



## Catalyst 3550 Switch Debug Commands

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This appendix describes only the Catalyst 3550-specific **debug** privileged EXEC commands. These commands are helpful in diagnosing and resolving internetworking problems and should be enabled only under the guidance of Cisco technical support staff.



### Caution

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Because debugging output is assigned high priority in the CPU process, it can render the system unusable. For this reason, use the **debug** commands only to troubleshoot specific problems or during troubleshooting sessions with Cisco technical support staff. It is best to use the **debug** commands during periods of lower network traffic and fewer users. Debugging during these periods decreases the likelihood that increased **debug** command processing overhead will affect system use.

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# debug acltcam

Use the **debug acltcam** privileged EXEC command to enable debugging of the actions of the quality of service/access control list (QoS/ACL) ternary content addressable memory (TCAM) manager software module. This module controls the allocation and updating of entries in the parts of the TCAM used for input security ACLs, output security ACLs, and QoS ACLs. Use the **no** form of this command to disable debugging.

**debug acltcam [verbose]**

**no debug acltcam [verbose]**

| <b>Syntax Description</b> | <b>verbose</b> (Optional) Display detailed debug messages.   |         |              |                       |   |
|---------------------------|--|---------|--------------|-----------------------|---|
| <b>Defaults</b>           | Debugging is disabled.   |         |              |                       |   |
| <b>Command Modes</b>      | Privileged EXEC  |         |              |                       |   |
| <b>Command History</b>    | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>12.1(4)EA1</td> <td>This command was introduced.</td> </tr> </tbody> </table>   | Release | Modification | 12.1(4)EA1            | This command was introduced.  |
| Release                   | Modification   |         |              |                       |   |
| 12.1(4)EA1                | This command was introduced.   |         |              |                       |   |
| <b>Usage Guidelines</b>   | The <b>undebug acltcam</b> command is the same as the <b>no debug acltcam</b> command.   |         |              |                       |   |
| <b>Related Commands</b>   | <table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>show debugging</b></td> <td>Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b>.</td> </tr> </tbody> </table> | Command | Description  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
| Command                   | Description  |         |              |                       |   |
| <b>show debugging</b>     | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> .  |         |              |                       |   |

# debug auto qos

Use the **debug auto qos** privileged EXEC command to enable debugging of the automatic quality of service (auto-QoS) feature. Use the **no** form of this command to disable debugging.

**debug auto qos**

**no debug auto qos**

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

**Defaults** Auto-QoS debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release      | Modification   |
|-----------------|--------------|--|
|                 | 12.1(12c)EA1 | This command was introduced.   |
|                 | 12.1(20)EA2  | The command changed from <b>debug autoqos</b> to <b>debug auto qos</b> . |

**Usage Guidelines** To display the QoS configuration that is automatically generated when auto-QoS is enabled, enable debugging before you enable auto-QoS. You enable debugging by entering the **debug auto qos** privileged EXEC command.

The **undebg auto qos** command is the same as the **no debug auto qos** command.

**Examples** This example shows how to display the QoS configuration that is automatically generated when auto-QoS is enabled:

```
Switch# debug auto qos
AutoQoS debugging is on
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# interface fastethernet0/1
Switch(config-if)# auto qos voip trust
Switch(config-if)#
4d22h:mls qos map cos-dscp 0 8 16 26 32 46 48 56
4d22h:mls qos min-reserve 5 170
4d22h:mls qos min-reserve 6 85
4d22h:mls qos min-reserve 7 51
4d22h:mls qos min-reserve 8 34
4d22h:mls qos
4d22h:interface FastEthernet0/1
4d22h: mls qos trust cos
4d22h: wrr-queue bandwidth 10 20 70 1
4d22h: wrr-queue min-reserve 1 5
4d22h: wrr-queue min-reserve 2 6
4d22h: wrr-queue min-reserve 3 7
```

## ■ debug auto qos

```

4d22h: wrr-queue min-reserve 4 8
4d22h: no wrr-queue cos-map
4d22h: wrr-queue cos-map 1 0 1
4d22h: wrr-queue cos-map 2 2 4
4d22h: wrr-queue cos-map 3 3 6 7
4d22h: wrr-queue cos-map 4 5
4d22h: priority-queue out

```

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**Related Commands**

| Command                        | Description  |
|--------------------------------|--|
| <a href="#">auto qos voip</a>  | Configure auto-QoS for voice over IP (VoIP) within a QoS domain.   |
| <a href="#">show auto qos</a>  | Displays the configuration applied and the new defaults in effect when auto-QoS is enabled.  |
| <a href="#">show debugging</a> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |

# debug backup

Use the **debug backup** privileged EXEC command to enable debugging of the Flex Links backup interface. Use the **no** form of this command to disable debugging.

**debug backup {all | errors | events}**

**no debug backup {all | errors | events}**

| Syntax Description | all           | Display all backup interface debug messages.                |
|--------------------|---------------|---|
|                    | <b>errors</b> | Display backup interface error or exception debug messages. |
|                    | <b>events</b> | Display backup interface event debug messages.              |

**Command Default** Backup interface debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 12.2(25)SEE | This command was introduced. |

**Usage Guidelines** The **undebug backup** command is the same as the **no debug backup** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug cluster

Use the **debug cluster** privileged EXEC command to enable debugging of cluster-specific events. Use the **no** form of this command to disable debugging.

```
debug cluster { discovery | events | extended | hsrp | http | ip [packet] | members | nat | neighbors
  | snmp | vqpxy }
```

```
no debug cluster { discovery | events | extended | hsrp | http | ip [packet] | members | nat |
  neighbors | snmp | vqpxy }
```

## Syntax Description

|                             |   |
|-----------------------------|---|
| <b>discovery</b>            | Display cluster discovery debug messages.                         |
| <b>events</b>               | Display cluster event debug messages.                             |
| <b>extended</b>             | Display extended discovery debug messages.                        |
| <b>hsrp</b>                 | Display the Hot Standby Router Protocol (HSRP) debug messages.    |
| <b>http</b>                 | Display HTTP debug messages.                                      |
| <b>ip</b> [ <b>packet</b> ] | Display IP or transport packet debug messages.                    |
| <b>members</b>              | Display cluster member debug messages.                            |
| <b>nat</b>                  | Display Network Address Translation (NAT) debug messages.         |
| <b>neighbors</b>            | Display cluster neighbor debug messages.                          |
| <b>snmp</b>                 | Display Simple Network Management Protocol (SNMP) debug messages. |
| <b>vqpxy</b>                | Display VLAN Query Protocol (VQP) proxy debug messages.           |

