage Guidelines** You can apply link-local groups suppression to a single VLAN by entering this command in VLAN configuration mode.

**Examples** This example shows how to limit IGMP traffic sent from all interfaces in the VSM:

```
n1000v# config t
n1000v(config)# ip igmp snooping link-local-groups-suppression
n1000v(config)#
```

This example shows how to resume sending unlimited IGMP traffic from all interfaces in the VSM:

```
n1000v# config t
n1000v(config)# no ip igmp snooping link-local-groups-suppression
n1000v(config)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.
	<b>ip igmp snooping</b>	Enables IGMP snooping on a VLAN.

# ip igmp snooping mrouter interface

To configure a static connection to a multicast router, use the **ip igmp snooping mrouter interface** command. To remove the static connection, use the **no** form of this command.

**ip igmp snooping mrouter interface** *if-type if-number*

**no ip igmp snooping mrouter interface** *if-type if-number*

Syntax Description		
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** VLAN configuration (config-vlan)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Usage Guidelines** The interface to the router must be in the selected VLAN.

**Examples** This example shows how to configure a static connection to a multicast router:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping mrouter interface ethernet 2/1
n1000v(config-vlan)#
```

This example shows how to remove a static connection to a multicast router:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping mrouter interface ethernet 2/1
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.



## ip igmp snooping report-suppression (Global)

To configure IGMPv1 or GMPv2 report suppression for VLANs, use the **ip igmp snooping report-suppression** command. To remove IGMPv1 or GMPv2 report suppression, use the **no** form of this command.

**ip igmp snooping report-suppression**

**no ip igmp snooping report-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to configure IGMPv1 or GMPv2 report suppression for VLANs:

```
n1000v(config)# ip igmp snooping report-suppression
```

This example shows how to remove IGMPv1 or GMPv2 report suppression:

```
n1000v(config)# no ip igmp snooping report-suppression
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

## ip igmp snooping report-suppression (VLAN)

To configure IGMPv1 or GMPv2 report suppression for VLANs, use the **ip igmp snooping report-suppression** command. To remove IGMPv1 or GMPv2 report suppression, use the **no** form of this command.

**ip igmp snooping report-suppression**

**no ip igmp snooping report-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to configure IGMPv1 or GMPv2 report suppression for VLANs:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping report-suppression
n1000v(config-vlan)#
```

This example shows how to remove IGMPv1 or GMPv2 report suppression:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping report-suppression
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping static-group

To configure a Layer 2 port of a VLAN as a static member of a multicast group, use the **ip igmp snooping static-group** command. To remove the static member, use the **no** form of this command.

```
ip igmp snooping static-group group interface if-type if-number
```

```
no ip igmp snooping static-group group interface if-type if-number
```

Syntax Description	
<i>group</i>	Group IP address.
<b>interface</b>	Specifies interface for static group.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** VLAN configuration (config-vlan)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Usage Guidelines** You can specify the interface by the type and the number, such as ethernet slot/port.

**Examples** This example shows how to configure a static member of a multicast group:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping static-group 230.0.0.1 interface ethernet 2/1
n1000v(config-vlan)#
```

This example shows how to remove a static member of a multicast group:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping static-group 230.0.0.1 interface ethernet 2/1
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

## ip igmp snooping v3-report-suppression (Global)

To configure IGMPv3 report suppression and proxy reporting, use the **ip igmp snooping v3-report-suppression** command. To remove IGMPv3 report suppression and proxy reporting, use the **no** form of this command.

**ip igmp snooping v3-report-suppression**

**no ip igmp snooping v3-report-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Global Configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to configure IGMPv3 report suppression and proxy reporting:

```
n1000v(config)# ip igmp snooping v3-report-suppression
```

This example shows how to remove IGMPv3 report suppression and proxy reporting:

```
n1000v(config)# no ip igmp snooping v3-report-suppression
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

## ip igmp snooping v3-report-suppression (VLAN)

To configure IGMPv3 report suppression and proxy reporting for VLANs, use the **ip igmp snooping v3-report-suppression** command. To remove IGMPv3 report suppression, use the **no** form of this command.

