



# F Commands

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

## fast-reroute (TE interface configuration mode)

To enable an Multiprotocol Label Switching (MPLS) traffic engineering (TE) tunnel to request a backup tunnel to protect against a link or node failure, use the **fast-reroute** command. To restore the system to its default condition, use the **no** form of this command.

**fast-reroute** [bw-protect] [node-protect]

**no fast-reroute**

<b>Syntax Description</b>	<b>bw-protect</b>	(Optional) Sets the bandwidth protection desired bit so that backup bandwidth protection is requested at each hop that the label switched path (LSP) traverses.
	<b>node-protect</b>	(Optional) Sets the node protection desired bit so that node protection is requested at each hop the LSP traverses.

<b>Defaults</b>	None
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<b>Command Modes</b>	TE interface configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	This example shows how to specify bandwidth protection:
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```
switch# configure terminal
switch(config)# interface tunnel-te 1000
switch(config-if-te)# fast-reroute bw-protect
switch(config-if-te)#
```

This example shows how to specify node protection:

```
switch# configure terminal
switch(config)# interface tunnel-te 1000
switch(config-if-te)# fast-reroute node-protect
switch(config-if-te)#
```

**Related Commands**

Command	Description
<b>interface tunnel-te</b>	Configures the traffic engineering (TE) interface.

# fast-reroute backup-prot-preempt optimize-bw

To change the backup protection preemption algorithm from minimizing the number of label switched paths (LSPs) that are demoted to minimizing the amount of bandwidth that is wasted, use the **fast-reroute backup-prot-preempt** command.

## fast-reroute backup-prot-preempt optimize-bw

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

**Defaults** A minimum number of LSPs are preempted

**Command Modes** MPLS traffic engineering global 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 change the backup protection preemption algorithm from minimizing the number of LSPs that are demoted to minimizing the amount of bandwidth that is wasted:

```
switch# configure terminal
switch(config)# mpls traffic-eng configuration
switch(config-te)# fast backup-prot-preempt optimize-bw
switch(config-te)#
```

Related Commands	Command	Description
	<b>mpls traffic-eng configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Traffic Engineering protocol (MPLS-TE).

# fast-reroute timers promotion

To specify how often the router considers switched a label switching path (LSP) to a new (better) backup tunnel if additional backup bandwidth becomes available, use the **fast-reroute timers promotion** command. To restore the system to its default condition, use the **no** form of this command.

**fast-reroute timers promotion** *sec*

**no fast-reroute timers promotion**

<b>Syntax Description</b>	<i>sec</i>	(Optional) Sets the interval, in seconds, between scans to determine if an LSP should use a new, better backup tunnel. Valid values are from 0 to 604800. A value of 0 disables promotions to a better LSP.
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<b>Defaults</b>	The timer is running and is set to a frequency of every 300 seconds (5 minutes)
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<b>Command Modes</b>	TE configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	This example shows how to configure how often to scan for LSP backup promotion:
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```
switch# configure terminal
switch(config)# mpls traffic-eng configuration
switch(config-te)# fast-reroute timer promotion 10
switch(config-te)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>mpls traffic-eng configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Traffic Engineering protocol (MPLS-TE).

# feature bfd

To enable Bidirectional Forwarding Detection (BFD) on the router Multiprotocol Label Switching (MPLS) traffic engineering (TE) link and node protection, use the **feature bfd** command. To disable the system to its default condition, use the **no** form of this command.

**feature bfd**

**no feature bfd**

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

**Defaults** None

**Command Modes** Global 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 enable BFD on the device:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# feature bfd
Please disable the ICMP redirects on all interfaces
running BFD sessions using the command below

'no ip redirects '
switch(config)#
```

Related Commands	Command	Description
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# feature bgp

To enable the Border Gateway Protocol (BGP) feature, use the **feature bgp** command. To return to the default setting, use the **no** form of this command.