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

## Usage Guidelines

The **undebug cluster** command is the same as the **no debug cluster** command.

| Related Commands | Command                        | Description   |
|------------------|--------------------------------|---|
|                  | <b>show debugging</b>          | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                  | <b>show cluster</b>            | Displays the cluster status and a summary of the cluster to which the switch belongs.   |
|                  | <b>show cluster candidates</b> | Displays a list of candidate switches when entered on the command switch.   |
|                  | <b>show cluster members</b>    | Displays information about cluster members when executed on the command switch.   |

# debug cpu-interface

Use the **debug cpu-interface** privileged EXEC command to enable debugging of the driver for the application-specific integrated circuit (ASIC) that interfaces the CPU to the switch ASIC. Use the **no** form of this command to disable debugging.

**debug cpu-interface**

**no debug cpu-interface**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug cpu-interface** command is the same as the **no debug cpu-interface** command.

| Related Commands | Command               | Description  |
|------------------|-----------------------|--|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.system Management Commands &gt; Troubleshooting Commands</b> . |

# debug dot1x

Use the **debug dot1x** privileged EXEC command to enable debugging of the IEEE 802.1x authentication feature. Use the **no** form of this command to disable debugging.

**debug dot1x** { **all** | **errors** | **events** | **feature** | **packets** | **registry** | **state-machine** }

**no debug dot1x** { **all** | **errors** | **events** | **feature** | **packets** | **registry** | **state-machine** }

## Syntax Description

|                      |   |
|----------------------|---|
| <b>all</b>           | Display all IEEE 802.1x authentication debug messages.  |
| <b>errors</b>        | Display IEEE 802.1x error debug messages.               |
| <b>events</b>        | Display IEEE 802.1x event debug messages.               |
| <b>feature</b>       | Display IEEE 802.1x feature debug messages.             |
| <b>packets</b>       | Display IEEE 802.1x packet debug messages.              |
| <b>registry</b>      | Display IEEE 802.1x registry invocation debug messages. |
| <b>state-machine</b> | Display state-machine related-events debug messages.    |



## Note

Though visible in the command-line help strings, the **redundancy** keyword is not supported.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

| Release     | Modification   |
|-------------|--|
| 12.1(8)EA1  | This command was introduced.   |
| 12.1(14)EA1 | The <b>authsm</b> , <b>backend</b> , <b>besm</b> , <b>core</b> , and <b>reauthsm</b> keywords were removed. The <b>errors</b> , <b>events</b> , <b>packets</b> , <b>registry</b> , and <b>state-machine</b> keywords were added. |
| 12.2(25)SEE | The <b>feature</b> keyword was added.  |

## Usage Guidelines

The **undebg dot1x** command is the same as the **no debug dot1x** command.

■ debug dot1x

| Related Commands | Command                    | Description  |
|------------------|----------------------------|--|
|                  | <b>show debugging</b>      | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |
|                  | <a href="#">show dot1x</a> | Displays IEEE 802.1x statistics, administrative status, and operational status for the switch or for the specified interface.  |

# debug eap

Use the **debug eap** privileged EXEC command to enable debugging of the Extensible Authentication Protocol (EAP) activity. Use the **no** form of this command to disable debugging.

```
debug dot1x { all | authenticator | errors | events | md5 | packets | peer | sm }
```

```
no debug dot1x { all | authenticator | errors | events | md5 | packets | peer | sm }
```

| Syntax Description | all                  | Description  |
|--------------------|----------------------|--|
|                    | <b>all</b>           | Display all EAP debug messages.                          |
|                    | <b>authenticator</b> | Display authenticator debug messages.                    |
|                    | <b>errors</b>        | Display EAP error debug messages.                        |
|                    | <b>events</b>        | Display EAP event debug messages.                        |
|                    | <b>md5</b>           | Display EAP-MD5 debug messages.                          |
|                    | <b>packets</b>       | Display EAP packet debug messages.                       |
|                    | <b>peer</b>          | Display EAP peer debug messages.                         |
|                    | <b>sm</b>            | Display EAP state-machine related-events debug messages. |

**Command Default** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 12.2(25)SEE | This command was introduced. |

**Usage Guidelines** The **undebg dot1x** command is the same as the **no debug dot1x** command.

| Related Commands | Command               | Description  |
|------------------|-----------------------|--|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, see the <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                  | <b>show eap</b>       | Displays EAP registration and session information for the switch or for the specified port.  |

# debug etherchannel

Use the **debug etherchannel** privileged EXEC command to enable debugging of the EtherChannel/PAGP shim. This shim is the software module that is the interface between the PAGP software module and the port manager software module. Use the **no** form of this command to disable debugging.

**debug etherchannel** [**all** | **detail** | **error** | **event** | **idb**]

**no debug etherchannel** [**all** | **detail** | **error** | **event** | **idb**]

## Syntax Description

|               |  |
|---------------|--|
| <b>all</b>    | (Optional) Display all EtherChannel debug messages.  |
| <b>detail</b> | (Optional) Display detailed EtherChannel debug messages.                                       |
| <b>error</b>  | (Optional) Display EtherChannel error debug messages.  |
| <b>event</b>  | (Optional) Display major EtherChannel event debug messages.                                    |
| <b>idb</b>    | (Optional) Display Port Aggregation Protocol (PAGP) interface descriptor block debug messages. |



## Note

Though visible in the command-line help strings, the **linecard** keyword is not supported.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

## Usage Guidelines

If you do not specify a keyword, all debug messages appear.

The **undebug etherchannel** command is the same as the **no debug etherchannel** command.

## Related Commands

| Command                  | Description   |
|--------------------------|---|
| <b>show debugging</b>    | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
| <b>show etherchannel</b> | Displays EtherChannel information for the channel.  |

# debug ethernet-controller ram-access

Use the **debug ethernet-controller ram-access** privileged EXEC command to enable debugging of the driver that controls reads from and writes to the private (not directly accessible by the CPU) RAM connected to the forwarding application-specific integrated circuits (ASICs). Use the **no** form of this command to disable debugging.

