



Multiple Spanning Tree Protocol Commands

This module describes the commands used to configure multiple spanning tree protocol. For detailed information about MSTP concepts, configuration tasks, and examples, see the *L2VPN and Ethernet Services Configuration Guide for Cisco NCS 5500 Series Routers*.

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allow-legacy-bpdu

To enable MSTP to accept legacy TCN notifications and allow it to prompt a flush rather than putting the interface into an error-disabled state, use the **allow-legacy-bpdu** command in the MSTP interface configuration submode.

allow-legacy-bpdu

Syntax Description This command has no keywords or arguments.

Command Default allow-legacy-bpdu is disabled.

Command Modes MSTP interface configuration

Command History	Release	Modification
	Release 7.1.1	This command was introduced.

Usage Guidelines No specific guidelines impact the use of this command.

Task ID	Task ID	Operations
	ethernet-services	read, write

Examples

The following example shows how to enable **allow-legacy-bpdu** command:

```
Router# config
Router(config)# spanning-tree MST test
Router(config-mstp)# allow-legacy-bpdu
```

instance (MSTP)

In order to configure the multiple spanning tree instance (MSTI), use the **instance** command in MSTP configuration submode.

instance *id*

Syntax Description	<i>id</i> MSTI ID. Range is 0 to 4094.
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Command Default	None
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Command Modes	MSTP configuration
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Command History	Release	Modification
	Release 7.1.1	This command was introduced.

Usage Guidelines



Note An instance ID of 0 represents the Common Internal Spanning Tree (CIST) for the region.

Task ID	Task ID	Operations
	interface	read, write

Examples

The following example shows how to enter the MSTI configuration submode:

```
RP/0/RP0/CPU0:router(config-mstp)# instance 101
RP/0/RP0/CPU0:router(config-mstp-inst)#
```

interface (MSTP)

To enter the MSTP interface configuration submode, use the **interface** command in MSTP configuration submode.

interface *interface-type interface-path-id*

Syntax Description

interface-type Interface type. For more information, use the question mark (?) online help function.

interface-path-id Physical interface.

Note Use the **show interfaces** command to see a list of all possible interfaces currently configured on the router.

For more information about the syntax for the router, use the question mark (?) online help function.

Command Default

None

Command Modes

MSTP configuration

Command History

Release	Modification
Release 7.1.1	This command was introduced.

Usage Guidelines

A given port may only be enabled with MSTP or PVRST.

Task ID

Task ID	Operations
interface	read, write

Examples

The following example shows how to enter the MSTP interface configuration submode:

```
Router(config-mstp)# interface GigabitEthernet 0/0/0/7
```

name (MSTP)

To set the name of the MSTP region, use the **name** command in MSTP configuration submode.

name *name*

Syntax Description

name String of a maximum of 32 characters conforming to the definition of SnmpAdminString in RFC 2271.

Command Default

The MAC address of the switch, formatted as a text string using the hexadecimal representation specified in IEEE Std 802.

Command Modes

MSTP configuration

Command History

Release	Modification
Release 7.1.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
interface	read, write

Examples

The following example shows how to set the name of the MSTP region to m1:

```
RP/0/RP0/CPU0:router(config-mstp)# name m1
```

portfast

To enable PortFast feature on the port and enable BPDU guard, use the **portfast** command in MSTP interface configuration submode.

portfast [**bpduguard**]

Syntax Description	This command has no keywords or arguments.
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Command Default	PortFast is disabled.
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Command Modes	MSTP interface configuration
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Command History	Release	Modification
	Release 7.1.1	This command was introduced.

