

I Commands

This chapter describes the Cisco NX-OS Layer 3 interfaces commands that begin with I.

ip address

To set a primary or secondary IP address for an interface, use the **ip address** command. To remove an IP address or disable IP processing, use the **no** form of this command.

ip address ip-address mask [secondary]

no ip address ip-address mask [secondary]

Syntax Description	ip-address	IPv4 address in the format A.B.C.D or A.B.C.D/length.	
	mask	Mask for the associated IP subnet.	
	secondary	(Optional) Specifies that the configured address is a secondary IP address. If this keyword is omitted, the configured address is the primary IP address.	
Command Default	No IP address is de	efined for the interface.	
Command Modes	Interface configura Subinterface config		
Command History	Release	Modification	
	5.2(1)N1(1)	This command was introduced.	
	An interface can have one primary IP address and one secondary IP address.		
	You can disable IP processing on a particular interface by removing its IP address with the no ip address command.		
•	treated like primary with secondary sou	dary keyword allows you to specify a secondary IP address. Secondary addresses are y addresses, except the system never generates datagrams other than routing updates are addresses. IP broadcasts and Address Resolution Protocol (ARP) requests are erface routes in the IP routing table.	
Note	•	ing using the Open Shortest Path First (OSPF) algorithm, ensure that the secondary face fall into the same OSPF area as the primary addresses.	
Examples	-	vs how to configure the IP address 192.168.0.27 as the primary address and secondary address for Ethernet interface 1/5:	

```
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# ip address 192.168.0.27 255.255.255.0
switch(config-if)# ip address 192.168.0.5 255.255.255.0 secondary
switch(config-if)#
```

Related Commands

Command	Description
copy running-config startup-config	Saves the configuration change to the startup configuration file.
no switchport	Enables an interface for Layer 3 configuration.
show ip interface	Displays interfaces configured for IPv4.

ip arp

To configure a static Address Resolution Protocol (ARP) entry, use the **ip arp** command. To remove a static ARP entry, use the **no** form of this command.

ip arp *ip-address mac-address*

no ip arp ip-address

ip-address	IPv4 address, in A.B.C.D format.	
mac-address	MAC address in one of the following formats:	
	• E.E.E	
	• EE-EE-EE-EE-EE	
	• EE:EE:EE:EE:EE	
	• EEEE.EEEE	
None		
Release	Modification	
5.2(1)N1(1)	This command was introduced.	
This example shows how to configure a static ARP entry on interface Ethernet 1/2:		
switch(config)# interface ethernet 1/2		
<pre>switch(config-if)# no switchport</pre>		
<pre>switch(config-if)# ip arp 192.0.2.1 0150.5a03.efab switch(config-if)#</pre>		
This example shows how to configure a static ARP entry on a subinterface:		
<pre>switch(config)# interface ethernet 1/5</pre>		
switch(config-i	<pre>interface ethernet 1/5 f) # no switchport f) # interface ethernet 1/1.1</pre>	
switch(config-i switch(config-i switch(config-s	f)# no switchport f)# interface ethernet 1/1.1 ubif)# ip arp 192.0.2.1 0150.5a03.efab	
switch(config-i switch(config-i	f)# no switchport f)# interface ethernet 1/1.1 ubif)# ip arp 192.0.2.1 0150.5a03.efab	
switch(config-i switch(config-i switch(config-s	f)# no switchport f)# interface ethernet 1/1.1 ubif)# ip arp 192.0.2.1 0150.5a03.efab	
	mac-address mac-address None Release 5.2(1)N1(1) Use this comman This example sho switch(config-i switch(config-i switch(config-i switch(config-i switch(config-i	

ip arp gratuitous

To enable gratuitous Address Resolution Protocol (ARP), use the **ip arp gratuitous** command. To disable gratuitous ARP, use the **no** form of this command.