**debug ethernet-controller ram-access**

**no debug ethernet-controller ram-access**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug ethernet-controller ram-access** command is the same as the **no debug ethernet-controller ram-access** command.

| Command               | Description   |
|-----------------------|---|
| <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug fallback-bridging

Use the **debug fallback-bridging** privileged EXEC command to enable debugging of the fallback bridging manager software module. This command debugs the platform-specific part of the process of learning MAC addresses on bridge groups and updating the hardware with the necessary information. Use the **no** form of this command to disable debugging.

**debug fallback-bridging**

**no debug fallback-bridging**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug fallback-bridging** command is the same as the **no debug fallback-bridging** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug gigastack

Use the **debug gigastack** privileged EXEC command to enable debugging of the driver actions for the GigaStack Gigabit Interface Converter (GBIC). Use the **no** form of this command to disable debugging.

**debug gigastack**

**no debug gigastack**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebg gigastack** command is the same as the **no debug gigastack** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug ilpower controller

Use the **debug ilpower controller** privileged EXEC command to enable debugging of the platform-specific Power over Ethernet (PoE) software module on the Catalyst 3550-24PWR switch in long message format. These messages include the Power Controller register reading. Use the **no** form of this command to disable debugging.

**debug ilpower controller**

**no debug ilpower controller**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | 12.1(12c)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug ilpower controller** command is the same as the **no debug ilpower controller**.

| Related Commands | Command                             | Description   |
|------------------|-------------------------------------|---|
|                  | <a href="#">debug ilpower event</a> | Enables debugging of the platform-specific PoE software module in a short message format. |

# debug ilpower event

Use the **debug ilpower event** privileged EXEC command to enable debugging of the platform-specific Power over Ethernet (PoE) software module on the Catalyst 3550-24PWR switch in a short message format. These messages display the PoE state and events received. Use the **no** form of this command to disable debugging.

**debug ilpower event**

**no debug ilpower event**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Release      | Modification                 |
|--------------|------------------------------|
| 12.1(12c)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug ilpower event** command is the same as the **no debug ilpower event**.

| Command                                  | Description  |
|--|--|
| <a href="#">debug ilpower controller</a> | Enables debugging of the platform-specific PoE software module in long message format. |

# debug ip dhcp snooping

Use the **debug ip dhcp snooping** privileged EXEC command to enable debugging of DHCP snooping events. Use the **no** form of this command to disable debugging.

```
debug ip dhcp snooping {acl | event | packet}
```

```
no debug ip dhcp snooping {acl | event | packet}
```

| Syntax Description | Parameter     | Description   |
|--------------------|---------------|---|
|                    | <b>acl</b>    | Display all DHCP-snooping access control list (ACL) debug messages. |
|                    | <b>event</b>  | Display all DHCP snooping event debug messages.                     |
|                    | <b>packet</b> | Display all DHCP snooping packet debug messages.                    |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 12.1(19)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug ip dhcp snooping** command is the same as the **no ip debug dhcp snooping** command.

| Related Commands | Command                                       | Description                                     |
|------------------|---|---|
|                  | <a href="#">show ip dhcp snooping</a>         | Displays the DHCP snooping configuration.       |
|                  | <a href="#">show ip dhcp snooping binding</a> | Displays the DHCP snooping binding information. |

# debug ip igmp filter

Use the **debug ip igmp filter** privileged EXEC command to enable debugging of Internet Group Management Protocol (IGMP) filter events. Use the **no** form of this command to disable debugging.

**debug ip igmp filter**

**no debug ip igmp filter**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(8)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug ip igmp filter** command is the same as the **no debug ip igmp filter** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug ip igmp max-groups

Use the **debug ip igmp max-groups** privileged EXEC command to enable debugging of Internet Group Management Protocol (IGMP) maximum group events. Use the **no** form of this command to disable debugging.

**debug ip igmp max-groups**

**no debug ip igmp max-groups**

---

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

---

**Defaults** Debugging is disabled.

---

**Command Modes** Privileged EXEC

---

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(8)EA1 | This command was introduced. |

---



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**Usage Guidelines** The **undebug ip igmp max-groups** command is the same as the **no debug ip igmp max-groups** command.

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| Command               | Description   |
|-----------------------|---|
| <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

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# debug ip verify source packet

Use the **debug ip verify source packet** privileged EXEC command to enable debugging of IP source guard. Use the **no** form of this command to disable debugging.

**debug ip verify source packet**

**no debug ip verify source packet**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 12.2(25)SEA | This command was introduced. |

**Usage Guidelines** The **undebug ip verify source packet** command is the same as the **no debug ip verify source packet** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug l3multicast

Use the **debug l3multicast** privileged EXEC command to enable debugging of the platform-specific Layer 3 IP multicast manager software module, which maintains platform-specific data describing IP multicast routes. Use the **no** form of this command to disable debugging.

**debug l3multicast**

**no debug l3multicast**

---

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

---

**Defaults** Debugging is disabled.

---

**Command Modes** Privileged EXEC

---

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

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**Usage Guidelines** The **undebg l3multicast** command is the same as the **no debug l3multicast** command.

---

| Command               | Description   |
|-----------------------|---|
| <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

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# debug l3tcam

Use the **debug l3tcam** privileged EXEC command to enable debugging of the Layer 3 ternary content addressable memory (TCAM) manager software module. This module controls the allocation of the part of the TCAM used in IP unicast and multicast routing, including the allocation of both routes and adjacencies in the TCAM. Use the **no** form of this command to disable debugging.

**debug l3tcam**

**no debug l3tcam**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug l3tcam** command is the same as the **no debug l3tcam** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug l3unicast

Use the **debug l3unicast** privileged EXEC command to enable debugging of the Layer 3 IP unicast manager. It maintains platform-specific data describing the IP forwarding information base (FIB) entries (routes and adjacencies) and ARP table entries. Use the **no** form of this command to disable debugging.

