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Santa Clara, CA 95054

# **Command Line Interface Reference for the Ethernet Routing Switch 1600 Series Switch**

Ethernet Routing Switch 1600 Series  
Software Release 2.1



**NORTEL**

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## Preface

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This guide describes the function and syntax of commands that you can execute using the Ethernet Routing Switch 1600 Series Command Line Interface (CLI).

The Ethernet Routing Switch 1600 Series is a fixed port hardware-based Layer 3 routing switch that supports the following models:

- the Ethernet Routing Switch 1612G 12 small form factor (SFP) GBICs, which provides small to medium aggregation
- the Ethernet Routing Switch 1624G 24 SFP GBICs, which provides small to medium aggregation
- the Ethernet Routing Switch 1648T 48 10/100, plus 4 SFP GBICs, which provides small edge concentration

The Ethernet Routing Switch 1600 Series Layer 3 routing switch can reside in the wiring closet (1648T) and in the data center or network core (1612G and 1624G) as follows:

- The Ethernet Routing Switch 1648T provides Layer 3 functionality in the wiring closet.
- The Ethernet Routing Switch 1612G and 1624G provide gigabit Ethernet ports for wiring closet aggregation as well as high-speed connections for servers and power users. These aggregation devices typically reside in the network core or data center but can be placed anywhere.

## How this book is organized

The Command Line Interface (CLI) commands are presented in three chapters represented by the following command categories:

- system management commands in [Chapter 1 on page 23](#)
- config commands in [Chapter 2 on page 59](#)
- show commands in [Chapter 3 on page 277](#)

## Before you begin

This guide is intended for network administrators who have the following background:

- basic knowledge of networks, Ethernet bridging, and IP routing
- familiarity with networking concepts and terminology
- experience with windowing systems or Graphical User Interfaces (GUI)
- basic knowledge of network topologies

Before using this guide, you must complete the following prerequisites.

For a new switch:

- 1 Install the switch.

For installation instructions, see *Installing the Ethernet Routing Switch 1600 Series Switch* (316860-D).

- 2 Connect the switch to the network.

For more information, see *Getting Started* (316799-B).

For new and existing switches:

- 1 Ensure that you are running the latest version of Nortel Ethernet Routing Switch 1600 Series software.

For information about upgrading the Ethernet Routing Switch 1600 Series, see *Upgrading to Ethernet Routing Switch 1600 Series Software Release 2.1* (321327-B).



## Text conventions

This guide uses the text conventions in [Table 1](#):

**Table 1** Text conventions (Sheet 1 of 2)

angle brackets (< >)	Enter text based on the description inside the brackets. Do not type the brackets when entering the command. Example: If the command syntax is <code>ping &lt;ip_address&gt;</code> , you enter <b>ping 192.32.10.12</b>
<b>bold text</b>	Objects such as window names, dialog box names, and icons, as well as user interface objects such as buttons, tabs, and menu items.
<b>bold Courier text</b>	Command names, options, and text that you must enter. Example: Use the <b>dinfo</b> command. Example: Enter <b>show ip {alerts   routes}</b> .
braces ({} )	Required elements in syntax descriptions where there is more than one option. You must choose only one of the options. Do not type the braces when entering the command. Example: If the command syntax is <code>show ip {alerts   routes}</code> , you must enter either <b>show ip alerts</b> or <b>show ip routes</b> , but not both.
brackets ([ ] )	Optional elements in syntax descriptions. Do not type the brackets when entering the command. Example: If the command syntax is <code>show ip interfaces [-alerts]</code> , you can enter either <b>show ip interfaces</b> or <b>show ip interfaces -alerts</b> .
ellipsis points (. . . )	Repeat the last element of the command as needed. Example: If the command syntax is <code>ethernet/2/1 [&lt;parameter&gt; &lt;value&gt;] . . .</code> , you enter <b>ethernet/2/1</b> and as many parameter-value pairs as needed.

**Table 1** Text conventions (Sheet 2 of 2)

<i>italic text</i>	Variables in command syntax descriptions. Also indicates new terms and book titles. Where a variable is two or more words, the words are connected by an underscore. Example: If the command syntax is <code>show at &lt;valid_route&gt;</code> , <code>valid_route</code> is one variable and you substitute one value for it.
plain Courier text	Command syntax and system output, for example, prompts and system messages. Example: Set Trap Monitor Filters
separator (>)	Menu paths. Example: <b>Protocols &gt; IP</b> identifies the <b>IP</b> command on the <b>Protocols</b> menu.
vertical line ( )	Options for command keywords and arguments. Enter only one of the options. Do not type the vertical line when entering the command. Example: If the command syntax is <code>show ip {alerts routes}</code> , you enter either <b>show ip alerts</b> or <b>show ip routes</b> , but not both.

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## Using system help to find commands and parameters

Help is available from any prompt in the Ethernet Routing Switch 1600 Series CLI.

After you successfully log on to the switch, at the prompt, use the following methods to access help:

- To see the help features, type **help**.
- To see a list of commands that you can execute from the current prompt, type **help commands**.
- To see a list of special terminal editing characters, type **help ttychars**.
- To see a path list of commands and parameters, type **syntax**.
- To see a description of a specific command, or obtain a list of sub-commands that you can execute, type **help <command>** or **<command> help**. For example, to see a list of configuration commands, type **help config** or **config help**.
- To see the current context commands and sub-commands, type the **question mark (?)**.
- To see the current context and sub-commands for a command that is an intermediate node in the command tree structure, type **<command> ?**. If the command is not an intermediate node in the command tree structure, the system displays parameter help for the command.
- To see a list of commands that match a character string, type the character string followed by **<command>**.

## Related information

This section lists information sources that relate to the Ethernet Routing Switch 1600 Series, Software Release 2.1.

### Publications

Refer to the following publications for information about Ethernet Routing Switch 1600 Series, Software Release 2.1:

- *Release Notes for the Ethernet Routing Switch 1600 Series, Software Release 2.1* (316859-J)
- *Installing the Ethernet Routing Switch 1600 Series Switch* (316860-D)
- *Upgrading to Ethernet Routing Switch 1600 Series Software Release 2.1* (321327-B)
- *Configuring IP Routing and Multicast Operations using the CLI* (321711-B)
- *Configuring IP Routing and Multicast Operations using Device Manager* (321712-B)
- *Configuring and Managing Security using Device Manager* (321713-B)
- *Configuring and Managing Security using the CLI* (321714-B)
- *Configuring VLANs, Spanning Tree, and Static Link Aggregation using the CLI* (321717-B)
- *Configuring VLANs, Spanning Tree, and Static Link Aggregation using Device Manager* (321718-B)
- *Configuring Network Management using the CLI and Device Manager* (321816-A)
- *Managing Platform Operations* (321817-A)
- *Installing and Using Device Manager* (316857-C)
- *Quick Start Guide* (321819-A)
- *System Messaging Platform Reference Guide* (321820-A)
- *Getting Started* (321821-A)
- *Configuring QOS and Filters using the CLI* (321715-A)
- *Configuring QOS and Filters using Device Manager* (321716-A)
- *Network Design Guidelines* (321823-A)

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## How to get help

This section explains how to get help for Nortel products and services.

### Finding the latest updates on the Nortel web site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for **Ethernet Routing Switch 1600 Series**, click one of the following links:

Link to	Takes you directly to the
<a href="#">Latest software</a>	Nortel page for <b>Ethernet Routing Switch 1600 Series</b> software located at <a href="http://www.nortel.com">www.nortel.com</a>
<a href="#">Latest documentation</a>	Nortel page for <b>Ethernet Routing Switch 1600 Series</b> documentation located at <a href="http://www.nortel.com">www.nortel.com</a>

### Getting help from the Nortel web site

The best way to get technical support for Nortel products is from the Nortel Technical Support web site:

[www.nortel.com/support](http://www.nortel.com/support)

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. From this site, you can:

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

## **Getting help over the phone from a Nortel Solutions Center**

If you do not find the information you require on the Nortel Technical Support web site, and you have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following web site to obtain the phone number for your region:

[www.nortel.com/callus](http://www.nortel.com/callus)

## **Getting help from a specialist by using an Express Routing Code**

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

[www.nortel.com/erc](http://www.nortel.com/erc)

## **Getting help through a Nortel distributor or reseller**

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

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# Chapter 1

## System management commands

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This chapter describes the Ethernet Routing Switch 1600 Series system management commands.

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..

Use this command to go back one level (performs the same function as the **back** command).

## Syntax

..

## attribute

Use this command to modify the MS-DOS file attributes.

## Syntax

```
attribute <file> <attributes>
```

where:

- *file* is the file name.
- *attributes* is {+|-|A|S|H|R} (string length is 1 to 1024).

## back

Use this command to go back one level.

## Syntax

```
back
```

## boot

Use this command to boot the switch. You can use the command options to specify the boot source (flash, or TFTP server) and file name. If you do not specify a device and file, the Run-Time CLI uses the software and configuration files on the primary boot device that is defined by the Boot Monitor **choice** command.

### Syntax

```
boot [<file>] [config <value>] [-y]
```

where:

- *<file>* is the software image device and file name in the format a.b.c.d:<file>|/flash/<file>. The file name can be from 1 to 99 characters.
- `config <value>` is the software configuration device and file name in the format a.b.c.d:<file>|/flash/<file>. The file name can be from 1 to 99 characters.
- `-y` suppresses the confirmation message before the switch reboots. If you omit this parameter, you are asked to confirm the action before the switch reboots.

## box

Use this command to go to the top or the box level.

### Syntax

```
box
```

## cd

Use this command to change the current file system directory path.

### Syntax

```
cd <dir>
```

where *dir* is a directory path name up to 1536 characters.

## clear

Use this command to clear statistics and IP information from the switch or to end a Telnet session.

### Syntax

```
clear
```

### Parameter

This command includes the following parameters:

<b>clear</b> followed by:	
telnet <session id>	Ends the specified Telnet session. <i>session id</i> is a number between 0 and 7.

## clear filter

Use this command to clear statistics for access control entry.

### Syntax

```
clear filter statistics [<acl-id>] [<ace-id>]
```

### Parameters

This command includes the following parameters:

<b>clear filter statistics</b> followed by:	
acl-id	Specifies the access control list identifier from 1..512.
ace-id	Specifies the access control entry identifier from 1..256 or {0x1..0x100} or {default}.

## clear ip

Use this command to clear IP information, including ARP entries, from the ARP table or route entries from the route table and VRRP port and VRRP VLAN information.

### Syntax

```
clear ip
```

## Parameters

This command includes the following parameters:

<b>clear ip</b> followed by:	
<code>arp vlan &lt;vid&gt;</code>	Clears ARP entries associated with the specified virtual LAN. Parameter <ul style="list-style-type: none"> <li><i>vid</i> is the vlan id with a range of 1 to 2000.</li> </ul>
<code>route vlan &lt;vid&gt;</code>	Clears route entries associated with the specified virtual LAN. Parameter <ul style="list-style-type: none"> <li><i>vid</i> is the vlan id with a range of 1 to 2000.</li> </ul>
<code>vrrp ports &lt;ports&gt; vrid &lt;value&gt;</code>	Clears specific port for Virtual Router Redundancy Protocol (VRRP). Parameters <ul style="list-style-type: none"> <li><i>ports</i> is the portlist referenced as {slot/port[-slot/port][...]}.</li> <li><i>vrid</i> is the virtual router identification number from 0..255.</li> </ul>
<code>vrrp vlan &lt;vid&gt; vrid &lt;value&gt;</code>	Clears specific Virtual Local Area Network (VLAN) for VRRP. Parameters <ul style="list-style-type: none"> <li><i>vid</i> is the VLAN identification number from 0..4095.</li> <li><i>vrid</i> is the virtual router identification number from 0..255.</li> </ul>

## clear ip routing-stats

Use this command to clear IP routing statistics. IP routing statistics include the numbers of transmitted packets, transmitted octets, discarded packets, and discarded octets.

### Syntax

```
clear ip routing-stats
```

## clear ports

Use this command to clear port statistics from the switch counters.

### Syntax

```
clear ports
```

### Parameter

This command includes the following parameters:

<b>clear ports</b> followed by:	
<code>stats [&lt;ports&gt;]</code>	<p>Clears statistics from the specified port.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><code>ports</code> specifies one or more ports , shown as <code>{{slot/port[-slot/port][, ...]}</code>.</li> </ul>

## clear qos

Use this command to clear Quality of Service (QOS) statistics from the switch counters.

### Syntax

```
clear qos
```

## Parameter

This command includes the following parameters:

<b>clear qos</b> followed by:	
<code>policy-stats</code> <code>[&lt;policy-id&gt;]</code>	<p>Clears policy statistics from the switch.</p> <p>Parameter</p> <ul style="list-style-type: none"><li>• <code>policy-id</code> specifies a QoS policy identification number from 1..128.</li></ul>



## config

Use this command to obtain access to switch configuration commands.

### Syntax

```
config
```

See [Chapter 2 on page 59](#) for a complete listing of the configuration commands.

## copy

Use this command to copy a file from one device to another; you can use the command with a wildcard pattern.

### Syntax

```
copy <srcfile> <destfile>
```

where:

- *srcfile* specifies the source device and file name (1 to 1536 characters).
- *destfile* specifies the destination device and file name (1 to 99 characters).

## cp

Use this command to copy a file from one device to another; you can use the command with a wildcard pattern.

### Syntax

```
cp <srcfile> <destfile> [-y]
```

where:

- *srcfile* specifies the source device and file name (1 to 1536 characters).
- *destfile* specifies the destination device and file name (1 to 99 characters).
- *-y* skips the confirmation prompt.

## **CWC**

Use this command to change the current working level.

### **Syntax**

```
cwc [...]
```

where: *...* specifies to go back one level.

## **date**

Use this command to display the current calendar time for the switch.

### **Syntax**

```
date
```

## **directory**

Use this command to list the files in MS-DOS format.

### **Syntax**

```
directory [<dir>] [-1]
```

where:

- *dir* is the destination device and file name, up to 1536 characters
- *-l* provides details.

## dos-chkdsk

Use this command to run a check of the file system for inconsistencies.

### Syntax

```
dos-chkdsk <device> [repair]
```

where:

- *device* is the device name, for example */flash*, up to 1536 characters
- *repair* repairs the errors found.

## dos-format

Use this command to format the device (flash) with an MS-DOS file system.

### Syntax

```
dos-format <device>
```

where *device* is the device name, for example */flash*, up to 1536 characters

## edit

Use this command to access a simple vi line editor to modify script files.

### Syntax

```
edit <file>
```

where *file* is the file name.

## exit

Use this command to exit the CLI session

### Syntax

```
exit
```

## format-flash

Use this command to format the on-board flash with FTL and MS-DOS file system.

### Syntax

```
format-flash
```

## grep

Use this command to display all lines in a file containing one or more matching strings within the file.

### Syntax

```
grep <string> <file>
```

where:

- *string* is the character string to be matched, from 1 to 1536 characters.
- *file* is a file name, in the form /flash/<file>, from 1 to 1536 characters.

## help

Use this command to display an explanation of the available online Help commands.

### Syntax

```
help [commands | syntax | ? | ttychars | <command> | <command>? | <command?>]
```

where:

- *help* provides a list of help features.
- *commands* provides a list of commands you can enter from the current prompt.
- *syntax* provides a path list of commands and parameters available from the current prompt or <command> forward.
- ? provides the sub and current context commands available from the current prompt.
- *ttychars* provides a list of special terminal editing characters.
- <command> describes a specific command or provides a list of sub-commands that you can enter from within the specified command.