ip arp gratuitous {request | update}

no ip arp gratuitous {request | update}

Syntax Description	request	Enables sending gratuitous ARP requests when a duplicate address is detected.	
	update	Enables ARP cache updates for gratuitous ARP.	
Command Default	Enabled		
ommand Modes	Interface configu	iration mode	
Command History	Release	Modification	
	5.2(1)N1(1)	This command was introduced.	
Examples	This example shows how to disable gratuitous ARP request on interface Ethernet 2/1:		
	switch(config)#	<pre>interface ethernet 1/2 if)# no gwitghowt</pre>	
	switch(config-i switch(config-i switch(config-i	f)# ip arp gratuitous	
Related Commands	switch(config-i	if)# ip arp gratuitous if)#	
Related Commands	switch(config-i switch(config-i	f)# ip arp gratuitous	

ip arp timeout

To configure an Address Resolution Protocol (ARP) timeout, use the **ip arp timeout** command. To revert to the default value, use the **no** form of this command.

ip arp timeout *timeout-value*

no ip arp timeout

Syntax Description	timeout-value	Time (in seconds) that an entry remains in the ARP cache. Valid values are from 60 to 28800, and the default is 1500.	
Command Modes	Global configuration mo	ode	
Command History	Release	Modification	
	5.0(2)N1(1)	This command was introduced.	
Examples	This example shows how to configure the ARP timeout value to 120 seconds: switch(config)# ip arp timeout 120 switch(config)#		
	This example shows how to revert to the default ARP timeout value of 1500 seconds:		
	<pre>switch(config)# no ip switch(config)#</pre>	arp timeout	
Related Commands	Command	Description	
	show running-config arp all	Displays the ARP configuration, including the default configurations.	

ip directed-broadcast

To enable the translation of a directed broadcast to physical broadcasts, use the **ip directed-broadcast** command. To disable this function, use the **no** form of this command.

ip directed-broadcast

no ip directed-broadcast

Syntax Description	This command has no arguments or keywords.		
Command Default	Disabled; all IP directed broadcasts are dropped.		
Command Modes	Interface configu Subinterface conf		
Command History	Release	Modification	
	5.2(1)N1(1)	This command was introduced.	
Usage Guidelines	 An IP directed broadcast is an IP packet whose destination address is a valid broadcast address for some IP subnet but which originates from a node that is not itself part of that destination subnet. A device that is not directly connected to its destination subnet forwards an IP directed broadcast in the same way it would forward unicast IP packets destined to a host on that subnet. When a directed broadcast packet reaches a device that is directly connected to its destination subnet, that packet is broadcast on the destination subnet. The destination address in the IP header of the packet is rewritten to the configured IP broadcast address for the subnet, and the packet is sent as a link-layer broadcast. If directed broadcast is enabled for an interface, incoming IP packets whose addresses identify them as directed broadcasts intended for the subnet to which that interface is attached are broadcast on that subnet. If the no ip directed-broadcast command has been configured for an interface, directed broadcasts destined for the subnet to which that interface is attached are dropped, rather than being broadcast. 		
Note	broadcasts, have directed-broadc	broadcasts, and particularly Internet Control Message Protocol (ICMP) directed been abused by malicious persons, we recommend that you disable the ip ast command on any interface where directed broadcasts are not needed. We also you use access lists to limit the number of broadcast packets.	
Examples	switch(config)#	we how to enable forwarding of IP directed broadcasts on Ethernet interface 2/1: interface ethernet 2/1 f) # no switchport	

switch(config-if)# ip directed-broadcast
switch(config-if)#

Related Commands	Command	Description
	show ip interface	Displays IP information for an interface.

interface ethernet (Layer 3)

To configure a Layer 3 Ethernet IEEE 802.3 routed interface, use the interface ethernet command.

interface ethernet [chassis_ID/] slot/[QSFP-module/]port[.subintf-port-no]