**debug l3unicast**

**no debug l3unicast**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebbug l3unicast** command is the same as the **no debug l3unicast** command.

| Command               | Description   |
|-----------------------|---|
| <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug mac-manager

Use the **debug mac-manager** privileged EXEC command to enable debugging of the platform-specific MAC address table manager software module. This command debugs the platform-specific part of learning MAC addresses on VLANs and updating the hardware with the necessary information. Use the **no** form of this command to disable debugging.

**debug mac-manager**

**no debug mac-manager**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebg mac-manager** command is the same as the **no debug mac-manager** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug mac-notification

Use the **debug mac-notification** privileged EXEC command to enable debugging of MAC notification events. Use the **no** form of this command to disable debugging.

**debug mac-notification**

**no debug mac-notification**

---

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

---

**Defaults** Debugging is disabled.

---

**Command Modes** Privileged EXEC

---

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(8)EA1 | This command was introduced. |

---



---

**Usage Guidelines** The **undebbug mac-notification** command is the same as the **no debug mac-notification** command.

---

| Command   | Description   |
|---|---|
| <b>show debugging</b>                               | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
| <a href="#">show mac address-table notification</a> | Displays the MAC address notification information for all interfaces or the specified interface.  |

---

# debug met

Use the **debug met** privileged EXEC command to enable debugging of the allocation, freeing, and updating of the multicast expansion table (MET) entries. These entries are used by the hardware when forwarding individual IP multicast and fallback-bridged packets to multiple output VLANs. Use the **no** form of this command to disable debugging.

**debug met**

**no debug met**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebug met** command is the same as the **no debug met** command.

| Command               | Description   |
|-----------------------|---|
| <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug mvrdbg

Use the **debug mvrdbg** privileged EXEC command to enable debugging of Multicast VLAN Registration (MVR). Use the **no** form of this command to disable debugging.

```
debug mvrdbg {all | events | igmpsn | management | ports}
```

```
no debug mvrdbg {all | events | igmpsn | management | ports}
```

## Syntax Description

|                   |   |
|-------------------|---|
| <b>all</b>        | Display all MVR activity debug messages.  |
| <b>events</b>     | Display MVR event-handling debug messages.  |
| <b>igmpsn</b>     | Display MVR Internet Group Management Protocol (IGMP) snooping-activity debug messages. |
| <b>management</b> | Display MVR management-activity debug messages.   |
| <b>ports</b>      | Display MVR port debug messages.  |

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

## Usage Guidelines

The **undebug mvrdbg** command is the same as the **no debug mvrdbg** command.

## Related Commands

| Command               | Description   |
|-----------------------|---|
| <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
| <b>show mvr</b>       | Displays the current MVR configuration.   |

# debug pagp

Use the **debug pagp** privileged EXEC command to enable debugging of Port Aggregation Protocol (PAgP) activity. Use the **no** form of this command to disable debugging.

**debug pagp** [**all** | **event** | **fsm** | **misc** | **packet**]

**no debug pagp** [**all** | **event** | **fsm** | **misc** | **packet**]

| Syntax Description | all           | (Optional) Display all PAgP debug messages.                  |
|--------------------|---------------|--|
|                    | <b>event</b>  | (Optional) Display PAgP event debug messages.                |
|                    | <b>fsm</b>    | (Optional) Display PAgP finite state-machine debug messages. |
|                    | <b>misc</b>   | (Optional) Display miscellaneous PAgP debug messages.        |
|                    | <b>packet</b> | (Optional) Display PAgP packet debug messages.               |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebg pagp** command is the same as **no debug pagp** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                  | <b>show pagp</b>      | Displays PAgP channel-group information.  |

# debug pbr

Use the **debug pbr** privileged EXEC command to enable debugging of policy-based routing (PBR) events. Use the **no** form of this command to disable debugging.

**debug pbr [acl-merge]**

**no debug pbr [acl-merge]**

| Syntax Description | <b>acl-merge</b> (Optional) Display debug messages for the merge of ACLs present in a route-map that are applied to an interface for PBR.   |         |              |             |                              |
|--------------------|---|---------|--------------|-------------|------------------------------|
| Defaults           | Debugging is disabled.  |         |              |             |                              |
| Command Modes      | Privileged EXEC   |         |              |             |                              |
| Command History    | <table border="1"> <thead> <tr> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Release</th> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Modification</th> </tr> </thead> <tbody> <tr> <td style="border-bottom: 1px solid black;">12.1(13)EA1</td> <td style="border-bottom: 1px solid black;">This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | 12.1(13)EA1 | This command was introduced. |
| Release            | Modification  |         |              |             |                              |
| 12.1(13)EA1        | This command was introduced.  |         |              |             |                              |
| Usage Guidelines   | The <b>undebug pbr</b> command is the same as the <b>no debug pbr</b> command.  |         |              |             |                              |

# debug platform ip arp inspection

Use the **debug platform ip arp inspection** privileged EXEC command to debug dynamic Address Resolution Protocol (ARP) inspection events. Use the **no** form of this command to disable debugging.

**debug platform ip arp inspection** {all | error | event | packet | rpc}

**no debug platform ip arp inspection** {all | error | event | packet | rpc}

| Syntax Description | all           | Display all dynamic ARP inspection debug messages.                                 |
|--------------------|---------------|--|
|                    | <b>error</b>  | Display dynamic ARP inspection error debug messages.                               |
|                    | <b>event</b>  | Display dynamic ARP inspection event debug messages.                               |
|                    | <b>packet</b> | Display dynamic ARP inspection packet-related debug messages.                      |
|                    | <b>rpc</b>    | Display dynamic ARP inspection remote procedure call (RPC) request debug messages. |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 12.2(25)SEA | This command was introduced. |

**Usage Guidelines** The **undebg platform ip arp inspection** command is the same as the **no debug platform ip arp inspection** command.

| Related Commands | Command                                | Description   |
|------------------|--|---|
|                  | <a href="#">show ip arp inspection</a> | Displays the dynamic ARP inspection configuration and operating state.  |
|                  | <b>show debugging</b>                  | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |

# debug pm

Use the **debug pm** privileged EXEC command to enable debugging of port manager (PM) activity. The port manager is a state machine that controls all the logical and physical interfaces. All features, such as VLANs, UniDirectional Link Detection (UDLD), and so forth, work with the port manager to provide switch functions. Use the **no** form of this command to disable debugging.

```
debug pm {all | assert | card | cookies | etherchnl | messages | port | registry | sm | span | split |
          vlan | vp}
```

```
no debug pm {all | assert | card | cookies | etherchnl | messages | port | registry | sm | span | split |
            vlan | vp}
```