- `<command>?` provides the sub and current context commands available from the current prompt if the current command is an intermediate node in the command tree structure. Otherwise this command provides parameter help for the command.
- `<command?>` provides a list of commands that match a specified character string.

## history

Use this command to list the commands that you entered during the current session.

### Syntax

```
history
```

### Parameters

This command includes the following parameters:

<b>history</b> followed by:	
!!	Reenters the most recently entered command.
! <i>&lt;number&gt;</i>	Enters the command identified in the command history by the variable <i>number</i> .
! <i>&lt;str&gt;</i>	Runs the last command that matches the given string <i>str</i> .
!? <i>&lt;substr&gt;</i>	Runs the last command that matches the given substring <i>substr</i> .
^ <i>&lt;sstr&gt;</i> ^ <i>&lt;rstr&gt;</i>	Enters the most recent command but substitutes a new string for a given string.

## install

Use this command to set up the initial configuration effective at boot-time. Syntax

```
install
```

## login

Use this command to log on to a different access level.

### Syntax

```
login
```

## logout

Use this command to log off the system.

### Syntax

```
logout
```

## ls

Use this command to list the files in UNIX format.

### Syntax

```
ls [<dir>] [-r]
```

where:

- *dir* is the directory path name.

- `-r` recurs into directories to include the contents of all subdirectories.

## mkdir

Use this command to create a directory in the file system.

### Syntax

```
mkdir <dir>
```

where *dir* is the directory path name with a string length from 1..99

## monitor

Use this command to monitor error statistics.

### Syntax

```
monitor [<mlt|ports>]
```

## monitor mlt

Use this command to monitor MultiLink Trunking (MLT) error information and statistics.

### Syntax

```
monitor <mlt>
```



## Parameters

This command includes the following parameters:

<b>monitor mlt</b> followed by:	
<code>error collision [&lt;mid&gt;]</code>	Monitors MLT collision error information. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>mid</i> is a unique identifying value for the link aggregation group (the MLT ID value) from 1..7.</li> </ul>
<code>error main &lt;mid&gt;</code>	Monitors MLT general error information. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>mid</i> is a unique identifying value for the link aggregation group (the MLT ID value) from 1..7.</li> </ul>
<code>stats interface main &lt;mid&gt;</code>	Shows the MLT interface statistics. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>mid</i> is a unique identifying value for the link aggregation group (the MLT ID value) from 1..7.</li> </ul>
<code>stats interface utilization &lt;mid&gt;</code>	Shows the link aggregation (MLT) interface utilization statistics. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>mid</i> is a unique identifying value for the link aggregation group (the MLT ID value) from 1..7.</li> </ul>

## monitor ports

Use this command to monitor port error information and statistics.

### Syntax

```
monitor <ports>
```

### Parameters

This command includes the following parameters:

<b>monitor ports</b> followed by:	
<code>error collision</code> <code>[&lt;ports&gt;] [from</code> <code>&lt;value&gt;]</code>	<b>Monitors error collision information.</b> <b>Parameters</b> <ul style="list-style-type: none"> <li>• <code>ports</code> is the port list represented as {slot/port[-slot/port][...]}</li> <li>• <code>from &lt;value&gt;</code> is the port list represented as {slot/port[-slot/port][...]}</li> </ul>
<code>error extended</code> <code>[&lt;ports&gt;] [from</code> <code>&lt;value&gt;]</code>	<b>Monitors extended error information.</b> <b>Parameters</b> <ul style="list-style-type: none"> <li>• <code>ports</code> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <code>from &lt;value&gt;</code> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>
<code>error main [&lt;ports&gt;]</code> <code>[from &lt;value&gt;]</code>	<b>Monitors general error information.</b> <b>Parameters</b> <ul style="list-style-type: none"> <li>• <code>ports</code> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <code>from &lt;value&gt;</code> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>
<code>error ospf &lt;ports&gt;</code> <code>from &lt;value&gt;</code>	<b>Monitors the Open Shortest Path First (OSPF) error information.</b> <b>Parameters</b> <ul style="list-style-type: none"> <li>• <code>ports</code> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <code>from &lt;value&gt;</code> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>

<b>monitor ports</b> followed by:	
<code>stats dhcp-relay &lt;ports&gt; from &lt;value&gt;</code>	Monitors port Dynamic Host Configuration Protocol (DHCP) statistics. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ports</i> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <i>from &lt;value&gt;</i> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>
<code>stats interface extended &lt;ports&gt; from &lt;value&gt;</code>	Monitors port interface Multicast statistics. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ports</i> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <i>from &lt;value&gt;</i> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>
<code>stats interface main &lt;ports&gt; from &lt;value&gt;</code>	Monitors port interface statistics. <ul style="list-style-type: none"> <li>• <i>ports</i> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <i>from &lt;value&gt;</i> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>
<code>stats interface utilization &lt;ports&gt; from &lt;value&gt;</code>	Monitors port interface statistics utilization. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ports</i> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <i>from &lt;value&gt;</i> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>
<code>stats rmon &lt;ports&gt; from &lt;value&gt;</code>	Monitors port Remote Monitoring (RMON) statistics. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ports</i> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <i>from &lt;value&gt;</i> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>
<code>stats stp &lt;ports&gt; from &lt;value&gt;</code>	Monitors port Spanning Tree Protocol (STP) statistics. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ports</i> is the port list represented as {slot/port[-slot/port][...]}.</li> <li>• <i>from &lt;value&gt;</i> is the port list represented as {slot/port[-slot/port][...]}.</li> </ul>

## more

Use this command to display the contents of a file.

### Syntax

```
more <file> [type]
```

where:

- *file* is the device and file name with a string length of 1 to 99 characters (*a.b.c.d:<file>/flash/<file>*).
- *type* is the file type of either {*binary|ascii*}.

## mv

Use this command to move or rename a file; you can use the command with a wildcard pattern. You cannot use the `mv` command to move a file between two devices. Use the `cp` or the `copy` command instead.

### Syntax

```
mv <old> <new>
```

where:

- *old* is the old device and file name with a string length of 1 to 99 characters (*/flash/<file>*).
- *new* is the new device and file name with a string length of 1 to 99 characters (*/flash/<file>*).

## ping

Use this command to test the network connection to another network device. The command sends an Internet Control Message Protocol (ICMP) packet from the switch to the target device. If the device receives the packet, it sends a ping reply. When the switch receives the reply, it displays a message indicating that the specified IP address is alive. If no reply is received, a message indicates that the address is not responding.

### Syntax

```
ping <ipaddr> [datasize <value>] [count <value>] [-s]
[-I <value>] [-t <value>] [-d]
```

where:

- *ipaddr* is the IP address {a.b.c.d} of the other network device.
- *datasize <value>* is the size of the ping data (16 to 4076 bytes).
- *count <value>* is the number of times to ping (1 to 9999). The default is 1.
- *-s* is a continuous ping at the interval rate defined by [-I <value>].
- *-I <value>* is the interval between transmissions in seconds (1 to 60).
- *-t <value>* is the no-answer timeout value in seconds (1 to 120).
- *-d* sets ping debug mode. In debug mode, the ping reply includes additional information about the device being pinged.

## pwc

Use this command to display the current working context.

### Syntax

```
pwc
```

## pwd

Use this command to print the current working directory in the file system.

### Syntax

```
pwd
```

## quit

Use this command to close the CLI session.

### Syntax

```
quit
```

## remove

Use this command to delete a file from a boot device.

### Syntax

```
remove <file> [-y]
```

where:

- *file* is the destination device and file name.
- *-y* skips the confirmation prompt.

## rename

Use this command to move or rename the file or directory; you can use the command with a wildcard pattern.

### Syntax

```
rename <old> <new>
```

where:

- *old* is the old device and file name with a string length of 1 to 99 characters (/flash/<file>).
- *new* is the new device and file name with a string length of 1 to 99 characters (/flash/<file>).

## reset

Use this command to reset the switch. When you reset the switch, the most recently saved configuration file is used to reload the system parameters.

### Syntax

```
reset [-y]
```

where *-y* skips the confirmation prompt.

## rlogin

Use this command to allow login to a remote host.

### Syntax

```
rlogin <ipaddr>
```

where *ipaddr* is the IP address of the remote device.

## rm

Use this command to remove a file or directory. You can use this command with a wildcard pattern.

### Syntax

```
rm <file> [-y]
```

where:

- *file* is the file name with a string length of 1 to 99 characters (/flash/<file>).
- *-y* skips the confirmation prompt.

## rsh

Use this command to execute a shell command on a remote machine.

### Syntax

```
rsh <ipaddr> -l <value> <cmd>
```



where:

- *ipaddr* is the IP address {a.b.c.d} of the remote device.
- *-l <value>* is the user login name, from 0 to 1536 characters.
- *cmd* is the command to execute on the remote host (string length 1 to 1536).

## save

Use this command to save the running configuration to a file.

### Syntax

```
save <savetype> [file <value>] [verbose] [standby <value>]  
[backup <value>]
```

where:

- *savetype* specifies the type of file to save— options are :
  - config
  - bootconfig
  - log
  - trace
- *file <value>* is the device and file name with a string length of 1..99 characters (a.b.c.d:<file>|/flash/<file>).
- *verbose* saves default and current configuration. If you omit the [verbose] parameter, only the current configuration is saved.
- *standby <value>* saves the specified file name to the standby CPU (/flash/<file>).
- *backup <value>* saves the specified file name and identifies the file as a backup file (a.b.c.d:<file>|/flash/<file>) with a string length of 1..99.

## show

Use this command to provide access to the show commands.

### Syntax

show

See also [Chapter 3](#) on page 277.

## source

Use this command to merge a configuration file into the running configuration without having to reboot the switch.

### Syntax

```
source <file> [stop] [debug] [syntax]
```

where:

- *file* is the device and file name of the new configuration file with a string length of 1..99 characters (*a.b.c.d:<file>|/flash/<file>*).
- *stop* stops the script when it finds an error in the file.
- *debug* provides a debug script output.
- *syntax* verifies the script's syntax.

## telnet

Use this command to set up a Telnet session to a remote device, for example, to the standby CPU.

### Syntax

```
telnet [<ipaddr>]
```

where *ipaddr* is the IP address {a.b.c.d} of the remote device.

## test

Use this command to provide access to test commands.

### Syntax

```
test
```

## test loopback <ports>

Use this command to run the port loopback test.

### Syntax

```
test loopback <ports>
```

where *ports* is the portlist referenced as {slot/port[-slot/port][...]}

## test stop loopback <ports>

Use this command to stop a currently running test.

### Syntax

```
test stop loopback <ports>
```

where *ports* is the portlist referenced as {slot/port[-slot/port][....]}

## top

Use this command to go to the box, or top, level (same as the **box** command).

### Syntax

```
top
```

## trace

Use this command to display the status of the switch at any given time.

### Syntax

```
trace
```

## Parameters

This command includes the following parameters:

<b>trace</b> followed by:	
<code>info [tail]</code>	Displays the trace message file. Use the <code>tail</code> to view the log in reverse order.
<code>auto-enable</code>	Enables automatic trace feature configuration commands.
<code>clear</code>	Clears the trace file.
<code>filter</code> <code>[&lt;file/module&gt;]</code>	Filters trace messages. Parameters <ul style="list-style-type: none"> <li>• <code>file</code> enables tracing on a file.</li> <li>• <code>module</code> enables tracing on a module.</li> </ul>
<code>grep [&lt;keyword&gt;]</code>	Performs a comparison of trace messages and searches for a pattern in the trace. Parameter <ul style="list-style-type: none"> <li>• <code>keyword</code> defines the string to be searched. String length can be from 0 to 128.</li> </ul>
<code>level &lt;modid&gt;</code> <code>[&lt;level&gt;]</code>	Displays the trace level on a software module for the specified module ID when the optional <code>level</code> parameter is omitted. Use the <code>modid-list</code> parameter to see a list of module ID numbers. Sets the trace level on a software module for the specified module ID when the optional <code>level</code> parameter is included. The level is one of the following values: <ul style="list-style-type: none"> <li>• 0 = Disabled</li> <li>• 1 = Very terse</li> <li>• 2 = Terse</li> <li>• 3 = Verbose</li> <li>• 4 = Very verbose</li> </ul>
<code>modid-list</code>	Displays the module ID numbers that can be traced.
<code>off</code>	Disables tracing on a module.
<code>route-policy</code>	Traces a route policy.
<code>screen [&lt;setting&gt;]</code>	Enables or disables displaying the trace file. <code>setting</code> is <code>on</code> or <code>off</code> .

## trace auto-enable

Use this command to auto-enable the trace-feature-configuration commands.

### Syntax

```
trace auto-enable
```

### Parameters

This command includes the following parameters:

<b>trace auto-enable</b> followed by:	
add-module	Adds software module to be enabled automatically.
auto-trace	Enables or disables automatic trace features.
high-percentage	Sets CPU utilization percentage beyond which auto-trace should be enabled.
high-track-duration	Sets the time, in seconds, to monitor CPU utilization before triggering trace.
info	Shows the current auto-trace-enable feature settings.
low-percentage	Sets CPU utilization percentage below which auto-trace should be disabled.
low-track-duration	Sets the time, in seconds, to monitor CPU utilization before disabling trace.
remove module	Removes software module from the list of modules to be automatically traced.

## trace filter file

Use this command to enable tracing on a file.

### Syntax

```
trace filter file <file-name> [suppress] [disable] [clear]
info] [rangeFrom <value>] [rangeTo <value>] [backtrace]
[bt-limit <value>] [lines <value>]
```

### Parameters

This command includes the following parameters:

<b>trace filter file</b>	
followed by:	
<i>&lt;file-name&gt;</i>	<p>Specifies the name of the file to trace, where the file name string is from 0..128 characters.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>suppress</i> suppresses the trace.</li> <li>• <i>disable</i> disables the trace filter.</li> <li>• <i>clear</i> clears the trace command.</li> <li>• <i>info</i> provides trace filter information.</li> <li>• <i>rangeFrom &lt;value&gt;</i> specifies the starting line number for tracing from 0..65535.</li> <li>• <i>rangeTo &lt;value&gt;</i> specifies the end line number for tracing from 0..65535.</li> <li>• <i>backtrace</i> enables back trace.</li> <li>• <i>bt-limit &lt;value&gt;</i> specifies the back trace limit from 0..65535.</li> <li>• <i>lines &lt;value&gt;</i> specifies the line numbers, separated by commas, with a string length from 0..256.</li> </ul>

## trace filter module

Use this command to enable tracing on a module.

### Syntax

```
trace filter module <module Id> [supress] [disable] [clear]
[info]
```

### Parameters

This command includes the following parameters:

<b>trace filter module</b> followed by:	
<i>&lt;module Id&gt;</i>	Represents the module identification number, from 0..67, being traced. <ul style="list-style-type: none"><li>• <i>supress</i> suppresses the trace.</li><li>• <i>disable</i> disables the trace filter.</li><li>• <i>clear</i> clears the trace.</li><li>• <i>info</i> provides trace filter information.</li></ul>

## trace route-policy

Use this command to access route-policy-serviceability and tracing commands.