Syntax Description	chassis_ID	(Optional) Specifies the Fabric Extender chassis ID. The chassis ID is from 100 to 199.
		Note This argument is not optional when addressing the host interfaces of a Cisco Nexus 2000 Series Fabric Extender.
	slot	Slot from 1 to 4. The following list defines the slots available:
		• Slot 1 includes all the fixed ports. A Fabric Extender only has one slot.
		• Slots 2 to 4 include the ports on the Generic Expansion Module (if populated).
	QSFP-module	The QSFP-module number is from 1 to 4.
		Note The <i>QSFP-module</i> number applies only to the QSFP+ Generic Expansion Module (GEM).
	port	Port number within a particular slot. The port number is from 1 to 128.
	•	(Optional) Specifies the subinterface separator.
	subintf-port-no	(Optional) Port number for the subinterface. The range is from 1 to 48.
Command Modes	Global configuration Interface configuratio	
Command History	6.0(2)N1(2)	Support for the QSFP+ GEM was added.
	5.2(1)N1(1)	This command was introduced.
Usage Guidelines		witchport command in the interface configuration mode to configure the interface erface. When you configure the interface as a Layer 3 interface, all Layer 2 specific interface are deleted.
	_	ommand to convert a Layer 3 interface into a Layer 2 interface. When you configure er 2 interface, all Layer 3 specific configurations on this interface are deleted.

switch(config-if)# ip address 10.1.1.1/24
switch(config-if)#

This example shows how to enter configuration mode for a host interface on a Fabric Extender:

```
switch(config)# interface ethernet 101/1/1
switch(config-if)# no switchport
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)#
```

This example shows how to configure a Layer 3 subinterface for Ethernet interface 1/5 in the global configuration mode:

```
switch(config)# interface ethernet 1/5.2
switch(config-if)# no switchport
switch(config-subif)# ip address 10.1.1.1/24
switch(config-subif)#
```

This example shows how to configure a Layer 3 subinterface in interface configuration mode:

```
switch(config)# interface ethernet 1/5
switch(config-if)# interface ethernet 1/5.1
switch(config-if)# no switchport
switch(config-subif)# ip address 10.1.1.1/24
switch(config-subif)#
```

This example shows how to convert a Layer 3 interface to a Layer 2 interface:

```
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)# switchport
switch(config-if)#
```

Related Commands	Command	Description
	bandwidth	Sets the bandwidth parameters for an interface.
	delay	Configures the interface throughput delay value.
	encapsulation	Sets the encapsulation type for an interface.
	ip address	Sets a primary or secondary IP address for an interface.
	inherit	Assigns a port profile to an interface.
	interface vethernet	Configures a virtual Ethernet interface.
	no switchport	Configures an interface as a Layer 3 interface.
	service-policy	Configures a service policy for an interface.
	show fex	Displays all configured Fabric Extender chassis connected to the switch.
	show interface ethernet	Displays various parameters of an Ethernet IEEE 802.3 interface.

ip local-proxy-arp

To enable the local proxy Address Resolution Protocol (ARP) feature, use the **ip local-proxy-arp** command. To disable this feature, use the **no** form of this command.

ip local-proxy-arp

no ip local-proxy-arp

Syntax Description	This command has no arguments or keywords.
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Command Default Disabled

Command Modes Interface configuration mode Subinterface configuration mode

Command HistoryReleaseModification5.2(1)N1(1)This command was introduced.

Usage Guidelines Before the local proxy ARP feature can be used, you must enable the IP proxy ARP feature by using the **ip proxy-arp** command. The IP proxy ARP feature is disabled by default.

Note

This command is not applicable to Layer 3 loopback interfaces.

Examples This example shows how to enable the local proxy ARP:

switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# ip arp local-proxy-arp
switch(config-if)#

Related Commands	Command	Description
	copy running-config startup-config	Saves the configuration to the startup configuration file.
	ip proxy-arp	Enables proxy ARP on an interface.
	show ip arp	Displays ARP configuration information.