## Syntax Description

|                  |   |
|------------------|---|
| <b>all</b>       | Display all PM debug messages.                        |
| <b>assert</b>    | Display assert debug messages.                        |
| <b>card</b>      | Display line-card related-event debug messages.       |
| <b>cookies</b>   | Display internal PM cookie validation debug messages. |
| <b>etherchnl</b> | Display EtherChannel related-event debug messages.    |
| <b>messages</b>  | Display PM messages debug messages.                   |
| <b>port</b>      | Display port-related event debug messages.            |
| <b>registry</b>  | Display PM registry invocation debug messages.        |
| <b>sm</b>        | Display state-machine related-event debug messages.   |
| <b>span</b>      | Display spanning-tree related-event debug messages.   |
| <b>split</b>     | Display split-processor debug messages.               |
| <b>vlan</b>      | Display VLAN related-event debug messages.            |
| <b>vp</b>        | Display virtual port related-event debug messages.    |



### Note

Though visible in the command-line help strings, the **scp** and **pvlan** keywords are not supported.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

| Release    | Modification                 |
|------------|------------------------------|
| 12.1(4)EA1 | This command was introduced. |

## Usage Guidelines

The **undebug pm** command is the same as the **no debug pm** command.

| Related Commands | Command               | Description  |
|------------------|-----------------------|--|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |

# debug port-security

Use the **debug port-security** privileged EXEC command to enable debugging of the allocation and states of the port security subsystem. Use the **no** form of this command to disable debugging.

**debug port-security**

**no debug port-security**

---

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

---

**Defaults** Debugging is disabled.

---

**Command Modes** Privileged EXEC

---

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(8)EA1 | This command was introduced. |

---



---

**Usage Guidelines** The **undebbug port-security** command is the same as the **no debug port-security** command.

---

| Related Commands | Command                            | Description   |
|------------------|------------------------------------|---|
|                  | <b>show debugging</b>              | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                  | <a href="#">show port-security</a> | Displays port-security settings for an interface or for the switch.   |

---

# debug span-session

Use the **debug span-session** privileged EXEC command to enable debugging of events occurring in the platform-specific software that implements the Switched Port Analyzer (SPAN) feature. Use the **no** form of this command to disable debugging.

**debug span-session**

**no debug span-session**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(6)EA1 | This command was introduced. |

**Usage Guidelines** The **undebg span-session** command is the same as the **no debug span-session** command.

| Related Commands | Command                      | Description   |
|------------------|------------------------------|---|
|                  | <b>show debugging</b>        | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                  | <a href="#">show monitor</a> | Displays SPAN session information.  |

# debug spanning-tree

Use the **debug spanning-tree** privileged EXEC command to enable debugging of spanning-tree activities. Use the **no** form of this command to disable debugging.

```
debug spanning-tree { all | backbonefast | bpdu | bpdu-opt | config | csuf/csrt | etherchannel |
events | exceptions | general | mstp | pvst+ | root | snmp | switch | synchronization |
uplinkfast }
```

```
no debug spanning-tree { all | backbonefast | bpdu | bpdu-opt | config | csuf/csrt | etherchannel |
| events | exceptions | general | mstp | pvst+ | root | snmp | switch | synchronization |
uplinkfast }
```

| Syntax Description     |  |  |
|------------------------|--|--|
| <b>all</b>             | Display all spanning-tree debug messages.  |  |
| <b>backbonefast</b>    | Display Backbonefast-event debug messages.   |  |
| <b>bpdu</b>            | Display spanning-tree bridge protocol data unit (BPDU) debug messages.   |  |
| <b>bpdu-opt</b>        | Display optimized BPDU handling debug messages.  |  |
| <b>config</b>          | Display spanning-tree configuration change debug messages.   |  |
| <b>csuf/csrt</b>       | Display cross-stack UplinkFast activity debug messages.  |  |
| <b>etherchannel</b>    | Display EtherChannel-support debug messages.   |  |
| <b>events</b>          | Display spanning-tree topology event debug messages.   |  |
| <b>exceptions</b>      | Display spanning-tree exception debug messages.  |  |
| <b>general</b>         | Display general spanning-tree activity debug messages.   |  |
| <b>mstp</b>            | Display Multiple Spanning Tree Protocol event debug messages.  |  |
| <b>pvst+</b>           | Display per-VLAN spanning-tree plus (PVST+) event debug messages.  |  |
| <b>root</b>            | Display spanning-tree root-event debug messages.   |  |
| <b>snmp</b>            | Display spanning-tree Simple Network Management Protocol (SNMP) handling debug messages.   |  |
| <b>switch</b>          | Display switch shim command debug messages. This shim is the software module that is the interface between the generic Spanning Tree Protocol (STP) code and the platform-specific code of various switch platforms. |  |
| <b>synchronization</b> | Display the spanning-tree synchronization event debug messages.  |  |
| <b>uplinkfast</b>      | Display UplinkFast-event debug messages.   |  |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification  |
|-----------------|------------|---|
|                 | 12.1(4)EA1 | This command was introduced.                              |
|                 | 12.1(9)EA1 | The <b>mstp</b> and <b>csuf/csrt</b> keywords were added. |

**Usage Guidelines** The **undebg spanning-tree** command is the same as the **no debug spanning-tree** command.

| Related Commands | Command                   | Description  |
|------------------|---------------------------|--|
|                  | <b>show debugging</b>     | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |
|                  | <b>show spanning-tree</b> | Displays spanning-tree state information.  |

# debug spanning-tree backbonefast

Use the **debug spanning-tree backbonefast** privileged EXEC command to enable debugging of spanning-tree BackboneFast events. Use the **no** form of this command to disable debugging.