### Syntax

```
trace route-policy <setting> [protocol <value>] [policy-type
<value>] [policy <value>] [ipaddr <value>] [iflist <value>]
```



## Parameters

This command includes the following parameters:

<b>trace route-policy</b>	
followed by:	
<code>setting &lt;off/on&gt;</code>	Sets trace route policy off or on.
<code>protocol &lt;value&gt;</code>	Specifies the routing protocol Parameters <ul style="list-style-type: none"> <li>• rip</li> <li>• ospf</li> <li>• bgp</li> </ul>
<code>policy-type &lt;value&gt;</code>	Specifies the policy type. Parameters <ul style="list-style-type: none"> <li>• accept</li> <li>• announce</li> </ul>
<code>policy &lt;value&gt;</code>	Specifies the policy name with a string length from 1..64.
<code>ipaddr &lt;value&gt;</code>	Specifies the interface address {a.b.c.d}.
<code>iflist &lt;value&gt;</code>	Specifies the interface list name with a string length from 1..256.

## traceroute

Use this command to trace the route to a remote host. Traceroute shows all the routes used and indicates when the remote network cannot be reached.

### Syntax

```
traceroute <ipaddr> [<datasize>] [-m <value>] [-p <value>]
[-q <value>] [-w <value>] [-v]
```

where:

- `ipaddr` is the IP address {a.b.c.d} of the remote host.
- `datasize` is the size of the probe packet in bytes (1 to 1464).
- `-m <value>` is maximum time-to-live (TTL) value in seconds (1 to 255).

- `-p <value>` is the base UDP port number (0 to 65535).
- `-q <value>` is the number of probes per TTL (1 to 255).
- `-w <value>` is the wait time per probe in seconds (1 to 255).
- `-v` is the verbose mode (showing all).

---

## Chapter 2

# config commands

---

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# config

Use this command to set the calendar time.

## Syntax

```
config
```

## Parameters

This command includes the following parameters:

<b>config</b> followed by:	
info	Displays current-level parameter settings and next-level directories.
license load license-file	Specifies the license file.
load-module <3DES DES> <sourcefile>	Specifies the source file for the load module.
setdate <MMdyyyyhhmmss>	Sets the calendar time in the format month, day, year, hour, minutes, seconds. You must be logged on as rwa to use this command.

## config asic unicast\_multicast\_ratio

Use this command to configure the unicast\_multicast ratio to tune internal tables to optimize the number of routing/SG entries.

### Syntax

```
config asic unicast_multicast_ratio
```

### Parameters

This command includes the following parameters:

<b>config asic unicast_multicast_ratio</b> followed by:	
<100_0 72_25 50_50>	Sets the unicast to multicast space ratio.
info	Shows the configured unicast to multicast ratio.

## config bootconfig

Use this command to configure the Boot Monitor CLI while you are in the Run-Time CLI.

### Syntax

```
config bootconfig
```

## Parameters

This command includes the following parameters:

<b>config bootconfig</b> followed by:	
info	Displays the configured values for multicast.
logfile <minFreeSpace> <maxFileSize> <maxoccupyPercentage>	Specifies the following: <ul style="list-style-type: none"> <li>• minFreeSpace—minimum free space</li> <li>• maxFileSize—maximum file size</li> <li>• maxoccupyPercentage—maximum occupied percentage</li> </ul>

## config bootconfig choice

Use this command to change the access order for the boot source.

### Syntax

```
config bootconfig <boot-choice> [primary | secondary | tertiary] <bootconfig>
```

where *bootconfig* is the access order for the specified boot device—primary, secondary, or tertiary—when the switch is rebooted

## Parameters

This command includes the following parameters:

<b>config bootconfig choice &lt;boot-choice&gt;</b> followed by:	
info	Displays the current boot choices and associated files.
config-file <file>	Identifies the run-time configuration file to load. Parameter <ul style="list-style-type: none"> <li>• <i>file</i> is the device and file name</li> </ul>

<b>config bootconfig choice &lt;boot-choice&gt;</b> followed by:	
image-file <file>	Identifies the run-time image file to load. Parameter <ul style="list-style-type: none"> <li>• <i>file</i> is the device and file name</li> </ul>
backup-config-file <file>	Specifies the name of the backup configuration file. Parameter <ul style="list-style-type: none"> <li>• <i>file</i> is the backup configuration file name</li> </ul>

## config bootconfig cli

Use this command to change the Boot Monitor CLI while you are in the Run-Time CLI.

### Syntax

```
config bootconfig cli
```

### Parameters

The **config bootconfig cli** command includes the following parameters:

<b>config bootconfig cli</b> followed by:	
info	Displays the current settings for the Boot Monitor CLI.
more <true false>	Sets scrolling for the output display. The default is <i>true</i> . Parameters <ul style="list-style-type: none"> <li>• <i>true</i> sets output display scrolling to one page at a time</li> <li>• <i>false</i> sets the output display to continuous scrolling</li> </ul>
prompt <value>	Changes the Boot Monitor prompt to the defined string. Parameter <ul style="list-style-type: none"> <li>• <i>value</i> is a string from 1 to 32 characters</li> </ul>

<b>config bootconfig cli</b> followed by:	
<code>rlogin-sessions &lt;value&gt;</code>	Sets the allowable number of inbound remote Boot Monitor CLI logon sessions; the default is 8. Parameter <ul style="list-style-type: none"> <li><i>value</i> is the number of sessions (0 to 8)</li> </ul>
<code>screenlines &lt;value&gt;</code>	Sets the number of lines in the output display; the default is 23. Parameter <ul style="list-style-type: none"> <li><i>value</i> is the number of lines (1 to 64)</li> </ul>
<code>telnet-sessions &lt;value&gt;</code>	Sets the allowable number of inbound Telnet sessions; the default is 1. Parameter <ul style="list-style-type: none"> <li><i>value</i> is the number of sessions (0 to 8)</li> </ul>
<code>timeout &lt;seconds&gt;</code>	Sets the idle timeout period before automatic logout for CLI sessions; the default is 900 seconds. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is the timeout period in seconds (0 to 65536)</li> </ul>

## config bootconfig flags

Use this command to set system flags to true or false. Changes to certain flags (factorydefaults, ftpd, tftpd, wdt) take effect only after you save changes to the boot configuration file and reset the switch.

### Syntax

config bootconfig flags

## Parameters

This command includes the following parameters:

<b>config bootconfig flags</b>	
followed by:	
info	Displays current flag settings.
autoboot <true false>	Controls whether the switch automatically runs the run-time image after it is reset or stops at the monitor prompt. Setting autoboot to false is useful for some debugging tasks. The default is <i>true</i> .
block-snmp <true false>	True blocks the Simple Network Management Protocol (SNMP) access and false unblocks it. The default is <i>false</i> . <b>NOTE:</b> The SSH secure mode must be disabled before the block-snmp boot flag can be set to false.
daylight-saving-time <true false>	Enables or disables daylight saving time on the switch. The default is <i>false</i> .
debugmode <true false>	Controls whether the switch stops in debug mode following a fatal error. Debug mode provides information equivalent to the <i>trace</i> commands. Parameters <ul style="list-style-type: none"> <li>• <i>true</i> means, following a fatal error, the switch stops in debug mode and a list of software modules to debug appears</li> <li>• <i>false</i> means the switch automatically reboots following a fatal error</li> </ul> The default is <i>false</i> .
debug-config <true false>	Enables or disables run-time debugging of the configuration file. The default is <i>false</i> .
factorydefaults <true false>	Sets the runtime switch configuration to factory default settings. The default is <i>false</i> .
ftpd <true false>	Enables or disables FTP server on the switch. The default is <i>false</i> .
logging <true false>	Enables or disables system logging to a file on the PC card. The default is <i>true</i> .
reboot <true false>	Enables or disables the option to reboot on fatal error. The default is <i>true</i> .
rlogind <true false>	Enables or disables the rlogin/rsh server. The default is <i>false</i> .

<b>config bootconfig flags</b>	
followed by:	
sshd <true false>	Enables or disables the Secure Shell daemon. The default is <i>false</i> .
spanning tree mode <mstp rstp default>	Sets the Spanning Tree mode as Multiple Spanning Tree (MSTP), Rapid Spanning Tree (RSTP) or legacy Spanning Tree Group (STG).
telnetd <true false>	Enables or disables the Telnet server. The default is <i>false</i> .
tftpd <true false>	Enables or disables the TFTP server. The default is <i>false</i> .
trace-logging <true false>	Enables or disables system tracing to a file on the PC card. The default is <i>false</i> .
verify-config <true false>	Enables syntax checking of the configuration file and prevents execution of the file if an error is found. The factory default configuration file is loaded instead. The default is <i>false</i> .
wdt <true false>	Enables or disables the hardware watchdog timer that monitors a hardware circuit. The watchdog timer reboots the switch based on software errors. The default for this command is <i>true</i> .

## config bootconfig host

Use this command to define conditions for remote host logon.

### Syntax

```
config bootconfig host
```

### Parameters

This command includes the following parameters:

<b>config bootconfig host</b>	
followed by:	
info	Displays current settings for remote host logon.
ftp-debug <true false>	Enables or disables debug mode on FTP/FTP. The default is <i>false</i> .
password <value>	Sets the FTP password, where <i>value</i> is the password, from 0 to 16 characters. Invoke this command to enable FTP transfers.
tftp-debug <true false>	Enables or disables debug mode on TFTP. The default is <i>false</i> .
tftp-hash <true false>	Enables or disables the TFTP hash bucket display. The default is <i>false</i> .
tftp-rexmit <seconds>	Sets the TFTP retransmission timeout. Parameter • <i>seconds</i> is 1 to 2147483647; the default is 6
tftp-timeout <seconds>	Sets TFTP transfer timeout. Parameter • <i>seconds</i> is 1 to 2147483647
user <value>	Sets the remote user logon name. Parameter • <i>value</i> is the user logon name, from 0 to 16 characters; the default is <i>target</i>



## config bootconfig net

Use this command to configure the CPU network port devices.

### Syntax

```
config bootconfig net <cpu-net-port>
```

where *cpu-net-port* is mgmt

### Parameters

This command includes the following parameters:

<b>config bootconfig net &lt;cpu-net-port&gt;</b> followed by:	
info	Displays information about the current configuration of the specified port.
autonegotiate <true/false>	Enables or disables autonegotiation for the specified port. The default is: <ul style="list-style-type: none"> <li>• For mgmt: true</li> </ul>
bootp <true/false>	Enables or disables the Bootstrap Protocol (BootP) for the specified port. The default is true for all specified port types.
enable <true/false>	Enables or disables the specified network port. The default is: <ul style="list-style-type: none"> <li>• For mgmt: true</li> </ul>
fullduplex <true/false>	Enables or disables full-duplex mode for the specified port. The default is: <ul style="list-style-type: none"> <li>• For mgmt: false</li> </ul>
ip <ipaddr/mask> [slotid to which ipaddr applies <value>]	Specifies the IP address and netmask for the specified port. The default is 0.0.0.0.
restart	Shuts down and reinitializes the specified port.

<b>config bootconfig net &lt;cpu-net-port&gt;</b> followed by:	
<code>route [add del] &lt;netaddr/mask&gt; &lt;gateway&gt;</code>	Enables or disables a route for the specified port. Parameters <ul style="list-style-type: none"><li>• <code>add del</code> adds or deletes the specified route.</li><li>• <code>netaddr</code> is the IP address of the destination network.</li><li>• <code>mask</code> is the IP address of the mask.</li><li>• <code>gateway</code> is the IP address of the gateway.</li></ul>
<code>speed &lt;10 100&gt;</code>	Sets the connection speed for the port to 10 Mb/s or to 100 Mb/s. The default is: <ul style="list-style-type: none"><li>• For mgmt: 10</li></ul>
<code>tftp &lt;ipaddr&gt;</code>	Specifies the TFTP server ip address for the specified port. The default is 0.0.0.0.

## config bootconfig set-mgmt-port

Use this command to set the boot monitor management port.

### Syntax

```
config bootconfig set-mgmt-port <port>
```

where *port* is the port number expressed as {slot/port}

## config bootconfig show

Use this command to display the current configuration of the Boot Monitor and the Boot Monitor CLI.

### Syntax

```
config bootconfig show
```

### Parameters

This command includes the following parameters:

<b>config bootconfig show</b>	
followed by:	
info	Displays the current boot monitor settings.
bootp	Displays the boot parameter configuration.
choice	Displays the boot configuration choices.
cli	Displays the CLI configuration.
config [verbose]	Displays the current boot configuration. Optional parameter: verbose displays all possible information.
flags	Displays the flags settings.
host	Displays the host configuration.
net	Displays the current configuration of the CPU network ports.
sio	Displays the current configuration of CPU serial ports.
tz	Displays the switch's time zone setting.

## config bootconfig sio

Use this command to configure the CPU serial port devices.

### Syntax

```
config bootconfig sio
```

### Parameters

This command includes the following parameters:

<b>config bootconfig sio</b> followed by:	
info	Displays configuration information about the specified port.
baud <rate>	Sets the baud rate for the port. The default is 9600.
8databits <true false>	Specifies either 8 ( <i>true</i> ) or 7 ( <i>false</i> ) data bits per byte for software to interpret. The default is <i>false</i> .
enable <true false>	Enables or disables the port. The default is <i>true</i> .
restart	Shuts down and reinitializes the port.

## config bootconfig tz

Use this command to set the relation of the switch time zones.

### Syntax

```
config bootconfig tz
```

## Parameters

This command includes the following parameters:

<b>config bootconfig tz</b>	
followed by:	
<code>info</code>	Displays information about the current time zone settings for the switch.
<code>dst-end &lt;Mm.n.d/hhmm/MMddhhmm&gt;</code>	<p>Sets the ending date of daylight saving time. You can specify the time in one of two ways:</p> <ul style="list-style-type: none"> <li>Specify an hour on the nth occurrence of a weekday in a month. For example, M10.5.0/0200 means the 5th occurrence of Sunday in the 10th month (October) at 2:00 a.m.</li> <li>Specify a month, day, hour, and minute. For example, 10310200 means October 31 at 2:00 a.m.</li> </ul>
<code>dst-name &lt;dstname&gt;</code>	<p>Sets an abbreviated name for the daylight saving local time zone, up to 7 characters.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><code>dstname</code> is the name (for example, “pdt” is Pacific Daylight Time)</li> </ul>
<code>dst-offset &lt;minutes&gt;</code>	Sets the daylight saving adjustment in minutes. The range is -240 to 240.
<code>dst-start &lt;Mm.n.d/hhmm/MMddhhmm&gt;</code>	Sets the starting date of daylight saving time. The format is the same as for setting the ending date.
<code>offset-from-utc &lt;minutes&gt;</code>	Sets the time zone offset, in minutes to subtract from UTC, where positive numbers mean west of Greenwich and negative numbers mean east of Greenwich. The range is -840 to 840.
<code>name &lt;tz&gt;</code>	<p>Sets an abbreviated name for the local time zone, up to 7 characters.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><code>tz</code> is the name (for example, “pst” is Pacific Standard Time).</li> </ul>

## config bridging-counter-set <1..2>

Use this command to configure a bridging counter set.

### Syntax

```
config bridging counter set <1..2>
```

### Parameters

This command includes the following parameters:

<b>config bridging counter set &lt;1..2&gt;</b> followed by:	
create [port <value>] [vlan <value>]	Creates a bridging counter set. <ul style="list-style-type: none"><li>• port &lt;value&gt;</li><li>• vlan &lt;value&gt;</li></ul>
delete	Deletes a bridging counter set.
info	Displays information about the current settings.

## config cli

Use this command to configure and manage the command line interface.