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interface loopback

To create a loopback interface and enter interface configuration mode, 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	number	Interface number; valid values are from 0 to 1023.	
Command Default	None		
Command Modes	Global configuration	on mode	
Command History	Release	Modification	
	5.2(1)N1(1)	This command was introduced.	
Usage Guidelines	Use the interface I	oopback command to create or modify loopback interfaces.	
	From the loopback interface configuration mode, the following parameters are available:		
	• description —Provides a description of the purpose of the interface.		
	• ip —Configures IP features, such as the IP address for the interface, Address Resolution Protocol (ARP) attributes, load balancing, Unicast Reverse Path Forwarding (RPF) or IP Source Guard.		
	• logging—Configure logging of events.		
	• shutdown —Shut down traffic on the interface.		
	This command doe	es not require a license.	
Examples	This example show	vs how to create a loopback interface:	
		interface loopback 50)# ip address 10.1.1.1/24)#	
Related Commands	Command	Description	
	show interface loopback	Displays information about the traffic on the specified loopback interface.	

interface port-channel

To create an EtherChannel interface and enter interface configuration mode, use the **interface port-channel** command. To remove an EtherChannel interface, use the **no** form of this command.

interface port-channel channel-number[.subintf-channel-no]

no interface port-channel *channel-number*[.*subintf-channel-no*]

range is from 1 to 4096. . (Optional) Specifies the subinterface separator. Note Applies to Layer 3 interfaces. subintf-channel-no (Optional) Port number of the EtherChannel subinterface. The range is from 1 to 4093. Note Applies to Layer 3 interfaces. Command Default None Command Modes Global configuration mode Interface configuration mode Interface configuration mode 5.0(2)N1(1) This command was introduced. 5.2(1)N1(1) Support for Layer 3 interfaces and subinterfaces was added.				
Note Applies to Layer 3 interfaces. subintf-channel-no (Optional) Port number of the EtherChannel subinterface. The range is from 1 to 4093. Note Applies to Layer 3 interfaces. Command Default None Command Modes Global configuration mode Interface configuration mode Command History Release Modification 5.0(2)N1(1) This command was introduced. 5.2(1)N1(1) Support for Layer 3 interfaces and subinterfaces was added. Usage Guidelines A port can belong to only one channel group. When you use the interface port-channel command for Layer 2 interfaces, follow these guidelines: • If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. • If you do not assign a static MAC address on the EtherChannel 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 EtherChannel 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. You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as Layer 3 interface.	Syntax Description	channel-number		
subintf-channel-no (Optional) Port number of the EtherChannel subinterface. The range is from 1 to 4093. Note Applies to Layer 3 interfaces. Command Default None Command Modes Global configuration mode Interface configuration mode Interface configuration mode 5.0(2)N1(1) This command was introduced. 5.2(1)N1(1) Sugge Guidelines A port can belong to only one channel group. When you use the interface port-channel command for Layer 2 interfaces, follow these guidelines: If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. If you do not assign a static MAC address on the EtherChannel interface, a MAC address is automatically assigned. If you assign a static MAC 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 ext operational port added, if there is one. You must use the on switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface.		•	(Optional) Specifies the subinterface separator.	
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Command Default None Command Modes Global configuration mode Interface configuration mode Command History Release Modification 5.0(2)N1(1) This command was introduced. 5.2(1)N1(1) Support for Layer 3 interfaces and subinterfaces was added. Usage Guidelines A port can belong to only one channel group. When you use the interface port-channel command for Layer 2 interfaces, follow these guidelines: If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. If you do not assign a static MAC address on the EtherChannel interface, a MAC address is automatically assigned. The MAC address of the EtherChannel 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. You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface.		subintf-channel-no		
Command Modes Global configuration mode Command History Release Modification 5.0(2)N1(1) This command was introduced. 5.2(1)N1(1) Support for Layer 3 interfaces and subinterfaces was added. Usage Guidelines A port can belong to only one channel group. When you use the interface port-channel command for Layer 2 interfaces, follow these guidelines: If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. If you do not assign a static MAC address on the EtherChannel 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 EtherChannel 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. You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface.			Note Applies to Layer 3 interfaces.	
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5.0(2)N1(1) This command was introduced. 5.2(1)N1(1) Support for Layer 3 interfaces and subinterfaces was added. Usage Guidelines A port can belong to only one channel group. When you use the interface port-channel command for Layer 2 interfaces, follow these guidelines: • If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. • If you do not assign a static MAC address on the EtherChannel 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 EtherChannel 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. You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface.	Command Modes			
5.2(1)N1(1) Support for Layer 3 interfaces and subinterfaces was added. Usage Guidelines A port can belong to only one channel group. When you use the interface port-channel command for Layer 2 interfaces, follow these guidelines: • If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. • If you do not assign a static MAC address on the EtherChannel 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 EtherChannel 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. You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface,	Command History	Release	Modification	
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 When you use the interface port-channel command for Layer 2 interfaces, follow these guidelines: If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. If you do not assign a static MAC address on the EtherChannel 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 EtherChannel 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. You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface, and the provide the interface as a Layer 3 interface. 		5.2(1)N1(1)	Support for Layer 3 interfaces and subinterfaces was added.	
 If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface. If you do not assign a static MAC address on the EtherChannel 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 EtherChannel 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. You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface. 	Usage Guidelines			
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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.You must use the no switchport command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface,		automatically assigned. If you assign a static MAC address and then later remove it, the MAC		
EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface,		channel group. If this first-added port is removed from the channel, the MAC address comes from		
		EtherChannel interface	e as a Layer 3 interface. When you configure the interface as a Layer 3 interface,	