**debug spanning-tree backbonefast** [**detail** | **exceptions**]

**no debug spanning-tree backbonefast** [**detail** | **exceptions**]

|                           |   |   |
|---------------------------|---|---|
| <b>Syntax Description</b> | <b>detail</b>   | (Optional) Display detailed BackboneFast debug messages.  |
|                           | <b>exceptions</b>   | (Optional) Display spanning-tree BackboneFast-exception debug messages.   |
| <b>Defaults</b>           | Debugging is disabled.  |   |
| <b>Command Modes</b>      | Privileged EXEC   |   |
| <b>Command History</b>    | <b>Release</b>  | <b>Modification</b>   |
|                           | 12.1(4)EA1  | This command was introduced.  |
| <b>Usage Guidelines</b>   | The <b>undebg spanning-tree backbonefast</b> command is the same as the <b>no debug spanning-tree backbonefast</b> command. |   |
| <b>Related Commands</b>   | <b>Command</b>  | <b>Description</b>  |
|                           | <b>show debugging</b>   | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                           | <b>show spanning-tree</b>   | Displays spanning-tree state information.   |

## debug spanning-tree bpdu

Use the **debug spanning-tree bpdu** privileged EXEC command to enable debugging of received and transmitted spanning-tree bridge protocol data units (BPDUs). Use the **no** form of this command to disable debugging.

**debug spanning-tree bpdu** [receive | transmit]

**no debug spanning-tree bpdu** [receive | transmit]

|                    |   |   |
|--------------------|---|---|
| Syntax Description | <b>receive</b>  | (Optional) Display receive BPDU debug messages.   |
|                    | <b>transmit</b>   | (Optional) Display transmit BPDU debug messages.  |
| Defaults           | Debugging is disabled.  |   |
| Command Modes      | Privileged EXEC   |   |
| Command History    | Release   | Modification  |
|                    | 12.1(4)EA1  | This command was introduced.  |
| Usage Guidelines   | The <b>undebg spanning-tree bpdu</b> command is the same as the <b>no debug spanning-tree bpdu</b> command. |   |
| Related Commands   | Command   | Description   |
|                    | <b>show debugging</b>   | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                    | <b>show spanning-tree</b>   | Displays spanning-tree state information.   |

# debug spanning-tree bpdu-opt

Use the **debug spanning-tree bpdu-opt** privileged EXEC command to enable debugging of optimized spanning-tree bridge protocol data unit (BPDU) handling. Use the **no** form of this command to disable debugging.

**debug spanning-tree bpdu-opt** [detail | packet]

**no debug spanning-tree bpdu-opt** [detail | packet]

|                    |               |   |
|--------------------|---------------|---|
| Syntax Description | <b>detail</b> | (Optional) Display detailed optimized BPDU-handling debug messages.     |
|                    | <b>packet</b> | (Optional) Display packet-level optimized BPDU-handling debug messages. |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebg spanning-tree bpdu-opt** command is the same as the **no debug spanning-tree bpdu-opt** command.

| Related Commands | Command                   | Description   |
|------------------|---------------------------|---|
|                  | <b>show debugging</b>     | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                  | <b>show spanning-tree</b> | Displays spanning-tree state information.   |

## debug spanning-tree mstp

Use the **debug spanning-tree mstp** privileged EXEC command to enable debugging of the Multiple Spanning Tree Protocol (MSTP) software. Use the **no** form of this command to disable debugging.

```
debug spanning-tree mstp { all | boundary | bpdu-rx | bpdu-tx | errors | flush | init | migration |
pm | proposals | region | roles | sanity_check | sync | tc | timers }
```

```
no debug spanning-tree mstp { all | boundary | bpdu-rx | bpdu-tx | errors | flush | init | migration |
pm | proposals | region | roles | sanity_check | sync | tc | timers }
```

| Syntax Description  |  |
|---------------------|--|
| <b>all</b>          | Display all the debug messages.  |
| <b>boundary</b>     | Display flag changes at these boundaries: <ul style="list-style-type: none"> <li>An MST region and a single spanning-tree region running RSTP</li> <li>An MST region and a single spanning-tree region running IEEE 802.1D</li> <li>An MST region and another MST region with a different configuration</li> </ul> |
| <b>bpdu-rx</b>      | Display the received MST bridge protocol data unit (BPDU) debug messages.  |
| <b>bpdu-tx</b>      | Display transmitted MST BPDU debug messages.   |
| <b>errors</b>       | Display MSTP error debug messages.   |
| <b>flush</b>        | Display the port flushing mechanism debug messages.  |
| <b>init</b>         | Display the initialization of the MSTP data structure debug messages.  |
| <b>migration</b>    | Display the protocol migration state-machine debug messages.   |
| <b>pm</b>           | Display MSTP port-manager event debug messages.  |
| <b>proposals</b>    | Display debug messages for handshake messages between the designated and root switch.  |
| <b>region</b>       | Display debug messages for the region synchronization between the switch processor (SP) and the route processor (RP).  |
| <b>roles</b>        | Display MSTP role debug messages.  |
| <b>sanity_check</b> | Display the received BPDU sanity check debug messages.   |
| <b>sync</b>         | Display the port synchronization event debug messages.   |
| <b>tc</b>           | Display topology change notification event debug messages.   |
| <b>timers</b>       | Display debug messages for the MSTP timers for start, stop, and expire events.   |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(9)EA1 | This command was introduced. |

**Usage Guidelines**

The **undebg spanning-tree mstp** command is the same as the **no debug spanning-tree mstp** command.

**Related Commands**

| Command                   | Description   |
|---------------------------|---|
| <b>show debugging</b>     | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
| <b>show spanning-tree</b> | Displays spanning-tree state information.   |

## debug spanning-tree switch

Use the **debug spanning-tree switch** privileged EXEC command to enable debugging of the software interface between the Spanning Tree Protocol (STP) software module and the port manager software module. Use the **no** form of this command to disable debugging.

```
debug spanning-tree switch {all | errors | general | helper | pm | rx {decode | errors | interrupt
| process} | state | tx [decode]}
```

```
no debug spanning-tree switch {all | errors | general | helper | pm | rx {decode | errors |
interrupt | process} | state | tx [decode]}
```

| Syntax Description |   |
|--------------------|---|
| <b>all</b>         | Display all spanning-tree switch debug messages.  |
| <b>errors</b>      | Display debug messages for the interface between the spanning-tree software module and the port manager software module.  |
| <b>general</b>     | Display general event debug messages.   |
| <b>helper</b>      | Display spanning-tree helper task debug messages. Helper tasks handle bulk spanning-tree updates.   |
| <b>pm</b>          | Display port manager event debug messages.  |
| <b>rx</b>          | Display received bridge protocol data unit (BPDU) handling debug messages. The keywords have these meanings:<br><b>decode</b> —Display decoded received packets.<br><b>errors</b> —Display receive error debug messages.<br><b>interrupt</b> —Display interrupt service request (ISRs) debug messages.<br><b>process</b> —Display process receive BPDU debug messages.<br><b>state</b> —Display spanning-tree port state change debug messages. |
| <b>tx [decode]</b> | Display transmitted BPDU handling debug messages.   |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                         |
|-----------------|------------|--------------------------------------|
|                 | 12.1(4)EA1 | This command was introduced.         |
|                 | 12.1(9)EA1 | The <b>helper</b> keyword was added. |