Usage Guidelines	This command enables the portfast feature (also known as edge port). When this is enabled, MSTP treats the port as an edge port, i.e., it keeps it in forwarding state and does not generate topology changes if the port goes down or comes up. It is not expected to receive MSTP BPDUs on an edge port. BPDU guard is a Cisco extension that causes the interface to be shut down using error-disable if an MSTP BPDU is received.
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Task ID	Task ID	Operations
	interface	read, write

Examples	The following example shows how to enable PortFast and BPDU guard on the port:
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```
Router(config-mstp-if)# portfast
Router(config-mstp-if)# portfast bpduguard
```

show spanning-tree mst

To display the multiple spanning tree protocol status information, use the **show spanning-tree mst** command in EXEC mode.

show spanning-tree mst *protocol-instance-identifier* [**instance** *instance-id*] [**blocked-ports** | **brief**]

Syntax Description	
<i>protocol-instance-identifier</i>	String of a maximum of 25 characters that identifies the protocol instance.
instance <i>instance-id</i>	Forward interface in rack/slot/instance/port format.
brief	Displays a summary of MST information only.
blocked-ports	Displays MST information for blocked ports only.

Command Default None

Command Modes EXEC

Command History	Release	Modification
	Release 7.1.1	This command was introduced.

Usage Guidelines No specific guidelines impact the use of this command.

Task ID	Task ID	Operations
	interface	read

Examples

The following example shows the output from the **show spanning-tree mst** command, which produces an overview of the spanning tree protocol state:

```
RP/0/RP0/CPU0:router# show spanning-tree mst a instance 0
Operating in Provider Bridge mode
MSTI 0 (CIST):

  VLANs Mapped: 1-100, 500-1000, 1017

  Root ID      Priority      4097
  Address      0004.9b78.0800
  This bridge is the root
  Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID    Priority      4097  (priority 4096 sys-id-ext 1)
  Address      0004.9b78.0800
  Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
```

show spanning-tree mst

Interface Name	Port ID Prio.Nbr	Cost	Role State	Designated Cost	Bridge ID	Port ID Prio.Nbr
GigabitEthernet0/1/2/1	128.65	20000	DSGN FWD	0	4097 0004.9b78.0800	128.65
GigabitEthernet0/1/2/2	128.66	20000	DSGN FWD	0	4097 0004.9b78.0800	128.66

...

The following example shows the output from the **show spanning-tree mst** command when the **brief** and **blocked-ports** keywords are used:

```
RP/0/RP0/CPU0:router# show spanning-tree mst a brief
```

```
MSTI 0 (CIST):
```

```
  VLAN IDs: 1-100, 500-1000, 1017
```

```
  This is the Root Bridge
```

```
MSTI 1:
```

```
  VLAN IDS: 101-499
```

```
  Root Port GigabitEthernet0/1/2/2 , Root Bridge ID 0002.9b78.0812
```

```
...
```

```
RP/0/RP0/CPU0:router# show spanning-tree mst blocked-ports
```

```
MSTI 0 (CIST):
```

Interface Name	Port ID Prio.Nbr	Cost	Role State	Designated Cost	Bridge ID	Port ID Prio.Nbr
GigabitEthernet0/0/4/4	128.196	200000	ALT BLK	0	4097 0004.9b78.0800	128.195

...

spanning-tree mst

To enter the MSTP configuration submode, use the **spanning-tree mst** command in global configuration mode.

spanning-tree mst *protocol-instance-identifier*

Syntax Description	<i>protocol-instance-identifier</i> String of a maximum of 25 characters that identifies the protocol instance.				
Command Default	None				
Command Modes	Global configuration				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Release 7.1.1</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Release 7.1.1	This command was introduced.
Release	Modification				
Release 7.1.1	This command was introduced.				

Usage Guidelines



Note In MSTP configuration, only one protocol instance can be configured at a time.

Task ID	Task ID	Operations
	interface	read, write

Examples

The following example shows how to enter the MSTP configuration submode:

```
Router(config)# spanning-tree mst m0
```

vlan-ids (MSTP)

To associate a set of VLAN IDs with the current MSTI, use the **vlan-ids** command in MSTI configuration submode.

vlan-ids *vlan-range-list*

Syntax Description	<i>vlan-range-list</i> A comma-separated list of VLAN ranges in the form a-b, c, d, e-f, g etc. Upto 3 ranges can be specified.
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Command Default	None
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Command Modes	MSTI configuration
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Command History	Release	Modification
	Release 7.1.1	This command was introduced.

Usage Guidelines	No specific guidelines impact the use of this command.
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Task ID	Task ID	Operations
	interface	read, write

Examples The following example shows how to use the vlan-id command:

```
RP/0/RP0/CPU0:router(config-mstp-inst)# vlan-ids 2-1005
```