Examples

Use the **switchport** command to convert a Layer 3 EtherChannel interface into a Layer 2 interface. When you configure the interface as a Layer 2 interface, all Layer 3 specific configurations on this interface are deleted.

You can configure one or more subinterfaces on a port channel made from routed interfaces.

This example shows how to create an EtherChannel group interface with channel-group number 50:

switch(config)# interface port-channel 50
switch(config-if)#

This example shows how to create a Layer 3 EtherChannel group interface with channel-group number 10:

```
switch(config)# interface port-channel 10
switch(config-if)# no switchport
switch(config-if)# ip address 192.0.2.1/24
switch(config-if)#
```

This example shows how to configure a Layer 3 EtherChannel subinterface with channel-group number 1 in interface configuration mode:

```
switch(config)# interface port-channel 10
switch(config-if)# no switchport
switch(config-if)# interface port-channel 10.1
switch(config-subif)# ip address 192.0.2.2/24
switch(config-subif)#
```

This example shows how to configure a Layer 3 EtherChannel subinterface with channel-group number 20.1 in global configuration mode:

```
switch(config)# interface port-channel 20.1
switch(config-subif)# ip address 192.0.2.3/24
switch(config-subif)#
```

Related Commands	Command	Description
	encapsulation	(Layer 3 interfaces) Sets the encapsulation type for an interface.
	ip address	(Layer 3 interfaces) Sets a primary or secondary IP address for an interface.
	no switchport	(Layer 3 interfaces) Configures an interface as a Layer 3 interface.
	show interface	Displays configuration information about interfaces.
	show lacp	Displays LACP information.
	show port-channel	Displays information on the EtherChannels.
	summary	
	vtp (interface)	Enables VLAN Trunking Protocol (VTP) on an interface.

ip port-unreachable

To enable the generation of Internet Control Message Protocol (ICMP) port unreachable messages, use the **ip port-unreachable** command. To disable this function, use the **no** form of this command.