**Usage Guidelines** The **undebg spanning-tree switch** command is the same as the **no debug spanning-tree switch** command.

| Related Commands | Command                   | Description  |
|------------------|---------------------------|--|
|                  | <b>show debugging</b>     | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |
|                  | <b>show spanning-tree</b> | Displays spanning-tree state information.  |

# debug spanning-tree uplinkfast

Use the **debug spanning-tree uplinkfast** privileged EXEC command to enable debugging of spanning-tree UplinkFast events. Use the **no** form of this command to disable debugging.

**debug spanning-tree uplinkfast** [exceptions]

**no debug spanning-tree uplinkfast** [exceptions]

|                    |   |   |
|--------------------|---|---|
| Syntax Description | <b>exceptions</b> (Optional) Display spanning-tree UplinkFast-exception debug messages.                                 |   |
| Defaults           | Debugging is disabled.  |   |
| Command Modes      | Privileged EXEC   |   |
| Command History    | Release   | Modification  |
|                    | 12.1(4)EA1  | This command was introduced.  |
| Usage Guidelines   | The <b>undebg spanning-tree uplinkfast</b> command is the same as the <b>no debug spanning-tree uplinkfast</b> command. |   |
| Related Commands   | Command   | Description   |
|                    | <b>show debugging</b>   | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                    | <b>show spanning-tree</b>   | Displays spanning-tree state information.   |

# debug sw-vlan

Use the **debug sw-vlan** privileged EXEC command to enable debugging of VLAN manager activities. Use the **no** form of this command to disable debugging.

```
debug sw-vlan { badpmcookies | cfg-vlan { bootup | cli } | events | ifs | management | notification
| packets | registries | vtp }
```

```
no debug sw-vlan { badpmcookies | cfg-vlan { bootup | cli } | events | ifs | management |
notification | packets | registries | vtp }
```

| Syntax Description                             |  |  |
|--|--|--|
| <b>badpmcookies</b>                            |  | Display debug messages for VLAN manager incidents of bad port manager cookies.   |
| <b>cfg-vlan</b> { <b>bootup</b>   <b>cli</b> } |  | Display config-vlan debug messages. The keywords have these meanings: <ul style="list-style-type: none"> <li>• <b>bootup</b>—Display messages when the switch is booting up.</li> <li>• <b>cli</b>—Display messages generated when the command-line interface (CLI) is in config-vlan mode.</li> </ul> |
| <b>events</b>                                  |  | Display VLAN manager event debug messages.   |
| <b>ifs</b>                                     |  | Display VLAN manager Cisco IOS file system (IFS) error test debug messages.  |
| <b>management</b>                              |  | Display VLAN manager management of internal VLAN debug messages.   |
| <b>notification</b>                            |  | Display VLAN manager notification debug messages.  |
| <b>packets</b>                                 |  | Display packet handling and encapsulation process debug messages.  |
| <b>registries</b>                              |  | Display VLAN manager registry debug messages.  |
| <b>vtp</b>                                     |  | Display the VLAN Trunking Protocol (VTP) debug messages.   |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                           |
|-----------------|------------|--|
|                 | 12.1(4)EA1 | This command was introduced.           |
|                 | 12.1(9)EA1 | The <b>cfg-vlan</b> keyword was added. |

**Usage Guidelines** The **undebug sw-vlan** command is the same as the **no debug sw-vlan** command.

| Related Commands | Command               | Description  |
|------------------|-----------------------|--|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |
|                  | <b>show vlan</b>      | Displays the parameters for all configured VLANs or one VLAN (if the VLAN name or ID is specified) in the administrative domain.   |
|                  | <b>show vtp</b>       | Displays general information about VTP management domain, status, and counters.  |

# debug sw-vlan ifs

Use the **debug sw-vlan ifs** privileged EXEC command to enable VLAN manager Cisco IOS file system (IFS) error tests. Use the **no** form of this command to disable debugging.

```
debug sw-vlan ifs {open {read | write} | read {1 | 2 | 3 | 4} | write}
```

```
no debug sw-vlan ifs {open {read | write} | read {1 | 2 | 3 | 4} | write}
```

| Syntax Description | open {read   write}  | Display VLAN manager IFS file-open operation debug messages. The keywords have these meanings:   |
|--------------------|----------------------|--|
|                    |                      | <ul style="list-style-type: none"> <li><b>read</b>—Display VLAN manager IFS file-read operation debug messages.</li> <li><b>write</b>—Display VLAN manager IFS file-write operation debug messages.</li> </ul> |
|                    | read {1   2   3   4} | Display file-read operation debug messages for the specified error test (1, 2, 3, or 4).   |
|                    | write                | Display file-write operation debug messages.   |

| Defaults | Debugging is disabled. |
|----------|------------------------|
|----------|------------------------|

| Command Modes | Privileged EXEC |
|---------------|-----------------|
|---------------|-----------------|

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

| Usage Guidelines | When selecting the file read operation, Operation <b>1</b> reads the file header, which contains the header verification word and the file version number. Operation <b>2</b> reads the main body of the file, which contains most of the domain and VLAN information. Operation <b>3</b> reads type length version (TLV) descriptor structures. Operation <b>4</b> reads TLV data. |
|------------------|---|
|------------------|---|

The **undebug sw-vlan ifs** command is the same as the **no debug sw-vlan ifs** command.

| Related Commands | Command               | Description   |
|------------------|-----------------------|---|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
|                  | <b>show vlan</b>      | Displays the parameters for all configured VLANs or one VLAN (if the VLAN name or ID is specified) in the administrative domain.  |

# debug sw-vlan notification

Use the **debug sw-vlan notification** privileged EXEC command to enable debugging messages that trace the activation and deactivation of Inter-Link Switch (ISL) VLAN IDs. Use the **no** form of this command to disable debugging.