### Syntax

```
config cli
```

### Parameters

This command includes the following parameters:

<b>config cli</b> followed by:	
info	Displays the current CLI parameter settings.
defaultlogin <true false>	Enables or disables using the default logon string. <i>false</i> displays the user-defined logon string, and <i>true</i> displays the default logon string. The default value is <i>true</i> .
defaultpassword <true false>	Enables or disables using the default password string. <i>false</i> displays the user-defined password string, and <i>true</i> displays the default password string. The default value is <i>true</i> .
loginprompt <string>	Changes the CLI logon prompt. Enclose the string in quotation marks if it contains more than one word.  Parameter <ul style="list-style-type: none"> <li><i>string</i> is an ASCII string from 1 to 1536 characters.</li> </ul>
more <true false>	Sets scrolling for the output display. The default is <i>true</i> .  Parameters <ul style="list-style-type: none"> <li><i>true</i> sets output display scrolling to one page at a time.</li> <li><i>false</i> sets the output display to continuous scrolling.</li> </ul>

<b>config cli</b> followed by:	
<code>passwordprompt &lt;string&gt;</code>	Changes the CLI password prompt. Enclose the string in quotation marks if it contains more than one word. Parameter <ul style="list-style-type: none"> <li>• <i>string</i> is an ASCII string from 1 to 1536 characters.</li> </ul>
<code>prompt &lt;prompt&gt;</code>	Sets the root level prompt—sysName— to a defined string. Parameter <ul style="list-style-type: none"> <li>• <i>prompt</i> is a string from 0.. 255 characters in length</li> </ul>
<code>prompt &lt;string&gt;</code>	Sets the box—or root—level prompt with a string length from 0..255.
<code>rlogin-sessions &lt;nsessions&gt;</code>	Sets the allowable number of inbound remote CLI logon sessions; the default is 8. Parameter <ul style="list-style-type: none"> <li>• <i>nsessions</i> is the number of sessions (0 to 8).</li> </ul>
<code>screenlines &lt;nlines&gt;</code>	Sets the number of lines in the output display; the default is 23. Parameter <ul style="list-style-type: none"> <li>• <i>nlines</i> is the number of lines (8 to 64).</li> </ul>
<code>telnet-sessions &lt;nsessions&gt;</code>	Sets the allowable number of inbound Telnet sessions; the default is 8. Parameter <ul style="list-style-type: none"> <li>• <i>nsessions</i> is the number of sessions (0 to 8).</li> </ul>
<code>timeout &lt;seconds&gt;</code>	Sets the idle timeout period before automatic logout for CLI sessions; the default is 900. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is the timeout period in seconds (0 to 65535).</li> </ul>



## config cli banner

Use this command to configure and manage the CLI logon banner.

### Syntax

```
config cli banner
```

### Parameters

This command includes the following parameters:

<b>config cli banner</b> followed by:	
info	Displays the text that was added to the logon banner using the <b>add</b> parameter.
add <i>&lt;string&gt;</i>	Adds lines of text to the user-customized CLI logon banner. Enclose the text in quotation marks if it contains more than one word. Parameter <ul style="list-style-type: none"> <li><i>string</i> is an ASCII string from 1 to 80 characters.</li> </ul>
defaultbanner <true false>	Enables or disables using the default CLI logon banner.
delete	Deletes an existing customized logon banner.

## config cli monitor

Use this command to configure and manage monitor duration (refresh rate).

### Syntax

```
config cli monitor
```

### Parameters

This command includes the following parameters:

<b>config cli monitor</b> followed by:	
info	Displays the current setting for the monitor duration and interval used by the <b>monitor</b> commands.
duration < <i>integer</i> >	Changes the monitoring time duration (refresh rate) for the <b>monitor</b> commands. Parameter <ul style="list-style-type: none"><li>• <i>integer</i> is the time duration in seconds from 1 to 1800; the default is 300</li></ul>
interval < <i>integer</i> >	Changes the monitoring time interval between screen updates set by the <b>monitor</b> commands. <ul style="list-style-type: none"><li>• <i>integer</i> is the time duration in seconds from 1 to 600; the default is 5</li></ul>

## config cli motd

Use this command to configure and manage the message of the day (motd).

### Syntax

```
config cli motd
```

### Parameters

This command includes the following parameters:

<b>config cli motd</b> followed by:	
info	Displays information about the message of the day.
add <string>	Creates a message of the day that can be displayed with the logon banner. Enclose the string in quotation marks if it contains more than one word.  Parameter <ul style="list-style-type: none"> <li>• <i>string</i> is an ASCII string from 1 to 1536 characters</li> </ul>
displaymotd <true false>	Displays or does not display the message of the day.  Parameters <ul style="list-style-type: none"> <li>• <i>true</i> displays the message</li> <li>• <i>false</i> does not display the message</li> </ul>
delete	Deletes the existing customized message of the day.

## config cli password

Use this command to change the logon or password for the different access levels of the switch. The optional parameter `password` is the password associated with the user name or logon name. To view or change passwords, you must hold read-write-all privileges .

### Syntax

```
config cli password
```

### Parameters

This command includes the following parameters:

<b>config cli password</b> followed by:	
<code>info</code>	Displays current logon and password settings. The output from this command is the same as the output from <b>show cli password</b> .
<code>ro &lt;username&gt;</code> [<password>]	Sets the Read-Only logon or password, or both. The default logon and password are ro.
<code> 1 &lt;username&gt;</code> [<password>]	Sets the layer 1 Read/Write logon or password, or both. The default logon and password are l1.
<code> 2 &lt;username&gt;</code> [<password>]	Sets the layer 2 Read/Write logon or password, or both. The default logon and password are l2.
<code> 3 &lt;username&gt;</code> [<password>]	Sets the layer 3 Read/Write logon or password, or both. The default logon and password are l3.
<code>rw &lt;username&gt;</code> [<password>]	Sets the Read/Write logon or password, or both.
<code>rwa &lt;username&gt;</code> [<password>]	Sets the Read/Write/All logon or password, or both.

## config diag info

Use this command to show the current-level diagnostic-parameter settings and next-level directories.

### Syntax

```
config diag info
```

## config diag mirror-by-port

Use this command to diagnose the system by monitoring and mirroring a port.

### Syntax

```
config diag mirror-by-port <id>
```

where *id* is the mirror-by-port entry ID with a value range of 1 to 383.



**Note:** you can configure one mirroring port and up to 10 mirrored ports.

---

## Parameters

This command includes the following parameters:

<b>config diag mirror-by-port &lt;id&gt;</b>	
followed by:	
info	Displays current port mirroring settings.
create in-port <value> out-port <value> [mode <value>] [enable <value>]	Creates a new mirror-by-port table entry. <b>Parameters</b> <ul style="list-style-type: none"> <li>in-port &lt;value&gt; is the mirrored port <i>value</i> specifies the port in the slot/port form</li> <li>out-port &lt;value&gt; is the mirroring port <i>value</i> specifies the port in the slot/port form</li> <li>mode &lt;value&gt; sets the mirror mode—<i>value</i> see the description for mode in this table</li> <li>enable &lt;value&gt; enables the mirroring port.</li> </ul> <p>When the mirroring port is enabled, the mirrored (source) port ingress or egress packets are forwarded normally and a copy of the packets is sent from the mirrored port to the mirroring (destination) port.</p> <ul style="list-style-type: none"> <li><i>value</i> is true-enabled, or false-disabled</li> </ul>
enable <true false>	Enables or disables a mirroring port already created in the mirror-by-port table.
delete	Deletes an entry from the mirror-by-port table.
mirrored-port <port>	Specifies the mirrored port. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>port</i> specifies the port in the slot/port form</li> </ul>
mirroring-port <port>	Specifies the mirroring port. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>port</i> specifies the port in the slot/port form</li> </ul>
mode <tx rx both>	Sets the mirroring mode. <b>Parameters</b> <ul style="list-style-type: none"> <li>tx mirrors transmit packets</li> <li>rx mirrors receive packets</li> <li>both mirrors both transmit and receive packets</li> </ul>

## config ethernet

Use this command to set parameters for specified switch ports.

### Syntax

```
config ethernet <ports>
```

where *ports* specify the ports in the portlist form  
{*slot/port*[-*slot/port*][, ...]}.

### Parameters

This command includes the following parameters:

<b>config ethernet &lt;ports&gt;</b>	
followed by:	
action <action choice>	Specifies the action.
info	Displays the current port settings.
auto-negotiate <enable disable>	Enables or disables autonegotiation (adjusting between 10 Mb/s and 100 Mb/s and half- or full-duplex) on selected ports. The default is enable.
auto-negotiate-advertisements [<10-full>] [<10-half>] [<100-full>] [<100-half>] [<1000-full>] [<1000-half>] [<default>] [<none>]	Sets the port auto-negotiation advertisements.

<b>config ethernet &lt;ports&gt;</b>	
followed by:	
bcast-mcast-rate-limit <value> [<enable disable>]	Sets the broadcast-multicast rate limit, in percent, allowed on ports. Parameter <ul style="list-style-type: none"> <li>• <i>value</i> is the broadcast-multicast ratelimit from 1..100</li> </ul> Optional parameter: <ul style="list-style-type: none"> <li>• <i>enable disable</i> enables or disables the broadcast-multicast rate limit.</li> </ul>
cp-limit <enable disable> [multicast-limit <value>] [broadcast-limit <value>]	<ul style="list-style-type: none"> <li>• <i>cp-limit &lt;enable disable&gt;</i> enables or disables control packet rate limit (CP-Limit). The default setting is <i>enable</i>.</li> </ul> <b>Note:</b> After a CP-Limit is disabled on a port, it can be re-enabled only by disabling and re-enabling the port with the <b>config ethernet &lt;slot/port&gt; state &lt;disable   enable&gt;</b> command. Optional parameters: <ul style="list-style-type: none"> <li>• <i>multicast-limit &lt;value&gt;</i> sets the multicast control frame packet per second rate (1000 to 100000)</li> <li>• <i>broadcast-limit &lt;value&gt;</i> sets the broadcast frame packet per second rate (1000 to 100000)</li> </ul>
default-vlan-id <vid>	Defines the default vlan identification on selected ports. Parameter <ul style="list-style-type: none"> <li>• <i>vid</i> is the vlan id with a range of 1 to 4094</li> </ul>
duplex <half full>	Sets the operating mode of the port to half-duplex or full-duplex when autonegotiation is disabled. The default is <i>half</i> .
filter create <acg-id>	Creates an Ethernet filter. Parameter <ul style="list-style-type: none"> <li>• <i>acg-id</i> is the access control group numerical identifier from 1..1024</li> </ul>
filter delete	Deletes an Ethernet filter.
filter modify <acg-id>	Changes information about an Ethernet filter. Parameter <ul style="list-style-type: none"> <li>• <i>acg-id</i> is the access control group numerical identifier from 1..1024</li> </ul>
filter info	Displays Ethernet information for the selected port.
linktrap <enable disable>	Enables or disables the link up/down trap for a port. The default is <i>enabled</i> .



<b>config ethernet &lt;ports&gt;</b>	
followed by:	
lock <true false>	Locks a port for exclusive use if the portlock feature is globally enabled by the <b>config sys set portlock on off</b> command. The default is false.
mroute-limit enable <true false>	Enables the multicast stream limit on a selected port.
mroute-limit info	Provides the multicast stream limit information for a selected port.
mroute-limit max-allowed-streams <integer>	Sets the maximum allowed multicast streams on a port in a given time.
mroute-limit max-allowed streams-timer-check <integer>	Sets the sampling interval to check the number of multicast streams on the port.
mstp cist edge-port <true false>	Specifies a port as an edge port. Parameters <ul style="list-style-type: none"> <li>• <i>true</i> specifies a port as an edge port</li> <li>• <i>false</i> indicates that the port is not an edge port</li> </ul>
mstp cist forceportstate <enable disable>	Enables or disables STP on a port. The default is <i>enable</i> .
mstp cist hello-time <timeval>	Specifies the time interval—in hundredths of a second—between transmission of configuration messages by the root device stating that the device is still functioning. Parameter <ul style="list-style-type: none"> <li>• <i>timeval</i> is expressed as an integer from 100..1000 The default is 200.</li> </ul>
mstp cist info	Displays current-level parameter settings and next-level directories.

<b>config ethernet &lt;ports&gt;</b>	
followed by:	
<code>mstp cist p2p &lt;forcetrue  forcefalse auto&gt;</code>	<p>Indicates whether a port is a point-to-point link.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>forcetrue</i> sets the port as a point-to-point link operating in full-duplex mode</li> <li>• <i>forcefalse</i> indicates that the port cannot be a point-to-point link</li> <li>• <i>auto</i> sets the port to operate as a point-to-point link when possible or to change to false as required</li> </ul> <p>The default is <i>auto</i>.</p>
<code>mstp cist pathcost &lt;intval&gt;</code>	<p>Defines a metric indicating relative cost of forwarding packets between MST regions and the CIST root bridge.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>intval</i> is expressed as an integer between 1 and 200000000</li> </ul>
<code>mstp cist priority &lt;intval&gt;</code>	<p>Sets the priority for the port interface.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>intval</i> is expressed as an integer from 0..240</li> </ul>
<code>mstp cist protocol-migration &lt;true false&gt;</code>	<p>Sets whether a port sends out BPDU packets to other bridges requesting information about their STP settings.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>true</i> instructs the port to send out BPDU packets to other bridges</li> <li>• <i>false</i> prevents the port from sending out BPDU packets to other bridges</li> </ul>
<code>mstp msti &lt;instance id&gt; info</code>	<p>Displays current-level parameter settings and next-level directories.</p>
<code>mstp msti &lt;instance id&gt; priority &lt;intval&gt;</code>	<p>Sets the priority for the port interface.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>instance id</i> is the unique numeric identification of the instance</li> <li>• <i>priority &lt;intval&gt;</i> is expressed as an integer from 0..240</li> </ul>

<b>config ethernet &lt;ports&gt;</b>	
followed by:	
msti <instance id> mstp pathcost <intval>	Specifies the relative cost of forwarding packets to specified ports when an interface is selected within an STP instance. <b>Parameters</b> <ul style="list-style-type: none"> <li><i>instance id</i> is the unique numeric identification of the instance</li> <li><i>pathcost &lt;intval&gt;</i> is expressed as an integer from 1..200000000 to establish the quickest alternative route when a network loop occurs.</li> </ul>
mstp msti <instance id> forceportstate <enable disable>	Specifies whether STP is enabled or disabled for the port.
name <name>	Assigns a name to the specified port or ports. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>name</i> is a string up to 20 characters in length</li> </ul>
perform-tagging <enable/disable>	Enables or disables the perform-tagging option on selected ports.
rstp edge-port <true/false>	Specifies a port as an edge port when <i>true</i> is selected.
rstp info	Displays current-level parameter settings and next-level directories for RSTP.
rstp p2p (forcetrue/ forcefalse/auto>	Specifies a port as point-to-point link in full-duplex mode. <ul style="list-style-type: none"> <li><i>forcetrue</i> specifies that a port is a point-to-point link operating in full-duplex mode</li> <li><i>forcefalse</i> indicates that the port cannot be a point-to-point link</li> <li><i>auto</i> sets the port to hold point-to-point status wherever possible and to operate as if point-to-point status is true</li> </ul> The default setting is <i>auto</i> .
rstp pathcost <intval>	Defines the metric that indicates the relative cost of forwarding packets. <ul style="list-style-type: none"> <li><i>intval</i> is expressed as a number between 1 and 200000000</li> </ul>
rstp priority <intval>	Sets the priority for the port interface. <ul style="list-style-type: none"> <li><i>intval</i> is expressed as an integer between 0 and 240.</li> </ul> <b>TIP:</b> The intval value must be evenly divisible by 16.

