



E Commands

This chapter describes the Cisco NX-OS Multiprotocol Label Switching commands that begin with E.

echo revision

To specify the revision number of the echo packet's default values, use the **echo revision** command.

echo revision{3 | 4}

Syntax Description	3	Specifies the draft-ietf-mpls-ping-03 (Revision 2).
	4	Specifies RFC 4379 compliant (default).

Defaults	4
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Command Modes	config-mpls mode
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Supported User Roles	network-admin vdc-admin
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Command History	Release	Modification
	6.2.2	This command was introduced.

Usage Guidelines	This command requires an MPLS license.
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Examples	This example shows how to specify the revision number of the echo packet's default values:
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```
switch# configure terminal
switch (config)# mpls oam
switch(config)# echo revision 3
switch(config)#
```

Related Commands	Command	Description
	mpls oam	Enters MPLS OAM configuration mode and customizes the default behavior of echo packets.

echo vendor-extension

To send the Cisco-specific type, length, value (TLV) extension, use the **echo vendor-extension** command.

echo vendor-extension

Syntax Description	This command has no arguments or keywords.
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Defaults	None
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Command Modes	config-mpls mode
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Supported User Roles	network-admin vdc-admin
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Command History	Release	Modification
	6.2.2	This command was introduced.

Usage Guidelines	This command requires an MPLS license.
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Examples	This example shows how to send the Cisco-specific type, length, value (TLV) extensions with echo packets:
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```
switch# configure terminal
switch (config)# mpls oam
switch(config)# echo revision 3
switch(config)# echo vendor-extension
switch(config)#
```

Related Commands	Command	Description
	echo revision	Specifies the revision number of the echo packet's default values.
	mpls oam	Enters MPLS OAM configuration mode and customizes the default behavior of echo packets.

encapsulation dot1q

To configure the matching criteria for mapping dot1q frames on an ingress interface to this interface, use the **encapsulation dot1q** command.

encapsulation dot1q *vlan-id*

Syntax Description	<i>vlan-id</i>	VLAN ID. The range is from 2 to 967.
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Defaults	Deencapsulated
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Command Modes	Global configuration mode
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Supported User Roles	network-admin vdc-admin
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Command History	Release	Modification
	6.2.2	This command was introduced.

Usage Guidelines	The subinterfaces between the customer-edge (CE) and provide edge (PE) routers that are running Ethernet over MPLS (EoMPLS) must be in the same subnet. All other subinterfaces and backbone devices do not need to be in the same subnet.
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This command requires the MPLS Services license.

Examples	This example shows how to configure the matching criteria for mapping dot1q frames on an ingress interface to this interface:
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```
switch# configure terminal
switch(config)# interface ethernet 4/0/0.1
switch(config-if)# encapsulation dot1q 100
switch(config-if)#
```

Related Commands	Command	Description
	internetworking	Specifies the type of pseudowire and the type of traffic that can flow across the network
	l2vpn xconnect context	Enters Xconnect configuration mode and establishes a Layer 2 VPN (L2VPN) context for identifying the two members in a VPWS, multi segment pseudowire, or local connect service.

encapsulation mpls

To specify the Multiprotocol Label Switching (MPLS) encapsulation for a pseudowire port profile, use the **encapsulation mpls** command.

encapsulation mpls

Syntax Description	This command does not have any arguments or keywords.
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Defaults	None
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Command Modes	config-if- prof configuration mode
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SupportedUserRoles	network-admin vdc-admin
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Command History	Release	Modification
	6.2.2	This command was introduced.

Usage Guidelines	This command requires the MPLS Services license.
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Examples	This example shows how to specify the MPLS encapsulation for a pseudowire port profile:
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```
switch# configure terminal
switch(config)# port-profile type pseudowire AToM
switch(config-if-prof)# encapsulation mpls
switch(config-pseudowire-mpls)#
```

Related Commands	Command	Description
	interface pseudowire	Enters interface pseudowire configuration mode and configures a static pseudowire logical interface.
	port-profile type pseudowire	Enters interface port-profile configuration mode and configures a pseudowire port profile.
	state enabled	Enables the interface port profile.

exclude-address

To specify an IP address while configuring a traffic engineering (TE) explicit-path that TE should avoid using while calculating the label switched path (LSP), use the **exclude-address** command.

exclude-address *ip-address*

Syntax Description	<i>ip-address</i>	Link address or a node address (a node's TE router-ID).
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Defaults	None
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Command Modes	Explicit-path configuration mode
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Supported User Roles	network-admin vdc-admin
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Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines	Both primary and backup tunnel paths can be dynamic or explicit and they do not have to use the exclude-address . Because backup tunnels must avoid the protected link or node, you should use the exclude-address command.
	When using the exclude-address command to specify the path for a backup tunnel, you must exclude an interface IP address to avoid a link (for creating a next-hop [NHOP] backup tunnel), or a router ID address to avoid a node (for creating an next-next-hop [NNHOP] backup tunnel).
	This command requires the MPLS Services license.