**feature bgp**

**no feature bgp**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	None
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<b>Command Modes</b>	Global configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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Command History	Release	Modification
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	<p>This example shows how to enable BGP:</p> <pre>switch# <b>configure terminal</b> switch(config)# <b>feature bgp</b> switch(config)#</pre>
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Related Commands	Command	Description
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# feature evc

To enable Ethernet virtual circuits (EVCs) on a Cisco NX-OS device, use the **feature evc** command. To disable EVC, use the **no** form of this command.

**feature evc**

**no feature evc**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	None
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<b>Command Modes</b>	Global configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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<b>Command History</b>	Release	Modification
	6.2.2	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	This example shows how to enable EVC on the Cisco NX-OS device:
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```
switch# configure terminal
switch(config)# feature evc
```

This example shows how to disable EVC on the Cisco NX-OS device:
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```
switch(config)# no feature evc
switch(config)#
```

<b>Related Commands</b>	Command	Description
	<b>show feature</b>	Displays the status of features on a device.



# feature isis

To enable the Intermediate System-to-Intermediate System (IS-IS) feature, use the **feature isis** command. To return to the default setting, use the **no** form of this command.

**feature isis**

**no feature isis**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	Enable
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<b>Command Modes</b>	Global configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	<p>This example shows how to enable the IS-IS feature:</p> <pre>switch(config-ldp)# <b>configure terminal</b> switch(config)# <b>feature isis</b> switch(config)#</pre>
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<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# feature mpls l3vpn

To enable the Multiprotocol Label Switching (MPLS) Layer 3 virtual private networks, use the **feature mpls l3vpn** command. To return to the default setting, use the **no** form of this command.

**feature mpls l3vpn**

**no feature mpls l3vpn**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	Per VDC
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<b>Command Modes</b>	Global configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	This example shows how to enable the MPLS Layer 3 virtual private networks:
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```
switch# configure terminal
switch(config)# install feature-set mpls
switch(config)# feature-set mpls
switch(config)# feature mpls l3vpn
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# feature mpls ldp

To enable the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) feature on the device, use the **feature mpls ldp** command. To return to the default setting, use the **no** form of this command.

**feature mpls ldp**

**no feature mpls ldp**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	Per VDC
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<b>Command Modes</b>	Global configuration mode
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<b>SupportedUserRoles</b>	network-admin vdc-admin
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Command History	Release	Modification
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	When you disable MPLS LDP on the device, no LDP commands are available. This command requires the MPLS Services license.
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<b>Examples</b>	This example shows how to enable IP over MPLS:  <pre>switch(config)# install feature-set mpls switch(config)# feature-set mpls switch(config)# feature mpls ldp LAN_ENTERPRISE_SERVICES_PKG license not installed. ldp feature will be shut down after grace period of approximately 115 day(s). switch(config)#</pre>
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Related Commands	Command	Description
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# feature mpls traffic-engineering

To enable Multiprotocol Label Switching (MPLS) traffic engineering (TE) on the device, use the **feature mpls traffic-engineering** command. To return to the default setting, use the **no** form of this command.

**feature mpls traffic-engineering**

**no feature mpls traffic-engineering**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	Per VDC
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<b>Command Modes</b>	Global configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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Command History	Release	Modification
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	<p>Unless you enable MPLS TE on the device, no TE commands are available.</p> <p>The user has to enter <b>feature</b> command to enable TE.</p> <p>This command requires the MPLS Services license.</p>
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<b>Examples</b>	<p>This example shows how to enable MPLS TE:</p> <pre>switch(config)# install feature-set mpls switch(config)# feature-set mpls switch(config)# feature mpls traffic-engineering switch(config)#</pre>
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Related Commands	Command	Description
	<b>interface tunnel-te</b>	Configures the traffic-engineering (TE) interface.

# feature mvpn

To enable the Multiprotocol Label Switching (MPLS) multicast virtual private network (MVPN) feature on the device, use the **feature mvpn** command. To return to the default setting, use the **no** form of this command.