<b>config ethernet &lt;ports&gt;</b>	
followed by:	
rstp protocol-migration <true/false>	Instructs ports to send out BPDU packets to other bridges to request information about their STP settings. <ul style="list-style-type: none"> <li>• <i>true</i> instructs the port to send out BPDU packets to other bridges requesting information about their STP settings.</li> <li>• <i>false</i> prevents the port from sending out BPDU packets to other bridges requesting information about their STP settings</li> </ul>
rstp stp <enable/disable>	Enables or disables the Spanning Tree Protocol.
speed <10/100/1000>	Sets the port speed to 10 Mb/s, 100 Mb/s, or 1000 Mb/s when autonegotiation is disabled. The default is 10.
state <enable/disable/ test>	Specifies the administrative state on the port as up, down, or test. The default is up ( <i>enable</i> ).
tx-queue <queue-id> [transmit <value>] [scheduler <value>] [weight <value>]	Sets the transmit queue parameters. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>queue id</i> is a numeric value from 0..7</li> <li>• <i>transmit &lt;value&gt;</i> enables or disables the feature</li> <li>• <i>scheduler &lt;value&gt;</i> is the scheduling group {strict-priority DWRR1 DWRR0}</li> <li>• <i>weight &lt;value&gt;</i> is the relative weight in a DWRR from 1..256</li> </ul>
untagged-frames-dis card <enable/disable>	Enables or disables the discard untagged frames option.
untag-port-default- vlan <enable/disable>	Enables or disables untagged frame egress on the default VLAN of the port.

## config ethernet eapol

Use this command to set parameters for the specified Extensible Authentication Protocol Over Local Area Network (EAPOL) Ethernet ports.

### Syntax

```
config ethernet <ports> eapol
```

where *ports* specify the ports in the portlist form {*slot/port*[-*slot/port*][, ...]}.

### Parameters

This command includes the following parameters:

<b>config ethernet &lt;ports&gt; eapol</b> followed by:	
admin-status <auto   force unauthorized   force authorized>	Sets the EAP status of the port. Parameters <ul style="list-style-type: none"> <li>• auto sets the port authorization status to change automatically depending on the result of EAP authentication</li> <li>• force unauthorized sets the port authorization status to always unauthorized</li> <li>• force authorized sets the port authorization status to always authorized</li> </ul> The default is auto.
admin-traffic-control <incoming and outgoing   incoming only>	Sets the desired level of traffic control on the port. Parameters <ul style="list-style-type: none"> <li>• incoming and outgoing blocks both incoming and outgoing traffic on the port when EAP authentication fails</li> <li>• incoming only blocks incoming traffic on the port when EAP authentication fails</li> </ul> The default is incoming and outgoing.
default-guest-vlan <enable disable>	Enables or disables the Guest VLAN on the port.
guest-vlan <vid>	Assigns the guest VLAN identification number. Parameter <ul style="list-style-type: none"> <li>• vid is the VLAN identification number, an integer in the range fro 1..4000</li> </ul>

<b>config ethernet &lt;ports&gt; eapol</b>	
followed by:	
info	Displays the current EAP port settings.
initialize	Initializes ( <i>true</i> ) or disables ( <i>false</i> ) EAP authentication on the port. Setting this field to <i>true</i> causes the reinitialization of EAP authentication. The default is <i>false</i> .
max-multi-hosts <1..8>	Sets the maximum number of EAPoL hosts for the port—expressed as an integer between 1 and 8.
max-req <1...10>	Sets the maximum number of requests to retry sending packets to the supplicant (wireless station, such as a laptop). Its value range is 1–10. The default value is 2.
multi-host <enable disable>	Enables or disables multiple EAPoL clients on specified ports.
non-eap-mac add <mac>	Inserts a non-EAPoL MAC address into the non-eap-mac list. Parameter <ul style="list-style-type: none"> <li>• mac in the non-EAPoL MAC address in the following format: {(0x00:0x00:0x00:0x00:0x00:0x00)}</li> </ul>
non-eap-mac allow-non-eap- clients <enable disable>	Sets the port to enable or disable a mix of EAPoL clients.
non-eap-mac clear	Clears all MAC accesses from the non-eap-mac list.
non-eap-mac radius-mac- centralization <enable disable>	Enables or disables the RADIUS MAC centralization feature on the port.
non-eap-mac shut-down-on- intrusion <enable disable>	Shuts the port down when the maximum non-EAP clients limit is reached.
non-eap-mac info	Displays information about the current non-EAPoL client configuration on the port.
non-eap-mac max-non-eap-clients <1..8>	Sets the maximum number of non-EAPoL clients allowed to reside on the port. Set as an integer from 1..8.
non-eap-mac remove <mac>	Deletes the specified MAC address from the non-eap-mac list.

<b>config ethernet &lt;ports&gt; eap01</b>	
followed by:	
quiet-period <1...65535 seconds>	Sets the time interval between an authentication failure and the start of a new authentication. The value range is 1 – 65535 seconds. The default value is 60 seconds.
reauthentication <true false>	Enables or disables reauthentication. Parameters <ul style="list-style-type: none"> <li>• true causes reauthentication of an existing supplicant (wireless station, such as a laptop, etc.) at the time interval specified in the Reauthentication Period field</li> <li>• false disables re-authentication of an existing supplicant</li> </ul> The default is false.
reauthentication-period <1...2147483647 seconds>	Sets the time interval between successive reauthentications. The value range is 1 – 2147483647 seconds. The default value is 3600 seconds.
reauthenticate-now	Selecting “true” for this field causes re-authentication to start immediately. The default is false.
server-timeout <1...65535 seconds>	Sets the time—in seconds—to wait for a response from the RADIUS server. The default value is 30 seconds.
supplicant-timeout <1...65535 seconds>	Sets the timeout—Time to Wait—for a response from the supplicant (wireless station, such as a laptop) for all EAP packets except EAP Request/Identity. The value range is 1–65535 seconds. The default value is 30 seconds.
transmit-period <1...65535 seconds>	Sets the time to wait for a response from the supplicant (wireless station, such as a laptop) for EAP Request/Identity packets. The value range is 1 – 65535 seconds. The default value is 30 seconds.

## config ethernet qos

Use this command to configure the QoS level on a port. The default is level 1, and level 7 is reserved for network traffic.

### Syntax

```
config ethernet <ports> qos
```

where *ports* specifies the port, or ports, to configure.

### Parameters

This command includes the following parameters:

<b>config ethernet &lt;ports&gt; qos</b> followed by:	
info	Displays the QoS configuration information for the selected port.
8021p-override <enable disable>	Enables the Differentiated Service IEEE 802.1P override feature. The default is <i>disable</i> .
qos-level <level>	Sets the QoS level (0 to 7) associated with the traffic service class. The default is 0.
update-dynamic-mac-qos-level <enable disable>	Enables or disable updating of the the qos level. The default is <i>disable</i> .

## config ethernet smlt

Use this command to configure a single port SMLT.

### Syntax

```
config ethernet <ports> smlt id
```



## Parameters

This command includes the following parameters:

<b>config ethernet &lt;ports&gt; smlt id</b>	
followed by:	
create	Creates a single port SMLT.
delete	Deletes a specified single port SMLT.
info	Displays information for a specified single port SMLT.

## config ethernet stg

Use this command to configure port parameters for the ports in a specified Spanning Tree Group (STG).

### Syntax

```
config ethernet <ports> stg <sid>
```

where:

- *ports* specify the ports in the portlist form  
{ *slot/port*[-*slot/port*][, ...]}
- *sid* is the Spanning Tree Group numeric ID from 1..64



**Note:** Tagging must be enabled on ports that belong to multiple spanning tree groups.

---

## Parameters

This command includes the following parameters:

<b>config ethernet &lt;ports&gt; stg &lt;sid&gt;</b>	
followed by:	
info	Displays current settings for the port Spanning Tree Group.
faststart <enable disable>	Enables or disables the FastStart feature. When FastStart is enabled, the port goes through the normal listening and learning states before forwarding, but the hold time for these states is the bridge hello timer (2 seconds by default) instead of the bridge forward delay timer (15 seconds by default).
change-detection <enable disable>	Enables or disables topology change detection for the specified spanning tree. The default is <i>enable</i> .
pathcost <intval>	Sets the contribution of this port to the path cost. Parameter • <intval> is the cost (1 to 65535)
priority <intval>	Sets the priority of this port. Parameter • <intval> is the priority (0 to 255)
stp <enable disable>	Enables or disables the spanning tree protocol. <b>Note:</b> Nortel recommends that you enable FastStart as an alternative to disabling spanning tree protocol on an individual port.

## config ethernet unknown-mac-discard

Use this command to discard the unknown source mac frames..

### Syntax

```
config ethernet <ports> unknown-mac-discard
```

where *ports* specifies the port in the portlist form  
{*slot/port*[-*slot/port*][, ...]}

### Parameters

This command includes the following parameters:

<b>config ethernet &lt;ports&gt; unknown-mac-discard</b> followed by:	
activation <enable disable>	Enables or disables unknown MAC discard of the port.
add-allow-mac <mac> [auto]	Adds allow MAC address for the port.
autolearn <enable disable>	Enables or disables autolearn for the port.
autolearn-mode <one-shot continuous>	Enables or disables autolearn for the port.
info	Shows the current-level parameter settings and next-level directories.
lock-autolearn-mac <enable disable>	Locks auto-learned MAC address for the port.
max-mac-count <max MAC count>	Sets the maximum number of MAC addresses allowed for the port.
remove-allow-mac <mac>	Removes allow MAC address from the port.
violation-downport <enable disable>	Sets the violation down port action for the port.

<b>config ethernet &lt;ports&gt; unknown-mac-discard</b> followed by:	
violation-logging <enable-disable>	Sets the violation logging action for the port.
violation- sendAuthenticationTrap <enable disable>	Sets violation send authentication trap action for the port.

## config flow-classifier

Use this command to access the flow-classifier configuration commands.

### Syntax

```
config flow-classifier
```

### Parameters

This command includes the following parameters:

<b>config flow-classifier</b> followed by:	
dst_ip <ipaddr> action <value>	Creates or deletes a destination IP filter. Parameters <ul style="list-style-type: none"><li>• <i>ipaddr</i> is the destination IP address {a.b.c.d}</li><li>• <i>action enable</i> creates the destination IP address</li><li>• <i>action disable</i> deletes the IP address</li></ul>
ip_fragment_filter <enable disable>	Enables or disables the fragment filter.
info	Provides information about destination IP filters.

## config flow-classifier template

Use this command to access the flow-classifier configuration template commands.

### Syntax

```
config flow-classifier <template_id>
```

where <template\_id> specifies the required major template identifier of 1 or 2

### Parameters

This command includes the following parameters:

<b>config flow-classifier &lt;template_id&gt;</b> followed by:	
info	Provides the current-level parameter settings and the next-level directories.
mode <security qos 14_switch>	Indicates the major template mode. Parameters: <ul style="list-style-type: none"> <li>• security</li> <li>• qos</li> <li>• 14_switch</li> </ul>
other-session <extract-field> [clear]	Sets the parameters for the 14-other template. Parameter: <ul style="list-style-type: none"> <li>• <i>extract-field</i> can be up to 80 characters in length and can be dip, sip, tos, 14_protocol, icmp_msg, igmp_type or any combination separated by  </li> </ul> Optional parameter: <ul style="list-style-type: none"> <li>• <i>clear</i> removes the condition</li> </ul>

<b>config flow-classifier &lt;template_id&gt;</b> followed by:	
<pre>qos-flavor &lt;802.1p dscp dst_ip dst_ tcp_port dst_udp_port&gt;</pre>	<p>Sets the parameters for the QOS-flavor template.</p> <p>Parameters:</p> <ul style="list-style-type: none"> <li>• 802.1p</li> <li>• dscp</li> <li>• dst_ip</li> <li>• dst_tcp_port</li> <li>• dst_udp_port</li> </ul>
<pre>rule delete-rule [&lt;rule-index&gt;] [all]</pre>	<p>Deletes a specified rule.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>rule-index</i> indicates a specific rule identified as a numeric value from 1..256</li> <li>• <i>all</i> specifies all rules</li> </ul>
<pre>rule info</pre>	<p>Provides information about all rules.</p>
<pre>rule other-session-rule [dip &lt;value&gt;] [sip &lt;value&gt;] [tos &lt;value&gt;] [protocol &lt;value&gt;] [icmp_message_type &lt;value&gt;] [code &lt;value&gt;] [igmp_type &lt;value&gt;] [action &lt;value&gt;] [priority &lt;value&gt;] [dscp &lt;value&gt;] [direct-to &lt;value&gt;] [unreachable_next_hop &lt;value&gt;]</pre>	<ul style="list-style-type: none"> <li>• Creates a Layer 4 other rule.</li> <li>• Parameters</li> <li>• <i>dip &lt;value&gt;</i> specifies the destination IP</li> <li>• <i>sip &lt;value&gt;</i> specifies the source IP</li> <li>• <i>tos &lt;value&gt;</i> specifies the TOS value expressed as 0x0..0xff 0..255</li> <li>• <i>protocol &lt;value&gt;</i> is expressed as either ICMP or IGMP</li> <li>• <i>icmp_message_type &lt;value&gt;</i> is expressed as 0x0..0xff 0..255</li> <li>• <i>code &lt;value&gt;</i> specifies the ICMP code expressed as 0x0..0xff 0..255</li> <li>• <i>igmp_type &lt;value&gt;</i> specifies the query or response_v1 or response_v2 or response_all</li> <li>• <i>action &lt;value&gt;</i> is expressed as drop, forward, or redirect</li> <li>• <i>priority &lt;value&gt;</i> is expressed as 0..7</li> <li>• <i>dscp &lt;value&gt;</i> is the DSCP value expressed as an integer from 0..63</li> <li>• <i>direct-to &lt;value&gt;</i> specifies redirect to this address</li> <li>• <i>unreachable_next_hop &lt;value&gt;</i> is expressed as drop or forward</li> </ul>

<b>config flow-classifier &lt;template_id&gt;</b> followed by:	
<pre>rule qos-rule [802.1p &lt;value&gt;] [dscp &lt;value&gt;] [dst_ip &lt;value&gt;] [dst_tcp_port &lt;value&gt;] [dst_udp_port &lt;value&gt;] [priority &lt;value&gt;] [remark_dscp &lt;value&gt;]</pre>	<p>Creates a QOS rule.</p> <p><b>Optional Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>802.1p &lt;value&gt;</i> specifies the value to match from 0..7</li> <li>• <i>dscp &lt;value&gt;</i> specifies the value to match from 0..63</li> <li>• <i>dst_ip &lt;value&gt;</i> specifies the destination IP address</li> <li>• <i>dst_tcp_port &lt;value&gt;</i> specifies the TCP port number from 1..65535</li> <li>• <i>dst_udp_port &lt;value&gt;</i> specifies the UDP port number from 1..65535</li> <li>• <i>priority &lt;value&gt;</i> sets the priority expressed as an integer from 0..7</li> <li>• <i>remark_dscp &lt;value&gt;</i> sets the DSCP) value expressed as an integer from 0..63</li> </ul>
<pre>rule security [src_ip_address &lt;value&gt;] [dst_ip_address &lt;value&gt;]</pre>	<p>Creates a security rule.</p> <p><b>Optional parameters</b></p> <ul style="list-style-type: none"> <li>• <i>src_ip+address &lt;value&gt;</i> specifies the source IP address</li> <li>• <i>dst_ip_address &lt;value&gt;</i> specifies the destination IP address</li> </ul>

**config flow-classifier <template\_id>**

followed by:

```
rule tcp-session-rule
[dip <value>]
[sip<value>]
[tos <value>]
[dst_port <value>]
[src_port <value>]
[tcp_flags <value>]
[action <value>]
[priority <value>]
[dscp <value>]
[direct-to <value>]
[unreachable_next_hop
<value>]
```

Create Layer 4 TCP rule.