ip port-unreachable

no ip port-unreachable

Syntax Description	This command has	no arguments or keywords.
Command Default	Enabled	
Command Modes	Interface configura Subinterface config	
Command History	Release 5.2(1)N1(1)	Modification This command was introduced.
Examples	on an interface: switch# configure switch(config)# i switch(config-if)	nterface ethernet 2/1
Related Commands	Command ip unreachables	Description Sends ICMP unreachable messages.

ip proxy-arp

To enable proxy Address Resolution Protocol (ARP) on an interface, use the **ip proxy-arp** command. To disable proxy ARP on the interface, use the **no** form of this command.

ip proxy-arp

no ip proxy-arp

Syntax Description	This command has no	arguments or keywords.
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Command Default Disabled

Command ModesInterface configuration modeSubinterface configuration mode

Command History	Release	Modification
	5.2(1)N1(1)	This command was introduced.

Examples This example shows how to enable proxy ARP:

switch(config)# interface ethernet 2/1
switch(config-if)# no switchport
switch(config-if)# ip proxy-arp
switch(config-if)#

Related Commands	Command	Description
	copy running-config startup-config	Saves the configuration to the startup configuration file.
	show ip arp	Displays ARP configuration information.

ip tcp path-mtu-discovery

To enable path maximum transmission unit (MTU) discovery on an IPv4 interface, use the **ip tcp path-mtu discovery** command. To disable this feature, use the **no** form of this command.

ip tcp path-mtu discovery

no ip tcp path-mtu discovery

Syntax Description	This command has no arguments or keywords.
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Command Default Disabled

Command Modes Interface configuration mode

Command History	Release	Modification
	5.2(1)N1(1)	This command was introduced.

Examples This example shows how to enable path MTU discovery for IPv4:

switch# configure terminal switch(config)# interface ethernet 2/1 switch(config-if)# no switchport switch(config-if)# ip tcp path-mtu-discovery switch(config-if)#

Related Commands	Command	Description
	show ip arp	Displays ARP configuration information.

ip tcp synwait-time

To set a period of time the Cisco NX-OS software waits while attempting to establish a TCP connection before it times out, use the **ip tcp synwait-time** command. To restore the default time, use the **no** form of this command.

ip tcp synwait-time seconds

no ip tcp synwait-time

Syntax Description	seconds	Time, in seconds, the software waits while attempting to establish a TCP connection. It can be an integer from 5 to 300 seconds.	
Command Default	5 seconds		
Command Modes	Global configuration	on mode	
Command History	Release	Modification	
	5.1(3)N1(1)	This command was introduced.	
Examples	This example show connection for 10 s	vs how to configure the switch software to continue attempting to establish a TCP seconds:	
Examples	•	seconds:	
	<pre>switch(config)# = Setting syn time switch(config)#</pre>	ip tcp synwait-time 10 to 10 seconds	
	This example shows how to disable TCP synchronization on interfaces:		
	<pre>switch# configure terminal switch(config)# no ip tcp synwait-time switch(config)#</pre>		
Related Commands	Command	Description	
	show running-con	nfig Displays the running system configuration information.	

ip unreachables

To enable the generation of Internet Control Message Protocol (ICMP) unreachable messages, use the **ip unreachables** command. To disable this function, use the **no** form of this command.

ip unreachables

no ip unreachables

Syntax Description	This command has no ar	guments or keywords.
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Command Default Enabled

Command ModesInterface configuration modeSubinterface configuration mode

Command History	Release	Modification
	5.2(1)N1(1)	This command was introduced.

Examples This example shows how to enable the generation of ICMP unreachable messages on an interface:

switch# configure terminal switch(config)# interface ethernet 2/1 switch(config-if)# no switchport switch(config-if)# ip unreachables

Related Commands	Command	Description
	ip port-unreachable	Sends ICMP port unreachable messages.

ipv6 nd

To configure IPv6 neighbor discovery (ND), use the **ipv6 nd** command. To remove the IPv6 ND configuration, use the **no** form of this command.