**debug sw-vlan notification { accfwdchange | allowedvlanfgchange | fwdchange | linkchange | modechange | pruningcfgchange | statechange }**

**no debug sw-vlan notification { accfwdchange | allowedvlanfgchange | fwdchange | linkchange | modechange | pruningcfgchange | statechange }**

| Syntax Description |                            |  |
|--------------------|----------------------------|--|
|                    | <b>accfwdchange</b>        | Display debug messages for VLAN manager notification of aggregated access interface spanning-tree forward changes. |
|                    | <b>allowedvlanfgchange</b> | Display debug messages for VLAN manager notification of changes to the allowed VLAN configuration.                 |
|                    | <b>fwdchange</b>           | Display debug messages for VLAN manager notification of spanning-tree forwarding changes.                          |
|                    | <b>linkchange</b>          | Display debug messages for VLAN manager notification of interface link-state changes.                              |
|                    | <b>modechange</b>          | Display debug messages for VLAN manager notification of interface mode changes.                                    |
|                    | <b>pruningcfgchange</b>    | Display debug messages for VLAN manager notification of changes to the pruning configuration.                      |
|                    | <b>statechange</b>         | Display debug messages for VLAN manager notification of interface state changes.                                   |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** The **undebg sw-vlan notification** command is the same as the **no debug sw-vlan notification** command.

| Related Commands | Command                   | Description  |
|------------------|---------------------------|--|
|                  | <b>show debugging</b>     | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |
|                  | <a href="#">show vlan</a> | Displays the parameters for all configured VLANs or one VLAN (if the VLAN name or ID is specified) in the administrative domain.   |

## debug sw-vlan vtp

Use the **debug sw-vlan vtp** privileged EXEC command to enable debugging of the VLAN Trunking Protocol (VTP) code. Use the **no** form of this command to disable debugging.

```
debug sw-vlan vtp {events | packets | pruning [packets | xmit] | xmit}
```

```
no debug sw-vlan vtp {events | packets | pruning [packets | xmit] | xmit}
```

| Syntax Description |                                 |  |
|--------------------|---------------------------------|--|
|                    | <b>events</b>                   | Display debug messages for general-purpose logic flow and detailed VTP debugging messages generated by the VTP_LOG_RUNTIME macro in the VTP code.  |
|                    | <b>packets</b>                  | Display debug messages for the contents of all incoming VTP packets that have been passed into the VTP code from the Cisco IOS VTP platform-dependent layer, except for pruning packets.   |
|                    | <b>pruning [packets   xmit]</b> | Display debug messages generated by the pruning segment of the VTP code. The keywords have these meanings: <ul style="list-style-type: none"> <li><b>packets</b>—(Optional) Display debug messages for the contents of all incoming VTP pruning packets that have been passed into the VTP code from the Cisco IOS VTP platform-dependent layer.</li> <li><b>xmit</b>—(Optional) Display debug messages for the contents of all outgoing VTP packets that the VTP code requests the Cisco IOS VTP platform-dependent layer to send.</li> </ul> |
|                    | <b>xmit</b>                     | Display debug messages for the contents of all outgoing VTP packets that the VTP code requests the Cisco IOS VTP platform-dependent layer to send, except for pruning packets.   |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** If no further parameters are entered after the **pruning** keyword, VTP pruning debugging messages appear. They are generated by the VTP\_PRUNING\_LOG\_NOTICE, VTP\_PRUNING\_LOG\_INFO, VTP\_PRUNING\_LOG\_DEBUG, VTP\_PRUNING\_LOG\_ALERT, and VTP\_PRUNING\_LOG\_WARNING macros in the VTP pruning code.

The **undebug sw-vlan vtp** command is the same as the **no debug sw-vlan vtp** command.

■ debug sw-vlan vtp

| Related Commands | Command               | Description  |
|------------------|-----------------------|--|
|                  | <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management.</b> |
|                  | <b>show vtp</b>       | Displays general information about VTP management domain, status, and counters.  |

# debug uddl

Use the **debug uddl** privileged EXEC command to enable debugging of the UniDirectional Link Detection (UDLD) feature. Use the **no** form of this command to disable debugging.

**debug uddl** {events | packets | registries}

**no debug uddl** {events | packets | registries}

| Syntax Description | events     | Display debugging messages for UDLD process events as they occur.   |
|--------------------|------------|---|
|                    | packets    | Display debugging messages for the UDLD process as it receives packets from the packet queue and tries to send them at the request of the UDLD protocol code. |
|                    | registries | Display debugging messages for the UDLD process as it processes registry calls from the UDLD process-dependent module and other feature modules.              |

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

| Command History | Release    | Modification                 |
|-----------------|------------|------------------------------|
|                 | 12.1(4)EA1 | This command was introduced. |

**Usage Guidelines** For **debug uddl events**, these debugging messages appear:

- General UDLD program logic flow
- State machine state changes
- Program actions for the set and clear ErrDisable state
- Neighbor cache additions and deletions
- Processing of configuration commands
- Processing of link-up and link-down indications

For **debug uddl packets**, these debugging messages appear:

- General packet processing program flow on receipt of an incoming packet
- Indications of the contents of the various pieces of packets received (such as type length versions [TLVs]) as they are examined by the packet reception code
- Packet transmission attempts and the outcome

For **debug udd registries**, these categories of debugging messages appear:

- Subblock creation
- Fiber-optic port status changes
- State change indications from the port manager software
- MAC address registry calls

---

**Related Commands**

| Command               | Description   |
|-----------------------|---|
| <b>show debugging</b> | Displays information about the types of debugging that are enabled. For syntax information, select <b>Cisco IOS Release 12.2 Configuration Guides and Command References &gt; Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2 &gt; System Management &gt; Troubleshooting and Fault Management</b> . |
| <b>show udd</b>       | Displays UDD administrative and operational status for all ports or the specified port.   |