Optional parameters:

- *dip <value>* specifies the destination IP address expressed as {a.b.c.d}
- *sip <value>* specifies the source IP address expressed as {a.b.c.d}
- *tos <value>* specifies the tos value expressed as {0x0..0xff|0..255}
- *dst\_port <value>* specifies the destination port number from 1..65535
- *src\_port <value>* specifies the source port number from 1..65535
- *tcp\_flags <value>* is expressed as xxx, where xxx is any combination of ACK,FIN,PSH,RST,SYN,URG separated by | in a string length from 3..30 characters
- *action <value>* specifies the action to take on match
- *priority <value>* specifies the priority value from 0..7
- *dscp <value>* specifies the dscp value from 0..63
- *direct-to <value>* instructs the switch to redirect to this address {a.b.c.d}
- *unreachable\_next\_hop <value>* is expressed as drop or forward



<b>config flow-classifier &lt;template_id&gt;</b> followed by:	
<pre>rule udp-session-rule [dip &lt;value&gt;] [sip&lt;value&gt;] [tos &lt;value&gt;] [dst_port &lt;value&gt;] [src_port &lt;value&gt;] [action &lt;value&gt;] [priority &lt;value&gt;] [dscp &lt;value&gt;] [direct-to &lt;value&gt;] [unreachable_next_hop &lt;value&gt;]</pre>	<p>Creates a Layer 4 UDP rule.</p> <p>Optional parameters:</p> <ul style="list-style-type: none"> <li>• <i>dip &lt;value&gt;</i> specifies the destination IP address expressed as a.b.c.d</li> <li>• <i>sip &lt;value&gt;</i> specifies the source IP address expressed as a.b.c.d</li> <li>• <i>tos &lt;value&gt;</i> specifies the TOS value expressed as 0x0..0xff or 0..255</li> <li>• <i>dst_port &lt;value&gt;</i> specifies the destination port number from 1..65535</li> <li>• <i>src_port &lt;value&gt;</i> specifies the source port number from 1..65535</li> <li>• <i>action &lt;value&gt;</i> specifies the action to take on match</li> <li>• <i>priority &lt;value&gt;</i> specifies the priority value from 0..7</li> <li>• <i>dscp &lt;value&gt;</i> specifies the DSCP value from 0..63</li> <li>• <i>direct-to &lt;value&gt;</i> instructs the switch to redirect to this address where the address is expressed as a.b.c.d</li> <li>• <i>unreachable_next_hop &lt;value&gt;</i> is specified as drop or forward</li> </ul>
<pre>security [src-mask &lt;value&gt;] [dst-mask &lt;value&gt;]</pre>	<p>Sets the parameters for the security template.</p> <p>Parameters:</p> <ul style="list-style-type: none"> <li>• <i>src-mask &lt;value&gt;</i> specifies the source mask {a.b.c.d}</li> <li>• <i>dst-mask &lt;value&gt;</i> specifies the destination mask {a.b.c.d}</li> </ul>
<pre>tcp-session &lt;extract-field&gt; [clear]</pre>	<p>Sets the parameters for the tcp-session template.</p> <p>Parameter:</p> <ul style="list-style-type: none"> <li>• <i>extract-field</i> can be up to 80 characters in length and can be dip, sip, tos, dst_port, src_port, icp_flags or any combination separated by  </li> </ul> <p>Optional parameter:</p> <ul style="list-style-type: none"> <li>• <i>clear</i> removes the condition</li> </ul>

<b>config flow-classifier &lt;template_id&gt;</b> followed by:	
<code>udp-session &lt;extract-field&gt; [clear]</code>	Sets the parameters for the udp-session template. <b>Parameter:</b> <ul style="list-style-type: none"><li>• <i>extract-field</i> can be up to 80 characters in length and can be dip, sip, tos, dst_port, src_port or any combination separated by  </li></ul> <b>Optional parameter:</b> <ul style="list-style-type: none"><li>• <i>clear</i> removes the condition</li></ul>
<code>vlan &lt;vid&gt; action &lt;value&gt;</code>	Can attach or detach the VLAN to the template. <b>Parameters:</b> <ul style="list-style-type: none"><li>• <i>vid</i> is the VLAN ID number, from 1 to 4094</li><li>• <i>attach</i> attaches the VLAN to the template</li><li>• <i>detach</i> detaches the VLAN from the template</li></ul>

## config info

Use this command to show the current-level parameter settings.

### Syntax

```
config info
```

## config ip

Use this command to configure IP routing on the switch.

### Syntax

```
config ip
```

## Parameters

This command includes the following parameters:

<b>config ip</b> followed by:	
info	Displays the current configuration information.
alternative-route <enable disable>	Enables or disables alternative routes. The default value is <i>enable</i> . <b>Note:</b> If the alternative-route parameter is disabled, all existing alternative routes are removed. When the parameter is enabled, all alternative routes are added back.
icmp-unreach-msg <enable disable>	Generates Internet Control Message Protocol (ICMP) net unreachable messages, when enabled, if the destination network is not reachable from this router. The default is <i>disable</i> .
default-ttl <seconds>	Sets the default time to live (ttl) value for a routed packet. It is the maximum number of seconds before a packet is discarded. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is a number between 1 and 255 The default value of 255 is inserted in the ttl field whenever one is not supplied in the datagram header.</li> </ul>
max -static-routes <0-512>	Specifies the maximum number of static routes allowed on the switch. The range is 0..512.
more-specific-non-local-route <enable disable>	Enables or disables static routes to networks not directly connected. Allows a more specific non-local route entry into the routing table. <i>Disable</i> is the default setting.

## config ip arp

Use this command to modify the Address Resolution Protocol (ARP) parameters on the switch.

### Syntax

```
config ip arp
```

### Parameters

This command includes the following parameters:

<b>config ip arp</b> followed by:	
info	Displays ARP characteristics.
add ports <i>&lt;value&gt;</i> ip <i>&lt;value&gt;</i> mac <i>&lt;value&gt;</i> [vlan <i>&lt;value&gt;</i> ]	<p>Adds a static entry to the ARP table.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>ports value</i> is the port numbers, shown as <i>{slot/port[-slot/port][, ...]}</i></li> <li>• <i>ip value</i> is the IP address {a.b.c.d}</li> <li>• <i>mac value</i> is the 48-bit hardware MAC address in the format {0x00:0x00:0x00:0x00:0x00:0x00}</li> <li>• <i>vlan &lt;value&gt;</i> is the VLAN ID, in a range from 1 to 2000, to add the static entry</li> </ul>
aging <i>&lt;minutes&gt;</i>	<p>Sets the length of time in minutes and entry remains in the ARP table before timeout.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li>• <i>minutes</i> is a number between 1 and 32767</li> </ul>

<b>config ip arp</b> followed by:	
<code>delete &lt;ipaddr&gt;</code>	Removes an entry from the ARP table. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>ipaddr</i> is the IP address in dotted-decimal notation {a.b.c.d}</li> </ul>
<code>multicast-mac-flooding &lt;enable disable&gt;</code>	Presents an option to choose whether ARP entries for multicast MAC addresses are: <ul style="list-style-type: none"> <li>associated with the VLAN</li> <li>associated with the port interface where the ARP entries were learned</li> </ul> The default setting is <i>disable</i> . Use <i>multicast-mac-flooding</i> when multiple end stations or servers share a multicast MAC address—for example, certain Microsoft network load balancing applications, where traffic is flooded to the VLAN to ensure that every end station using this virtual multicast MAC address receives a copy of the stream. <b>NOTE:</b> This option is not dynamic. If the feature setting changes, all previously learned ARP entries from multicast MAC addresses are not dynamically reprogrammed.

## config ip circuitless-ip-int

Use this command to create a CLIP interface.

### Syntax

```
config ip circuitless-ip-int <id>
```

where <id> is an integer from 1 to 32 that specifies the identification number for the specific CLIP interface

This command includes the following parameters:

<b>config ip circuitless-ip-int &lt;id&gt;</b> followed by:	
info	Displays the configured parameters for the CLIP interface.
create <ipaddr/ mask>	Creates a CLIP interface. Parameter <ul style="list-style-type: none"> <li>• &lt;ipaddr/mask&gt; is the IP address and subnet mask of the CLIP interface</li> </ul>
delete <ipaddr>	Deletes the specified CLIP interface. Parameter <ul style="list-style-type: none"> <li>• &lt;ipaddr&gt; is the IP address of the CLIP interface to be deleted</li> </ul>
area <ipaddr>	Specifies the CLIP interface area. Parameter <ul style="list-style-type: none"> <li>• ipaddr represents a valid IP address</li> </ul>
ospf <enable disable>	Enables or disables OSPV on the CLIP interface.

## config ip dhcp-relay

Use this command to configure IP DHCP relay.

### Syntax

```
config ip dhcp-relay
```

This command includes the following parameters:

<b>config ip dhcp-relay</b> followed by:	
<pre>create-fwd-path agent &lt;ipaddr&gt; server &lt;ipaddr&gt; [mode &lt;bootp dhcp  bootp_dhcp&gt;] [state &lt;enable  disable&gt;]</pre>	<p>Specifies the forward path agent.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>agent</i> &lt;ipaddr&gt; is the local IP address of the DHCP client</li> <li><i>server</i> &lt;ipaddr&gt; is the IP address of the DHCP server—if the server IP address matches the agent IP address, the DHCP packet is broadcast out of the interface</li> </ul> <p><b>Optional parameters</b></p> <ul style="list-style-type: none"> <li><i>mode</i> &lt;bootp/dhcp/gootp_dhcp&gt; determines whether DHCP, BootP, or DHCP and BootP packets are forwarded</li> <li><i>state</i> &lt;enable/disable&gt; enables or disables the forwarding path</li> </ul>
<pre>enable-fwd-path agent &lt;ipaddr&gt; server &lt;ipaddr&gt;</pre>	<p>Enables the forward path agent by agent and server ip address.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>agent</i> &lt;ipaddr&gt; is the local IP address of the DHCP client</li> <li><i>server</i> &lt;ipaddr&gt; is the IP address of the DHCP server—if the server IP address matches the agent IP address, the DHCP packet is broadcast out of the interface</li> </ul>
<pre>disable-fwd-path agent &lt;ipaddr&gt; server &lt;ipaddr&gt;</pre>	<p>Disables DHCP relaying on the path from the IP address to the server.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>agent</i> &lt;ipaddr&gt; is the local IP address of the DHCP client</li> <li><i>server</i> &lt;ipaddr&gt; is the IP address of the CHDP server</li> </ul>
<pre>delete-fwd-path agent &lt;ipaddr&gt; server &lt;ipaddr&gt;</pre>	<p>Deletes the forward path agent.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>agent</i> &lt;ipaddr&gt; is the local IP address of the DHCP client</li> <li><i>server</i> &lt;ipaddr&gt; is the IP address of the DHCP server</li> </ul>

<b>config ip dhcp-relay</b> followed by:	
info	Shows the current DHCP global configuration on the switch.
mode <mode> agent <value> server <value>	Modifies the previously configured DHCP relay mode. Parameters <ul style="list-style-type: none"><li>• <i>mode</i> is the new mode to assign to the DHCP forwarding path</li><li>• <i>agent &lt;value&gt;</i> is the local IP address of the DHCP client</li><li>• <i>server &lt;value&gt;</i> is the IP address of the DHCP server</li></ul>

## config ip forwarding

Use this command to enable or disable IP forwarding (routing) on the entire switch.

### Syntax

```
config ip forwarding
```

### Parameters

This command includes the following parameters:

<b>config ip forwarding</b> followed by:	
info	Displays current config ip info command output.
disable	Disables IP forwarding (routing) on the entire switch.
enable	Enables IP forwarding (routing) on the entire switch. The default is enable.



## config ip igmp generate-trap

Use this command to set an IGMP trap.

### Syntax

```
config ip igmp generate-trap <enable|disable>
```

## config ip igmp info

Use this command to show the current-level parameter settings for IGMP.

### Syntax

```
config ip igmp info
```

## config ip igmp interface access-list

Use this command to configure access lists for an IGMP interface.

### Syntax

```
config ip igmp interface <ipaddr> access-list <GroupAddress>
```

where:

- *ipaddr* indicates the IP address of the IGMP interface to configure
- *GroupAddress* indicates the IP address of the multicast group to configure

## Parameters

This command includes the following parameters:

<pre><b>config ip igmp interface &lt;ipaddr&gt; access-list</b> <b>&lt;GroupAddress&gt;</b> followed by:</pre>	
info	Displays settings for GroupAddress parameters and next level directories.
<pre>create &lt;HostAddress&gt; &lt;HostMask&gt; &lt;denyRx   denyTx   denyBoth&gt;</pre>	<p>Assigns an IP address to an access list group.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>HostAddress</i> is the IP address of the host route</li> <li>• <i>HostMask</i> is the subnet mask of the host route</li> <li>• <i>denyRx   denyTx   denyBoth</i> sets igmp interface to deny receive, deny transmit, or deny both</li> </ul>
<pre>delete &lt;HostAddress&gt; &lt;HostMask&gt;</pre>	<p>Deletes an IGMP interface group IP address.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>HostAddress</i> is the IP address of the host route</li> <li>• <i>HostMask</i> is the subnet mask of the host route</li> </ul>

## config ip igmp interface fast-leave

Use this command to enable or disable the fast-leave option on the interface.

### Syntax

```
config ip igmp interface fast-leave <enable|disable>
```

## config ip igmp interface flush

Use this command to flush the specified table.

### Syntax

```
config ip igmp interface <ipaddr> flush  
<mroute|sender|grp-member> [<SenderAddress>]  
[<GroupAddress>]
```

where:

- *ipaddr* specifies the IP address of the selected interface
  - *flush* flushes the specified table
    - *mroute*
    - *sender*
    - *grp-member*
  - *SenderAddress* specifies the IP address of the sender
  - *GroupAddress* specifies the IP address of the selected multicast group
- TIP:** *SenderAddress* and *GroupAddress* are valid only if the flush action is *sender*.

## config ip igmp interface <ipaddr> info

Use this command to display the access list of the IGMP interface.

### Syntax

```
config ip igmp interface <ipaddr> info
```

## config ip igmp interface <ipaddr> mrdisc

Use this command to configure router discovery options for the IGMP interface.

### Syntax

```
config ip igmp interface <ipaddr> mrdisc
```

where *ipaddr* is the IP address of the IGMP interface to configure

### Parameters

This command includes the following parameters:

<b>config ip igmp interface &lt;ipaddr&gt; mrdisc</b> followed by:	
info	Displays information about the current router discovery options.
mrdisc-enable <enable disable>	Enables or disables IGMP router discovery.
max-advertisement- interval [seconds]	Sets the maximum interval, in seconds, between successive advertisements. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 2 and 180</li> </ul>
max-initial- advertisements [integer]	Sets the maximum advertisements sent after initialization. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value between 2 and 15</li> </ul>
max-initial- advertisement-interval [seconds]	Sets the maximum interval, in seconds, between successive initial advertisements. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 2 and 180</li> </ul>

<b>config ip igmp interface &lt;ipaddr&gt; mrdisc</b> followed by:	
min-advertisement-interval [seconds]	Sets the minimum interval, in seconds, between successive advertisements. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 3 and 180</li> </ul>
neighbor-dead-interval [seconds]	Sets the interval, in seconds, allowed to pass before a neighbor is declared dead. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 2 and 180</li> </ul>

## config ip igmp interface <ipaddr> query-interval

Use this command to set the transmit frequency of host query packets on the interface.

