IP Addressing Commands

ip address

To define an IP address for an interface, use the **ip address** command in interface switch configuration mode. Use the **no** form of this command to remove an IP address definition.

ip address *ip-address mask*
no ip address

Syntax Description

ip-address	Specifies the IP address.
mask	Specifies the network mask of the IP address.

Command Default

No IP address is defined for interfaces.

Command Modes

Interface (VLAN) switch configuration (config-switch-if)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

Use the **ip address** command to define a static IP address on an interface.

Defining a static IP address on an interface stops the DHCP client running on the interface and removes the IP address assigned by the DHCP client.

There is no default IP address assigned to default VLAN.

Example

The following example configures VLAN 20 with the IP address 209.165.201.2 and the subnet mask 255.255.255.0.

```
nfvis(config)# switch
nfvis(config-switch)# interface vlan 20
nfvis(config-switch-if)# ip address 209.165.201.2 255.255.255.0
nfvis(config-switch-if)# commit
nfvis(config-switch-if)# end
```

ip address dhcp

To acquire the IP address for an Ethernet interface from the Dynamic Host Configuration Protocol (DHCP) server, use the **ip address dhcp** command in interface configuration mode. To release the acquired IP address, use the **no** form of this command.

ip address dhcp
no ip address dhcp

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface (VLAN) switch configuration (config-switch-if)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

This command enables the DHCP client on the interface and removes all manually-configured addresses on the interface. The **no** form of this command disables the DHCP client on the interface. The default route (Default Gateway) received in DHCP Router option (Option 3) is assigned a metric of 8.

Example

The following example acquires an IP address for VLAN 100 from DHCP.

```
nfvis(config-switch)# interface vlan 100
nfvis(config-switch-if)# ip address dhcp
nfvis(config-switch-if)# commit
nfvis(config-switch-if)# end
```

switch renew dhcp

To renew the IP address that was acquired from a DHCP server for a specific interface, use the **switch renew dhcp** command in privileged EXEC mode.

switch renew dhcp vlan *vlan-id*

Syntax Description

vlan *vlan-id*	Specifies the VLAN ID.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.7.1	This command was introduced.

Usage Guidelines

This command does not enable the DHCP client on an interface. If the DHCP client is not enabled on the specified interface, this command returns an error message. To enable the DHCP client on an interface, use the **ip address dhcp** command.

Example

The following example renews an IP address on VLAN 19 that was acquired from a DHCP server:

```
nfvis# switch renew dhcp vlan 19
```

ip default-gateway

To define a default gateway (device), use the **ip default-gateway** command in switch configuration mode. To delete the default gateway, use the **no** form of this command.

ip default-gateway *ip-address*
no ip default-gateway

Syntax Description

ip-address	Specifies the IP address for the default gateway.

Command Default

No default gateway is defined.

Command Modes

Switch configuration (config-switch)

Command History

Release	Modification
3.5.1	This command was introduced.

Usage Guidelines

None

Example

The following example defines the default gateway 209.165.201.1.

```
nfvis(config-switch)# ip default-gateway 209.165.201.1
nfvis(config-switch)# commit
nfvis(config-switch)# end
```

show switch ip interface

To display the usability status of configured IP interfaces, use the **show switch ip interface** command in privileged EXEC mode.

show switch ip interface

Syntax Description

This command has no arguments.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.6.1	This command was introduced.

Example

The following is a sample output of the **show switch ip interface** command:

```
nfvis# show switch ip interface
                IF      ADMIN   OPER
IP ADDRESS      NAME    STATUS  STATUS  TYPE
-----------------------------------------------
172.25.213.10   VLAN2   Up      Up      Static
```

arp

To add a permanent entry to the Address Resolution Protocol (ARP) cache, use the **arp** command in switch configuration mode. To remove an entry from the ARP cache, use the **no** form of this command.

arp *ip-address* **vlan** *vlan-id* *mac-address*
no arp *ip-address*

Syntax Description

ip-address	Specifies the IP address or IP alias to map to the specified MAC address.
vlan *vlan-id*	Specifies the VLAN ID. You can enter a value from one of the following ranges: • 1 to 2349 • 2450 to 4093
mac-address	Specifies the MAC address to map to the specified IP address or IP alias.

Command Default

None

Command Modes

Switch configuration (config-switch)

Command History

Release	Modification
3.6.1	This command was introduced.

Usage Guidelines

The software uses ARP cache entries to translate 32-bit IP addresses into 48-bit hardware (MAC) addresses. Because most hosts support dynamic address resolution, static ARP cache entries generally do not need to be specified.

Example

The following example adds IP address 198.133.219.232 and MAC address 00:00:0c:40:0f:bc to the ARP table:

```
nfvis(config-switch)# arp 198.133.219.232 vlan 100 00:00:0c:40:0f:bc
nfvis(config-switch)# commit
nfvis(config-switch)# end
```

arp timeout

To set the time interval during which an entry remains in the ARP cache, use the **arp timeout** command in switch configuration mode. To restore the default configuration, use the **no** form of this command.

arp timeout *seconds*
no arp timeout

Syntax Description

seconds	Specifies the time interval (in seconds) during which an entry remains in the ARP cache. Valid range is from 1to 40000000.

Command Default

The default ARP timeout is 60000 seconds, if IP Routing is enabled, and 300 seconds if IP Routing is disabled.

Command Modes

Switch configuration (config-switch)

Command History

Release	Modification
3.6.1	This command was introduced.

Usage Guidelines

None

Example

The following example configures the ARP timeout to 12000 seconds:

```
nfvis(config-switch)# arp timeout 12000
nfvis(config-switch)# commit
nfvis(config-switch)# end
```

switch clear arp-cache

To delete all dynamic entries from the ARP cache, use the **switch clear arp-cache** command in privileged EXEC mode.

switch clear arp-cache

Syntax Description

This command has no arguments.

Command Default

None

Command Modes

Privileged EXEC (#).

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following example deletes all dynamic entries from the ARP cache:

```
nfvis# switch clear arp-cache
```

show switch arp table

To display entries in the Address Resolution Protocol (ARP) table, use the **show switch arp table** command in privileged EXEC mode.

show switch arp table

Syntax Description

This command does not have any arguments.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
3.5.1	This command was introduced.

Example

The following is a sample output of the **show switch arp table** command:

```
nfvis# show switch arp table
IP ADDR      VLAN      INTERFACE  HW ADDRESS         STATUS
-------------------------------------------------------------
192.0.2.4  VLAN2363  te1/2      00:50:22:00:2A:A4  dynamic
192.0.2.5  VLAN2364  te1/0      00:a6:ca:d6:30:c3  dynamic
192.0.2.6  VLAN2365  te1/1      00:50:22:00:2A:A5  dynamic
```