**feature mvpn**

**no feature mvpn**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	Enabled
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<b>Command Modes</b>	Global configuration mode
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<b>SupportedUserRoles</b>	network-admin vdc-admin
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Command History	Release	Modification
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	This example shows how to enable MVPN feature on the device:  switch(config)# <b>feature mvpn</b> switch(config)#
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Related Commands	Command	Description
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# feature ospf

To enable the Open Shortest Path First (OSPF) feature, use the **feature ospf** command. To disable this feature, use the **no** form of this command.

**feature ospf**

**no feature ospf**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	Enable
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<b>Command Modes</b>	Global configuration mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	<p>This example shows how to enable information about the OSPF configuration:</p> <pre>switch(config)# <b>feature ospf</b> switch(config)#</pre>
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<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# feature-set mpls

To enable the feature set Multiprotocol Label Switching (MPLS) information, use the **feature-set mpls** command. To disable this feature, use the **no** form of this command.

**feature-set mpls**

**no feature-set mpls**

<b>Syntax Description</b>	This command has no arguments or keywords.
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<b>Defaults</b>	Per VDC
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<b>Command Modes</b>	Global configuration mode
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<b>SupportedUserRoles</b>	network-admin vdc-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.2(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the MPLS Services license.
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<b>Examples</b>	This example shows how to enable the MPLS feature set information:  switch(config)# <b>feature-set mpls</b> switch(config)#
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<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

# forwarding-adjacency

To advertise a traffic engineering (TE) tunnel as a link in an Interior Gateway Protocol (IGP) network, use the **forwarding-adjacency** command. To return to the default setting, use the **no** form of this command.

**forwarding-adjacency** [**holdtime** *value*]

**no forwarding-adjacency**

<b>Syntax Description</b>	<b>holdtime</b>	(Optional) Specifies the time, in milliseconds, that a TE tunnel waits after going down before informing the network.
	<i>value</i>	(Optional) Hold time. The range is from 0 to 4294967295.
<b>Defaults</b>	Default value is 0	
<b>Command Modes</b>	TE tunnel configuration mode	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.2(1)	This command was introduced.
<b>Usage Guidelines</b>	This command requires the MPLS Services license.	
<b>Examples</b>	<p>This example shows how to advertise the TE tunnel as a link in an IGP network:</p> <pre>switch# configure terminal switch(config)# interface tunnel-te 1 switch(config-if-te)# forwarding-adjacency holdtime 1 switch(config-if-te)#</pre>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>interface tunnel-te</b>	Configures the traffic engineering (TE) interface.



# from

To map the value from one number to another, use the **from** command.

**from** *number to number*

<b>Syntax Description</b>	<i>number</i> Map number. The range is from 0 to 63.				
<b>Defaults</b>	None				
<b>Command Modes</b>	Table map configuration mode				
<b>Supported User Roles</b>	network-admin vdc-admin				
<b>Command History</b>	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>5.2(1)</td><td>This command was introduced.</td></tr></table>	Release	Modification	5.2(1)	This command was introduced.
Release	Modification				
5.2(1)	This command was introduced.				
<b>Usage Guidelines</b>	This command requires the MPLS Services license.				
<b>Examples</b>	<p>This example shows how to map the value from one number to another (you can repeat this command up to 64 times):</p> <pre>switch# configure terminal switch(config)# table-map tablemap1 switch(config-tmap)# from 1 to 1 switch(config-tmap)# from 2 to 1 switch(config-tmap)# from 3 to 2 switch(config-tmap)# from 4 to 2 switch(config-tmap)# exit</pre>				
<b>Related Commands</b>	<table><tr><th>Command</th><th>Description</th></tr><tr><td><b>mpls ldp configuration</b></td><td>Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).</td></tr></table>	Command	Description	<b>mpls ldp configuration</b>	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).
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from