- ipv6 nd {hop-limit hop-limit | managed-config-flag | mtu | ns-interval ns-interval |
 other-config-flag | prefix {A:B::C:D/LEN | default {0-4294967295 | infinite {infinite
 [no-autoconfig | no-onlink | off-link]}| no-advertise}} | ra-interval ra-interval | ra-lifetime
 ra-lifetime | reachable-time reachable-time | redirects | retrans-timer retrans-timer |
 suppress-ra [mtu]}
- no ipv6 nd {hop-limit hop-limit | managed-config-flag | mtu mtu-size | ns-interval ns-interval |
 other-config-flag | prefix {A:B::C:D/LEN | default {0-4294967295 | infinite {infinite
 [no-autoconfig | no-onlink | off-link]}| no-advertise}} | ra-interval ra-interval | ra-lifetime
 ra-lifetime | reachable-time reachable-time | redirects | retrans-timer retrans-timer |
 suppress-ra [mtu]}

yntax Description	hop-limit	Specifies the hop limit in the IPv6 header.
	hop-limit	Hop limit. The range is from 0 to 255.
	managed-config-flag	Informs hosts to use stateful address autoconfiguration to obtain address information.
	mtu	Specifies the MTU size.
	mtu-size	MTU size. The range is from 1280 to 65535.
	ns-interval	Specifies the retransmission interval between sending the neighbor-solicitation messages.
	ns-interval	Interval in milliseconds. The range is from 1000 to 3600000.
	other-config-flag	Informs hosts to use stateful autoconfiguration to obtain non-address related information.
	prefix	Specifies the IPv6 prefix to advertise in the router-advertisement message.
	A:B::C:D/LEN	Specifies the IPv6 address prefix.
	default	Specifies the prefix default parameters.
	0-4294967295	Valid value for the life time.
	infinite	Specifies the indefinite lifetime.
	no-autoconfig	(Optional) Specifies no to use the prefix for autoconfiguration.
	no-onlink	(Optional) Specifies not use the prefix for the onlink determination.
	off-link	Indicates the prefix is offlink.
	no-advertise	Specifies not to advertise the prefix.
	ra-interval	Specifies the interval between sending the router-advertisement message.
	ra-interval	Router-advertisement message interval. The range is from 4 to 1800.
	ra-lifetime	Specifies the router lifetime of a default router.
	ra-lifetime	Router-advertisement message lifetime. The range is from 4 to 1800. The value for the default router cannot be 0.
	reachable-time	Specifies the advertised time when a node considers a neighbor is up after receiving a reachability confirmation.
	reachable-time	Reachable time. The range is from 0 to 3600000.

	redirects	Enables sending ICMPv6 Redirect messages.	
	retrans-timer	Specifies the advertised time between NS messages.	
	retrans-timer	Time between messages. The range is from 0 to 4294967295.	
	suppress-ra	Disables sending router-advertisement messages.	
Defaults	hop-limit–64 mtu–1500 ns-interval–1000		
	ra-interval–600		
	reachable-time–0 retrans-timer–0		
Command Modes	Interface configurat	tion mode	
	<u></u>		
Command History	Release	Modification	
	5.2(1)U3(1)	This command was introduced.	
Usage Guidelines	This command does	s not require a license.	
Examples	This example show	s how to configure IPv6 neighbor discovery:	
	<pre>switch# configure terminal switch(config)# interface ethernet 1/5 switch(config-if)# ipv6 nd switch(config-if)# ipv6 nd reachable time 30</pre>		
	This example show	s how to remove IPv6 neighbor discovery:	
	<pre>switch(config-if) switch(config-if)</pre>	# no ipv6 nd reachable time 30 #	
Related Commands	Command	Description	
neialen communits	oommanu	บรองเป็นเกิน	

show ipv6 nd interface	Displays neighbor discovery interface information.
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