### Syntax

```
config ip igmp interface <ipaddr> query-interval <seconds>
```

where *seconds* is expressed as an integer from 10..65535; the default is 125

## config ip igmp interface <ipaddr> robustval

Use this command to allow tuning for the expected packet loss of a network.

### Syntax

```
config ip igmp interface <ipaddr> robustval <integer>
```

where:

- *ipaddr* is the IP address of the interface to configure
- *integer* is a value between 2 and 255; the default value is 2

**TIP:** increase the value if the network is expected to experience packet loss.

## config ip igmp interface <ipaddr> router-alert

Use this command to enable or disable the router alert option. When enabled, this parameter instructs the router to drop packets that contain no router-alert flag in the IP header.

### Syntax

```
config ip interface <ipaddr> router-alert <enable|disable>
```

where *ipaddr* is the IP address of the interface to configure



#### Note:

To maximize network performance, Nortel recommends setting this parameter according to the version of IGMP currently in use. That is:

- IGMPv1–disable
  - IGMPv2–enable
  - IGMPv3–enable
-

## config ip igmp interface <ipaddr> proxy-snoop

Use this command to enable or disable the proxy snoop option for the VLAN.

### Syntax

```
config ip igmp interface <ipaddr> proxy-snoop  
<enable|disable>
```

where:

- *ip addr* is the IP address of the interface to configure
- *enable* enables the proxy snoop option for the VLAN
- *disable* disables the proxy snoop option for the VLAN

## config ip igmp interface <ipaddr> snoop

Use this command to enable or disable the snoop option.

### Syntax

```
config ip igmp interface <ipaddr> snoop <enable|disable>
```

where:

- *ip address* is the IP address of the interface to configure
- *enable* enables the snoop option
- *disable* disables the snoop option

## config ip igmp interface <ipaddr> static-members <GroupAddress>

Use this command to configure static members on an IGMP interface.

### Syntax

```
config ip igmp interface <ipaddr> static members
<GroupAddress>
```

where

- *ipaddr* is the IP address of the IGMP interface to configure
- *GroupAddress* is the IP address of the multicast group to configure

### Parameters

This command includes the following parameters:

<b>config ip igmp interface &lt;ipaddr&gt; static-members &lt;GroupAddress&gt;</b> followed by:	
add <ports> <static blocked>	Adds a static-member entry to the IGMP interface. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ports</i> specifies the port, or list of ports, to which the multicast stream is redirected</li> <li>• <i>static blocked</i> are the route types</li> </ul>
create <ports> <static blocked>	Creates static members on the interface. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ports</i> specifies the port, or list of ports, to which the multicast stream is redirected</li> <li>• <i>static blocked</i> are the route types</li> </ul>
delete	Deletes the static members on the interface.



<pre>config ip igmp interface &lt;ipaddr&gt; static-members &lt;GroupAddress&gt;</pre> <p>followed by:</p>	
info	Displays information about static member configuration.
<pre>remove &lt;ports&gt; &lt;static blocked&gt;</pre>	<p>Removes static members from the interface.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>ports</i> specifies the port, or list of ports, to which the multicast stream is redirected</li> <li>• <i>static/blocked</i> are the route types</li> </ul>

## config ip igmp interface <ipaddr> version

Use this command to set the version of IGMP to configure on the interface.

### Syntax

```
config ip igmp interface <ipaddr> version <integer>
```

where

- *ipaddr* is the IP address of the interface to configure
- *version <integer>* is the IGMP version to configure on the interface

## config ip mroute

Use this command to configure multicast routes.

### Syntax

```
config ip mroute
```

### Parameters

This command includes the following parameters:

<b>config ip mroute</b> followed by:	
<code>info</code>	Displays information about the current multicast route configuration.
<code>interface &lt;ipaddr&gt; info</code>	Configures multicast routing on an interface. Parameters <ul style="list-style-type: none"><li>• <i>ipaddr</i> is the IP address of the interface to configure</li><li>• <i>info</i> displays information about the multicast route interface</li></ul>
<code>interface &lt;ipaddr&gt; ttl &lt;ttl&gt;</code>	<i>ipaddr</i> is the IP address of the interface to configure Parameter <ul style="list-style-type: none"><li>• <i>ttl &lt;ttl&gt;</i> sets the default time to live threshold for the multicast route interface in seconds—expressed as an integer from 1 to 255</li></ul>

## config ip mroute static-source-group <GroupAddress>

Use this command to configure static source groups on the switch.

### Syntax

```
config ip mroute static-source-group <GroupAddress>
```

where <GroupAddress> is the IP address of the group to configure

### Parameters

This command includes the following parameters:

<b>config ip mroute static-source-group &lt;GroupAddress&gt;</b> followed by:	
create <SourceAddress> <SubnetMask>	Creates a new static multicast source group entry. Duplicate groups cannot be deleted. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>SourceAddress</i> is the multicast source address for the static source group entry</li> <li>• <i>SubnetMask</i> is the source subnet mask for the static source group entry</li> </ul>
delete <SourceAddress> <SubnetMask>	Deletes the source group entry from the static source group table. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>SourceAddress</i> is the multicast source address for the static source group entry</li> <li>• <i>SubnetMask</i> is the source subnet mask for the static source group entry</li> </ul>
info	Displays information about the source group entry.

## config ip ospf

Use this command to configure global OSPF parameters on the switch.

### Syntax

```
config ip ospf
```

### Parameters

This command includes the following parameters:

<b>config ip ospf</b> followed by:	
disable	Globally disables OSPF on the switch.
enable	Globally enables OSPF on the switch.
info	Displays the current OSPF configuration on the switch.

## config ip ospf accept

Use this command to allow policy configuration changes to take effect for an OSPF Accept context. The `config ip ospf accept` command also prevents the switch from attempting to apply the changes individually after each configuration change.



**Note:** Nortel recommends that you change default preferences for an OSPF Accept or a prefix-list configuration before enabling the protocols. Changing OSPF Accept contexts is a process-oriented operation that can affect system performance and network accessibility.

### Syntax

```
config ip ospf accept
```

### Parameters

This command includes the following parameters:

<b>config ip ospf accept</b>	
followed by:	
<code>apply</code>	Issue the <code>apply</code> command after modifying any policy configuration that affects an OSPF accept policy.

## config ip ospf accept adv-rtr

Use this command to configure a policy for accepting external routes from a specified advertising router.

### Syntax

```
config ip ospf accept adv-rtr <ipaddr>
```

where *ipaddr* is the advertising router ID.

If *ipaddr* is equal to 0.0.0.0, all advertising routers are implied. If no accept entry for a specific advertising router is specified, the default entry is used. When no applicable entry is found, all routers are accepted.

### Parameters

This command includes the following parameters::

<b>config ip ospf accept adv-rtr &lt;ipaddr&gt;</b> followed by:	
info	Displays OSPF accept configuration information for a specified advertising router.
apply	Applies the OSPF accept policy changes.
create	Creates an OSPF accept entry for a specified advertising router.
delete	Deletes an OSPF accept entry for a specified advertising router.
disable	Disables an OSPF accept entry for a specified advertising router.
enable	Enables an OSPF accept entry for a specified advertising router.

<b>config ip ospf accept adv-rtr &lt;ipaddr&gt;</b> followed by:	
metric-type <type1/type2/any>	Used to indicate the OSPF external type. This parameter describes the types of OSPF external routes that match this entry. Parameters <ul style="list-style-type: none"> <li>• &lt;any&gt; means match all external routes.</li> <li>• &lt;type1&gt; means match external type 1 only</li> <li>• &lt;type2&gt; means match external type 2 only</li> </ul>
route-policy <policy name>	Specifies the name of the route policy to be used for filtering external routes advertised by the specified advertising router before accepting the advertise external routes into the routing table.

## config ip ospf admin-state

Use this command to globally enable or disable the OSPF administrative status. The default status is *disable*.

### Syntax

```
config ip ospf admin-state <enable|disable>
```

## config ip ospf area <ipaddr>

Use this command to add OSPF area parameters.

### Syntax

```
config ip ospf area <ipaddr>
```

where *ipaddr* is the IP address of the OSPF area

### Parameters

This command includes the following parameters:

<b>config ip ospf &lt;ipaddr&gt;</b> followed by:	
create	Creates an OSPF area.
delete	Deletes an OSPF area.
import-summaries <true false>	Sets the area support for importing summary advertisements into a stub area– use this field only if the area stub is set to true.
info	Displays OSPF area characteristics.
nssa <true false>	Sets a not-so-stubby-area (nssa).
stub <true false>	Sets the import external option for the area. Only one exit point router interface occurs in a stub.  Parameters <ul style="list-style-type: none"> <li>• <i>true</i> sets the area to stub</li> <li>• <i>false</i> sets the area to not stub</li> </ul>
stub-metric <stub-metric>	Sets the stub default metric for the stub area applied at the indicated type of service.  Parameter <ul style="list-style-type: none"> <li>• <i>stub-metric</i> is the cost expressed as an integer from 0 to 16777215</li> </ul>



## config ip ospf area <ipaddr> range <ipaddr/mask>

Use this command to configure and manage the OSPF area range parameters.

### Syntax

```
config ip ospf area <ipaddr> range <ipaddr/mask>
```

where:

- *ipaddr* is the IP address of the OSPF area to configure
- *ipaddr/mask* is the IP address and subnet mask of the OSPF area range to configure

### Parameters

This command includes the following parameters:

<b>config ip ospf &lt;ipaddr&gt; range &lt;ipaddr/mask&gt;</b> followed by:	
create advertise-mode <value> lsa-type <value> [advertise-metric <value>]	Creates an OSPF area range with the specified IP address and advertising mode. Parameters <ul style="list-style-type: none"> <li>• advertise-mode value</li> <li>• lsa-type value</li> <li>• advertise-metric value</li> </ul>
delete lsa-type <value>	Deletes an OSPF area range.
advertise-mode <mode> lsa-type <value>	Changes the advertise-mode of the range. Parameters <ul style="list-style-type: none"> <li>• mode</li> <li>• lsa-type value</li> </ul>
advertise-metric <cost> lsa-type <value>	Changes the advertised metric cost value of the OSPF area range. Parameters <ul style="list-style-type: none"> <li>• cost is expressed as an integer from 0 to 65535</li> <li>• lsa-type value</li> </ul>
info	Displays information about the OSPF area range settings.

## config ip ospf area <ipaddr> virtual-interface <nbr>

Use this command to configure and manage an OSPF area virtual interface.

### Syntax

```
config ip ospf area <ipaddr> virtual-interface <nbr>
```

where:

- *ipaddr* is the IP address of the OSPF area to configure
- *nbr* is the OSPF router ID of the specified neighbor

### Parameters

This command includes the following parameters:

<b>config ip ospf &lt;ipaddr&gt; virtual-interface &lt;nbr&gt;</b> followed by:	
add-message-digest-key <md5-key-id> md5-key <value>	Adds an MD5 key to the interface. Parameters <ul style="list-style-type: none"> <li>• <i>md-key-id</i> is expressed as an integer between 1 and 255</li> <li>• md5-key value</li> </ul>
authentication-key <authentication-key>	Sets the authentication key. Parameter <ul style="list-style-type: none"> <li>• <i>authentication key</i> is expressed as a string of up to eight characters that specifies the key</li> </ul>
authentication-type <auth-type>	Sets the OSPF authentication type for the OSPF area. Parameter <ul style="list-style-type: none"> <li>• <i>auth-type</i></li> </ul>
change-primary-md5-key <md5-key-id>	Changes the primary MD5 key used for encrypting outgoing packets. Parameter <ul style="list-style-type: none"> <li>• <i>md5-key-id</i> is expressed as an integer between 1 and 255</li> </ul>

<b>config ip ospf &lt;ipaddr&gt; virtual-interface &lt;nbr&gt;</b> followed by:	
<code>create</code>	Creates a virtual interface area identifier.
<code>delete</code>	Deletes the virtual interface.
<code>delete-message-digest-key &lt;md5-key-id&gt;</code>	Deletes the specified MD5 key ID from the configured MD5 keys. Parameter <ul style="list-style-type: none"> <li>• <i>md5-key-id</i> is expressed as an integer between 1 and 255</li> </ul>
<code>hello-interval &lt;seconds&gt;</code>	Sets the hello interval on the virtual interface. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer between 1 and 65535; the default is 0</li> </ul>
<code>dead-interval &lt;seconds&gt;</code>	Sets the dead interval for the virtual interface. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer between 1 and 214783647; the default is 60</li> </ul> <p><b>TIP:</b> This value must be at least four times the hello interval value.</p>
<code>info</code>	Displays the current OSPF area virtual interface information.
<code>retransmit-interval &lt;seconds&gt;</code>	Sets the retransmit interval for the virtual interface. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer between 1 and 3600</li> </ul>
<code>transit-delay &lt;seconds&gt;</code>	Sets the transit delay for the virtual interface. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer between 1 and 3600</li> </ul>

## **config ip ospf as-boundary-router <enable|disable>**

Use this command to enable or disable the OSPF Autonomous System boundary router.

### **Syntax**

```
config ip ospf as-boundary-router <enable|disable>
```

## **config ip ospf auto-vlink <enable|disable>**

Use this command to enable or disable automatic creation of OSPF virtual links when required. The default is *disable*.

### **Syntax**

```
config ip ospf auto-vlink <enable|disable>
```

## config ip ospf default-metric

Use this command to set the OSPF default metrics for each type of switch connection. The range for each type is an integer from 1 to 65535.

### Syntax

```
config ip ospf default-metric [ethernet <value>]
[fast-ethernet <value>] [gig-ethernet <value>]
[ten-gig-ethernet <value>]
```

### Parameters

This command includes the following parameters:

<b>config ip ospf default-metric</b> followed by:	
ethernet <value>	Sets the 10 MB/s Ethernet connections. The default metric value is 100.
fast-ethernet <value>	Sets the 100 MB/s Ethernet connections. The default metric value is 10.
gig-ethernet <value>	Sets the gigabit Ethernet connections. The default metric value is 1.
ten-gig-ethernet <value>	Sets the 10 gigabit Ethernet connections.

## config ip ospf holddown

Use this command to set the OSPF holddown timer value in seconds, expressed as an integer between 3 and 60. The default value is 10 seconds.

### Syntax

```
config ip ospf holddown <seconds>
```

where *seconds* is expressed as an integer between 3 and 60

## config ip ospf host-route

Use this command to configure OSPF host route parameters on the switch.

### Syntax

```
config ip ospf host-route <ipaddr>
```

where *ipaddr* is the IP address of the OSPF host route

### Parameters

This command includes the following parameters:

<b>config ip ospf host-route &lt;ipaddr&gt;</b> followed by:	
<code>create [metric &lt;value&gt;]</code>	Creates an OSPF host route for the IP address. Parameter <ul style="list-style-type: none"><li><i>metric value</i> is the metric cost for the host route expressed as an integer between 0 and 65535</li></ul>
<code>delete</code>	Deletes an OSPF host route for the IP address.
<code>info</code>	Displays the current OSPF host route configuration on the switch.