**ip igmp snooping v3-report-suppression**

**no ip igmp snooping v3-report-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** VLAN configuration (config-vlan)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to configure IGMPv3 report suppression and proxy reporting for VLANs:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# ip igmp snooping v3-report-suppression
n1000v(config-vlan)#
```

This example shows how to remove IGMPv3 report suppression and proxy reporting for VLANs:

```
n1000v(config)# vlan 1
n1000v(config-vlan)# no ip igmp snooping v3-report-suppression
n1000v(config-vlan)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip port access-group

To create an access group, use the **ip port access-group** command. To remove access control, use the **no** form of this command.

```
ip port access-group name {in | out}
```

```
no ip port access-group name {in | out}
```

## Syntax Description

<i>name</i>	Group name. The range of valid values is 1 to 64.
<b>in</b>	Specifies inbound traffic.
<b>out</b>	Specifies outbound traffic.

## Defaults

No access group exists.

## Command Modes

Port profile configuration (config-port-prof)

## Supported User Roles

network-admin

## Command History

Release	Modification
4.0(4)SV1(1)	This command was introduced.

## Usage Guidelines

You create an access group to specify in an ACL the access control of packets.

## Examples

This example shows how to create an access group:

```
n1000v# configure terminal
n1000v(config)# port-profile 1
n1000v(config-port-prof)# ip port access-group group1 in
n1000v(config-port-prof)#
```

## Related Commands

Command	Description
<b>show access-lists</b>	Displays access lists.
<b>show port-profile</b>	Displays port profile information.

# ip prec

To specify the IP precedence value for the packets in the ERSPAN traffic and save it in the running configuration, use the **ip prec** command.

**ip prec** *precedence\_value*

<b>Syntax Description</b>	<i>precedence_value</i> IP precedence value for the ERSPAN traffic packets. The range is 0–7.
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<b>Defaults</b>	None
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<b>Command Modes</b>	CLI ERSPAN source configuration (config-monitor-erspan-src)
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<b>Supported User Roles</b>	network-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to specify the IP precedence value as 1 for the packets in the ERSPAN traffic and save it in the running configuration:

```
n1000v# config t
n1000v(config)# monitor session 3 type erspa
n1000v(config-erspan-src)# destination ip 10.54.54.1
n1000v(config-monitor-erspan-src)# ip prec 1
n1000v(config-monitor-erspan-src)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>monitor session type erspan-source</b>	Creates a session with the given session number and places you in the CLI ERSPAN source configuration mode.
	<b>description</b>	For the specified ERSPAN session, adds a description and saves it in the running configuration.
	<b>source</b>	Configures the sources and the direction of traffic to monitor for the specified session, and saves the information in the running configuration.
	<b>filter vlan</b>	Configures the VLANs, VLAN lists, or VLAN ranges to be monitored for the specified session; and saves this information in the running configuration.
	<b>destination ip</b>	Configures the IP address of the host to which the encapsulated traffic is sent and saves it in the running configuration.

Command	Description
<b>ip ttl</b>	Specifies the IP time-to-live value for the packets in the ERSPAN traffic, and saves it in the running configuration.
<b>ip dscp</b>	Specifies the IP DSCP value for the packets in the ERSPAN traffic, and saves it in the running configuration.
<b>mtu</b>	Specifies a maximum transmission unit (MTU) size for the ERSPAN traffic, and saves it in the running configuration.
<b>erspan-id</b>	Adds an ERSPAN ID to the session configuration and saves it in the running configuration.
<b>no shut</b>	Enables the ERSPAN session and saves it in the running configuration.
<b>show monitor session session_id</b>	Displays the ERSPAN session configuration as it exists in the running configuration.



# ip source binding

To create a static IP source entry for a Layer 2 vEthernet interface, use the **ip source binding** command. To disable the static IP source entry, use the **no** form of this command.

**ip source binding** *IP-address MAC-address vlan vlan-id interface vethernet interface-number*

**no ip source binding** *IP-address MAC-address vlan vlan-id interface vethernet interface-number*

Syntax Description		
<i>IP-address</i>		IPv4 address to be used on the specified interface. Valid entries are in dotted-decimal format.
<i>MAC-address</i>		MAC address to be used on the specified interface. Valid entries are in dotted-hexadecimal format.
<b>vlan</b> <i>vlan-id</i>		Specifies the VLAN associated with the IP source entry.
<b>interface vethernet</b> <i>interface-number</i>		Specifies the Layer 2 vEthernet interface associated with the static IP entry.

**Defaults** None

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(2)	This command was introduced.

**Usage Guidelines** By default, there are no static IP source entries.

**Examples** This example shows how to create a static IP source entry that is associated with VLAN 100 on vEthernet interface 3:

```
n1000v# configure terminal
n1000v(config)# ip source binding 10.5.22.7 001f.28bd.0013 vlan 100 interface vethernet 3
n1000v(config)#
```

Related Commands	Command	Description
	<b>show ip dhcp snooping binding</b>	Displays IP-to-MAC address bindings.

## ip source binding filter-mode [ip | ip-mac]

Use the **ip source binding** [ip | ip-mac] command to enable source IP based filtering.

**ip source binding** filter-mode [ip | ip-mac]

<b>Syntax Description</b>	<i>filter-mode</i>	Filter mode to be used on the switch. The available filter modes are <i>ip</i> and <i>ip-mac</i> . Use the <i>ip</i> filter mode to filter the traffic based on the source IP address. Use the <i>ip-mac</i> filter mode to filter the traffic based on the IP-MAC Address pair.
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<b>Defaults</b>	ip-mac
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<b>Command Modes</b>	Global configuration (config)
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<b>Supported User Roles</b>	network-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.2.1SV2(1.1)	This command was introduced to include the ip filter mode.

<b>Usage Guidelines</b>	This functionality is applicable to static bindings only. In the case of the dynamic bindings, a new MAC Address results in updating the dynamic binding on the Cisco Nexus 1000V.
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<b>Examples</b>	This example shows how to enable source-IP only filtering for IPSG/DAI:
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```
n1000v# configure terminal
n1000v(config)# ip source binding filter-mode ip
n1000v(config)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip source binding filter-mode</b>	Displays IP-to-MAC address bindings and the filter mode.
	<b>show ip arp inspection</b>	Displays IP-to-MAC address bindings and the filter mode.
	<b>show ip verify source</b>	Displays IP-to-MAC address bindings and the filter mode.

# ip source-route

To enable an IP source route, use the **ip source-route** command. To disable an IP source route, use the **no** form of this command.

**ip source-route**

**no ip source-route**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to enable an IP source route:

```
n1000v# configure terminal
n1000v(config)# ip source-route
n1000v(config)#
```

Related Commands	Command	Description
	<b>show ip static-route</b>	Displays static routes.

# ip ttl

To specify the IP time-to-live value for the packets in the Encapsulated Remote Switch Port Analyzer (ERSPAN) traffic and save it in the running configuration, use the **ip ttl** command.

**ip ttl** *ttl\_value*

Syntax Description	<i>ttl_value</i>	Time-to-live value, in seconds, from 1–255.
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Defaults	None
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Command Modes	CLI ERSPAN source configuration (config-monitor-erspan-src)
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Supported User Roles	network-admin
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Command History	Release	Modification
	4.0(4)SV1(1)	This command was introduced.

**Examples** This example shows how to specify the time-to-live value of 64 seconds for packets in the ERSPAN traffic:

```
n1000v# config t
n1000v(config)# monitor session 3 type erspa
n1000v(config-erspan-src)# destination ip 10.54.54.1
n1000v(config-monitor-erspan-src)# ip ttl 64
n1000v(config-monitor-erspan-src)#
```

Related Commands	Command	Description
	<b>monitor session type erspan-source</b>	Creates a session with the given session number and places you in the CLI ERSPAN source configuration mode.
	<b>description</b>	For the specified ERSPAN session, adds a description and saves it in the running configuration.
	<b>source</b>	Configures the sources and the direction of traffic to monitor for the specified session, and saves the information in the running configuration.
	<b>filter vlan</b>	Configures the VLANs, VLAN lists, or VLAN ranges to be monitored for the specified session; and saves this information in the running configuration.
	<b>destination ip</b>	Configures the IP address of the host to which the encapsulated traffic is sent and saves it in the running configuration.

<b>Command</b>	<b>Description</b>
<b>ip prec</b>	Specifies the IP precedence value for the packets in the ERSPAN traffic, and saves it in the running configuration.
<b>ip dscp</b>	Specifies the IP DSCP value for the packets in the ERSPAN traffic, and saves it in the running configuration.
<b>mtu</b>	Specifies a maximum transmission unit (MTU) size for the ERSPAN traffic, and saves it in the running configuration.
<b>erspan-id</b>	Adds an ERSPAN ID to the session configuration and saves it in the running configuration.
<b>no shut</b>	Enables the ERSPAN session and saves it in the running configuration.
<b>show monitor session session_id</b>	Displays the ERSPAN session configuration as it exists in the running configuration.

# ip verify source dhcp-snooping-vlan

To enable IP Source Guard on a Layer 2 vEthernet interface, use the **ip verify source dhcp-snooping-vlan** command. To disable IP Source Guard on an interface, use the **no** form of this command. To restore the default setting, use the **default** form of this command.

**ip verify source dhcp-snooping-vlan**

**no ip verify source dhcp-snooping-vlan**

**default ip verify source dhcp-snooping-vlan**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Interface configuration (config-if)  
Port profile configuration (config-port-prof)

**Supported User Roles** network-admin

Command History	Release	Modification
	4.0(4)SV1(2)	This command was introduced.

**Usage Guidelines** By default, IP Source Guard is not enabled on any interface.

**Examples** This example shows how to enable IP Source Guard on an interface:

```
n1000v# configure terminal
n1000v(config)# interface vethernet 2
n1000v(config-if)# ip verify source dhcp-snooping-vlan
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>ip source binding</b>	Creates a static IP source entry for the specified vEthernet interface.
	<b>show ip verify source</b>	Displays IP-to-MAC address bindings.

# ipv6 access-list

To create an access list, use the **ipv6 access-list** command. To remove an access list, use the **no** form of this command.

```
ipv6 access-list {name | match-local-traffic}
```

```
no ipv6 access-list {name | match-local-traffic}
```

## Syntax Description

<i>name</i>	List name.
<b>match-local-traffic</b>	Enables access list matching for locally generated traffic.

## Defaults

No access list exists.

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin

## Command History

Release	Modification
5.2(1)SV3(1.1)	This command was introduced.

## Examples

This example shows how to create an access list:

```
n1000v# configure terminal
n1000v(config)# ipv6 access-list ac11
n1000v(config)#
```

Command	Description
<b>show access-lists</b>	Displays access lists.

# ipv6 port traffic-filter

To create an access group, use the **ipv6 port traffic-filter** command. To remove access control, use the **no** form of this command.

```
ipv6 port traffic-filter name {in | out}
```

```
no ipv6 port traffic-filter name {in | out}
```

Syntax Description	
<i>name</i>	Group name. The range of valid values is 1 to 64.
<b>in</b>	Specifies inbound traffic.
<b>out</b>	Specifies outbound traffic.

**Defaults** No traffic-filter exists.

**Command Modes** Port profile configuration (config-port-prof) or in Veth or in Eth interfaces

**SupportedUserRoles** network-admin

Command History	Release	Modification
	5.2(1)SV3(1.1)	This command was introduced.

**Usage Guidelines** You create a traffic filter to specify in an IPv6 ACL the access control of packets.

**Examples** This example shows how to create a traffic filter:

```
n1000v# configure terminal
n1000v(config)# port-profile 1
n1000v(config-port-prof)# ipv6 port traffic-filter group1 in
n1000v(config-port-prof)#
```

Related Commands	Command	Description
	<b>show access-lists</b>	Displays access lists.
	<b>show port-profile</b>	Displays port profile information.



# ipv6 traffic-filter

To create an IPv6 traffic-filter for mgmt0 interface, use the **ipv6 traffic-filter** command. To remove the traffic-filter, use the **no** form of this command.

```
ipv6 traffic-filter name { in | out }
```

```
no ipv6 traffic-filter name { in | out }
```

Syntax Description	<i>name</i>	Group name. The range of valid values is 1 to 64.
	<b>in</b>	Specify incoming (ingress) traffic direction.
	<b>out</b>	Specify outgoing (egress) traffic direction.

**Defaults** None.

**Command Modes** Interface configuration (config-if)

**SupportedUserRoles** network-admin

Command History	Release	Modification
	5.2(1)SV3(1.1)	This command was introduced.

**Usage Guidelines** None.

**Examples** This example shows how to configure an IPv6 traffic filter named Telnet for incoming traffic to the mgmt0 interface:

```
n1000v# config t
n1000v(config)# interface mgmt0
n1000v(config-if)# ipv6 traffic-filter telnet in
n1000v(config-if)#
```

Related Commands	Command	Description
	<b>show ipv6 access-lists</b>	Displays the IPv6 ACL configuration.