Examples	This example shows how to specify an address to exclude while configuring an explicit-path:
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```
switch# configure terminal
switch(config)# mpls traffic-eng configuration
switch(config-te)# explicit-path name avoid-protected-link
switch(config-te-expl-path)# exclude-address 3.3.3.3
1: exclude-address 3.3.3.3
switch(config-te-expl-path)#
```

Related Commands	Command	Description
	interface tunnel-te	Configures the traffic engineering (TE) interface.

exp

To configure the EXP bits that are forwarded over the member tunnel, use the **exp** command.

exp [*list-of-exp-values*] [**default**]

Syntax Description

<i>list-of-exp-values</i>	EXP bits allowed for the interface. Enter up to eight EXP values separated by spaces. Values range from 0 to 7. The default is the EXP values that were not configured or a specific member tunnel.
default	(Optional) Specifies the default tunnel number.

Defaults

The member tunnel will forward the packets with the EXP bits that are not being forwarded by other member tunnels that are part of the same bundle.

Command Modes

cbts-member configuration mode

Supported User Roles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

You cannot configure the following traffic engineering (TE) commands on a class-based tunnel selection (CBTS) member tunnels (**auto-bw**; **autoroute**; **backup-bw**; **description**; **destination**; **fowarding-adjacency**; **inherit**; **source**).

This command requires the MPLS Services license.

Examples

This example shows how to configure the EXP bits that are forwarded over the member tunnel:

```
switch# configure terminal
switch(config)# interface tunnel-te 1
switch(config-if-te)# cbts-member tunnel-te 251
switch(config-cbts-member)# exp 5
```

Related Commands

Command	Description
interface tunnel-te	Configures the traffic engineering (TE) interface.

explicit-null

To configure an advertised explicit null label in place of an implicit null label, use the **explicit-null** command. To return to the default setting, use the **no** form of this command.

```
explicit-null [for prefix-list | to prefix-list | for prefix-list to prefix-list]

no explicit-null [for prefix-list | to prefix-list | for prefix-list to prefix-list]
```

Syntax Description	for	(Optional) Specifies the prefix list that specifies the controls on destination prefixes.
	<i>prefix-list</i>	(Optional) Prefix list.
	to	(Optional) Specifies the access list that specifies the controls on Label Distribution Protocol (LDP) peers.

Defaults	None
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Command Modes	LDP configuration mode
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Supported User Roles	network-admin
	vdc-admin

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

Usage Guidelines	This command requires the MPLS Services license.
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Examples

This example shows how to configure an explicit null label on an egress Label Switching Router (LSR), which causes that LSR to advertise the explicit null label to all adjacent MPLS routers:

```
switch(config-ldp)# explicit-null
switch(config-ldp)#
```

This example shows how to configure an explicit null label and specify the **for** keyword with a prefix list:

```
switch(config-ldp)# explicit-null for prefix-list
switch(config-ldp)#
```

This example shows how to configure an explicit null label and specify the **to** keyword with a prefix list:

```
switch(config-ldp)# explicit-null to prefix-list
switch(config-ldp)#
```


Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

explicit-path

To configure an IP explicit path to be used by tunnel-te label switched path (LSPs), or a path dynamically calculated from the TE topology database, use the **explicit-path** command. To restore the system to its default condition, use the **no** form of this command.

explicit-path {*name path-name* | *identifier number*}

no explicit-path {*name path-name* | *identifier number*}

Syntax Description

name	Specifies the explicit path by name.
<i>path-name</i>	Path name. The maximum size is 63 alphanumeric characters.
identifier	Specifies the explicit path by number.
<i>number</i>	Identifier number. The range is from 1 to 65535.

Defaults

None

Command Modes

TE configuration mode

Supported User Roles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to configure the tunnel to use a named IP explicit path or a path dynamically calculated from the TE topology database:

```
switch# configure terminal
switch(config)# mpls traffic-eng configuration
switch(config-te)# explicit-path name avoid-protected-link
switch(config-te-expl-path)#
```

Related Commands

Command	Description
mpls traffic-eng configuration	Configures the Multiprotocol Label Switching (MPLS) Traffic Engineering Protocol (MPLS-TE).