## config ip ospf interface <ipaddr>

Use this command to configure an OSPF interface.

### Syntax

```
config ip ospf interface <ipaddr>
```

where *ipaddr* is the IP address of the OSPF interface to configure

### Parameters

This command includes the following parameters:

<b>config ip ospf interface &lt;ipaddr&gt;</b> followed by:	
add-message-digest-key <md5-key-id> md5-key <value>	Adds an MD5 key to the interface. Parameters <ul style="list-style-type: none"> <li>• <i>md5-key-id</i></li> </ul> <p><b>TIP:</b> Only two keys can be configured to an interface. Multiple MD5 key configurations can be used for MD5 transitions without bringing down an interface.</p> <ul style="list-style-type: none"> <li>• <i>md5-key value</i></li> </ul>
admin-status <enable disable> [<if-type>]	Sets the state of the OSPF interface. Parameters <ul style="list-style-type: none"> <li>• <i>enable</i></li> <li>• <i>disable</i></li> <li>• <i>if-type</i></li> </ul>
interface-type <if-type>	Specifies the OSPF interface type.
area <ipaddr>	Sets the OSPF interface area. Parameter <ul style="list-style-type: none"> <li>• <i>ipaddr</i> represents the interface area</li> </ul> <p><b>TIP:</b> Any value can be used for the OSPF area name because the area name is not related to an IP address.</p>

<b>config ip ospf interface &lt;ipaddr&gt;</b> followed by:	
authentication-key <authentication-key>	Sets the OSPF authentication key for the interface. Parameter <ul style="list-style-type: none"> <li>• <i>authentication-key</i></li> </ul>
authentication-type <auth-type>	Sets the OSPF authentication type for the interface. Parameter <ul style="list-style-type: none"> <li>• <i>auth-type</i></li> </ul>
change-primary-md5-key <md5-key-id>	Changes the primary key used for encrypting outgoing packets. Parameter <ul style="list-style-type: none"> <li>• <i>md5-key-id</i> is the ID for the message-digest-key</li> </ul>
create [<if-type>]	Creates an OSPF interface. Parameter <ul style="list-style-type: none"> <li>• <i>if-type</i></li> </ul>
delete	Deletes an OSPF interface.
delete-message-digest-key <md5-key-id>	Deletes the specified MD5 key ID from the configured MD5 keys. Parameter <ul style="list-style-type: none"> <li>• <i>md5-key-id</i> is the ID for the message-digest-key</li> </ul>
hello-interval <seconds>	Sets the OSPF hello interval for the interface. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer between 1 and 65535; the default is 10</li> </ul> <p><b>TIP:</b> When the hello interval is changed, save the configuration file and reboot the switch so the values can be restored and checked for consistency.</p>
dead-interval <seconds>	Sets the OSPF dead interval for the interface. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer from 1 to 2147483467; the default is 40</li> </ul> <p><b>TIP:</b> <i>seconds</i> must be at least four times the hello interval value.</p>



<b>config ip ospf interface &lt;ipaddr&gt;</b>	
followed by:	
<code>poll-interval &lt;seconds&gt;</code>	<p>Sets the polling interval for the OSPF interface in seconds.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 1 and 2147483647</li> </ul>
<code>info</code>	<p>Displays the OSPF characteristics for the interface.</p>
<code>metric &lt;metric&gt;</code>	<p>Sets the OSPF metric for the interface. The switch advertises the metric in router link advertisements.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>metric</i> is expressed as an integer from 0 to 65535</li> </ul>
<code>priority &lt;priority&gt;</code>	<p>Sets the OSPF priority for the interface during the election process for the designated router.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>priority</i> is expressed as an integer from 0 to 255; the default is 1</li> </ul> <p><b>TIP:</b> If the priority is set to 0, the interface cannot become either the designated router or a backup.</p>
<code>retransmit-interval &lt;seconds&gt;</code>	<p>Sets the retransmit interval for the OSPF interface (the number of seconds between link-state advertisement retransmissions).</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 1 and 3600</li> </ul>
<code>transit-delay &lt;seconds&gt;</code>	<p>Sets the transit delay time for the OSPF interface (the estimated time, in seconds, it takes to transmit a link-state update packet over the interface).</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 1 and 3600</li> </ul>

## config ip ospf neighbor

Use this command to configure and manage OSPF neighbors and OSPF neighbor priorities.

### Syntax

```
config ip ospf neighbor <ipaddr>
```

where *ipaddr* is expressed in the dotted decimal notation format a.b.c.d

### Parameters

This command includes the following parameters:

<b>config ip ospf neighbor &lt;ipaddr&gt;</b> followed by:	
<code>create &lt;priority&gt;</code>	Creates an OSPF neighbor and assigns a priority level. Parameter • <i>priority</i> is expressed as an integer between 0 and 255
<code>delete</code>	Deletes an OSPF neighbor.
<code>info</code>	Displays information about the OSPF neighbor settings.
<code>priority &lt;priority&gt;</code>	Changes the priority level of the neighbor. Parameter • <i>priority</i> is expressed as an integer between 0 and 255

## config ip ospf redistribute

Use this command to allow policy–configuration changes to take effect for OSPF Redistribute context. The command also prevents the switch from attempting to apply the changes individually after each configuration change.



**Note:** Nortel recommends that you change default preferences for an OSPF Redistribute or a prefix-list configuration before you enable the protocols. Changing OSPF Redistribute contexts is a process-oriented operation that can affect system performance and network accessibility.

### Syntax

```
config ip ospf redistribute
```

### Parameters

This command includes the following parameters:

<b>config ip ospf redistribute</b>	
followed by:	
apply	Submits the command to the configuration. Use <code>apply</code> when you modify any policy configuration that affects an OSPF redistribution.

## config ip ospf redistribute direct

Use this command to configure and manage OSPF direct redistribution.

### Syntax

```
config ip ospf redistribute direct
```

### Parameters

This command includes the following parameters:

<b>config ip ospf redistribute direct</b> followed by:	
apply	Applies OSPF redistribution changes to the switch.
create	Creates OSPF route redistribution.
disable	Disables OSPF route redistribution.
delete	Deletes OSPF route redistribution.
enable	Enables OSPF route redistribution.
info	Displays the current OSPF route redistribution configuration.
metric <metric-value>	Sets the OSPF route redistribution metric. Parameter <ul style="list-style-type: none"> <li><i>value</i> is expressed as an integer between 0 and 65535</li> </ul> <b>TIP:</b> A value of 0 resets the metric to the default value.
metric-type <type1 type2>	Sets the OSPF route redistribution metric type.

<b>config ip ospf redistribute direct</b> followed by:	
route-policy <policy name>	Sets the OSPF route redistribution policy. Parameter <ul style="list-style-type: none"> <li><i>policy name</i> represents the name of a previously configured route policy</li> </ul> <b>TIP:</b> To delete a policy, issue this command with an empty string.
subnets <allow supress>	Sets the OSPF route redistribution subnet policy. Parameters <ul style="list-style-type: none"> <li><i>allow</i> enables the policy</li> <li><i>supress</i> disables the policy</li> </ul>

## config ip ospf redistribute rip

Use this command to configure and manage OSPF RIP redistribution.

### Syntax

```
config ip ospf redistribute rip
```

### Parameters

This command includes the following parameters:

<b>config ip redistribute rip</b> followed by:	
apply	Applies OSPF redistribution changes to the switch.
create	Creates OSPF route redistribution.
disable	Disables OSPF route redistribution.
delete	Deletes OSPF route redistribution.
enable	Enables OSPF route redistribution.
info	Displays the current OSPF route redistribution configuration.

<b>config ip redistribute rip</b> followed by:	
<code>metric &lt;metric-value&gt;</code>	<p>Sets the OSPF route redistribution metric.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>value</i> is expressed as an integer between 0 and 65535.</li> </ul> <p><b>TIP:</b> A value of 0 resets the metric to the default value.</p>
<code>metric-type &lt;type1 type2&gt;</code>	<p>Sets the OSPF route redistribution metric type.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li><i>type 1</i></li> <li><i>type 2</i></li> </ul>
<code>route-policy &lt;policy name&gt;</code>	<p>Sets the OSPF route redistribution policy.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>policy name</i> represents the name of a previously configured OSPF route redistribution policy</li> </ul> <p><b>TIP:</b> To delete the policy, issue this command with an empty string.</p>
<code>subnets &lt;allow supress&gt;</code>	<p>Sets the OSPF route redistribution policy.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li><i>allow</i> enables the OSPF route redistribution policy</li> <li><i>supress</i> disables the OSPF route redistribution policy</li> </ul>

## config ip ospf redistribute static

Use this command to configure and manage OSPF static redistribution.

### Syntax

```
config ip ospf redistribute static
```

### Parameters

This command includes the following parameters:

<b>config ip ospf redistribute static</b> followed by:	
apply	Applies OSPF redistribution changes to the switch.
create	Creates OSPF route redistribution.
disable	Disables OSPF route redistribution.
delete	Deletes OSPF route redistribution.
enable	Enables OSPF route redistribution.
info	Displays the current OSPF route redistribution configuration.
metric <metric-value>	Sets the OSPF route redistribution metric. Parameter <ul style="list-style-type: none"> <li>• <i>metric-value</i> is expressed as an integer between 0 and 65535.</li> </ul> <b>TIP:</b> A value of 0 resets the metric to the default value.
metric-type <policy name>	Sets the OSPF route redistribution metric type. Parameters <ul style="list-style-type: none"> <li>• <i>type 1</i></li> <li>• <i>type 2</i></li> </ul>

<b>config ip ospf redistribute static</b> followed by:	
route-policy <policy name>	Sets the OSPF route redistribution policy. Parameter <ul style="list-style-type: none"><li>• <i>policy name</i> represents the name of a previously configured OSPF route redistribution policy</li></ul> <b>TIP:</b> To delete the policy, issue this command with an empty string.
subnets <allow supress>	Sets the OSPF route redistribution policy. Parameters <ul style="list-style-type: none"><li>• <i>allow</i> enables the OSPF route redistribution policy</li><li>• <i>supress</i> disables the OSPF route redistribution policy</li></ul>

## config ip ospf router-id

Use this command to set the OSPF router ID IP address.

### Syntax

```
config ip ospf router-id <ipaddr>
```

where *ipaddr* is the OSPF router ID IP address

## config ip ospf spf-run

Use this command to indicate the number of SPF calculations that OSPF performs.

### Syntax

```
config ip ospf spf-run
```



## config ip ospf trap

Use this command to enable or disable issue of traps related to OSPF.

### Syntax

```
config ip ospf trap <enable|disable>
```

## config ip pim

Use this command to configure PIM-SM globally on the switch.

### Syntax

```
config ip pim
```

### Parameters

This command includes the following parameters:

<b>config ip pim</b> followed by:	
<code>bootstrap-period &lt;integer&gt;</code>	Specifies the interval, in seconds, that the elected bootstrap router (BSR) waits between originating bootstrap messages. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value from 5 to 32757; the default is 60</li> </ul>
<code>c-rp-adv-timeout &lt;integer&gt;</code>	Specifies how often, in seconds, that routers configured as candidate RPs send C-RP advertisement messages. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value between 5 and 26214; the default is 60</li> </ul>
<code>disable</code>	Globally disables PIM on the switch.

<b>config ip pim</b> followed by:	
<code>disc-data-timeout &lt;integer&gt;</code>	Specifies how long, in seconds, the system discards data until the Join is received from the RP. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value between 5 and 65535; the default is 60</li> </ul>
<code>enable</code>	Globally enables PIM on the switch.
<code>info</code>	Displays the current PIM settings on the switch.
<code>joinprune-interval &lt;integer&gt;</code>	Specifies how long to wait, in seconds, before the PIM router sends out the next join/prune message to its upstream neighbors. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value between 1 and 18724; the default is 60</li> </ul>
<code>mode &lt;sparse&gt;</code>	Sets the configured mode for the interface. Parameter <ul style="list-style-type: none"> <li><i>sparse</i></li> </ul>
<code>register-suppression-timeout &lt;integer&gt;</code>	Specifies how long, in seconds, the DR suppresses sending registers to the RP. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value from 5..65535; the default is 60</li> </ul>
<code>unicast-route-change-timeout &lt;integer&gt;</code>	Specifies how often, in seconds, the switch polls the routing table manager (RTM) for unicast routing information updates That PIM uses. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value between 2 and 65535; the default is 5</li> </ul>

## config ip pim candbsr interface

Use this command to configure a candidate Bootstrap Router (BSR) on an interface.

### Syntax

```
config ip pim candbsr interface <ipaddr>
```

where *ipaddr* is the IP address of the interface to configure

### Parameters

This command includes the following parameters:

<b>config ip pim candbsr interface &lt;ipaddr&gt;</b> followed by:	
disable	Disables the Candidate BSR on the interface.
enable preference <value>	Enables the Candidate BSR on this interface and sets its preference value to become a BSR. Parameter <ul style="list-style-type: none"> <li><i>value</i> is a numeric preference value; the default is 1</li> </ul>
info	Displays the candidate BSR preference setting for the interface.

## config ip pim candrp

Use this command to configure a rendezvous point (RP) in the RP set.

### Syntax

```
config ip pim candrp
```

### Parameters

This command includes the following parameters:

<b>config ip pim candrp</b> followed by:	
add grp <value> mask <value> rp <value>	<p>Adds a candidate RP to the RP set.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>add grp &lt;value&gt;</i> is the IP address of the multicast group</li> <li>• <i>mask &lt;value&gt;</i> is the address mask of the multicast group</li> <li>• <i>rp &lt;value&gt;</i> is the IP address of the C-RP</li> </ul> <p><b>TIP:</b> <i>rp &lt;value&gt;</i> must be one of the local PIM-SM enabled interfaces.</p>
delete grp <value> mask <value>	<p>Deletes a candidate RP from the RP set.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>grp &lt;value&gt;</i> is the IP address of the multicast group</li> <li>• <i>mask &lt;value&gt;</i> is the address mask of the multicast group</li> </ul>
info	<p>Displays current RIP configuration settings on the local router interface.</p>

## config ip pim debug-pimmsg

Use this command to configure PIM protocol traces for troubleshooting.

### Syntax

```
config ip pim debug-pimmsg
```

### Parameters

This command includes the following parameters:

<b>config ip pim debug-pimmsg</b> followed by:	
assert <true=1 false=2>	Sets the switch to display the assert debug traces.
bstrap <true=1 false=2>	Sets the switch to display bootstrap debug traces.
group <ipaddress>	Sets the switch to display debug traces from a specific group IP address.
hello <true=1 false=2>	Sets the switch to display hello debug traces.
info	Displays current PIM debug trace flag settings on the switch.
joinprune <true=1 false=2>	Sets the switch to display join/prune debug traces.
pimdbglog <true=1 false=2>	Controls whether the switch logs debug traces.
pimdbgtrace <true=1 false=2>	Sets the switch to display PIM debug traces.
rcv <true=1 false=2>	Sets the switch to display received debug traces.
register <true=1 false=2>	Sets the switch to display register debug traces.
regstop <true=1 false=2>	Sets the switch to display register stop debug traces.
rp-adv <true=1 false=2>	Sets the switch to display rp advertisement debug traces.

<b>config ip pim debug-pimmsg</b> followed by:	
send <true=1 false=2>	Sets the switch to display send debug traces.
source <ipaddress>	Sets the switch to display debug traces from a specific source IP address.

## config ip pim interface

Use this command to configure PIM-SM on an interface.

### Syntax

```
config ip pim interface <ipaddr>
```

where *ipaddr* is the IP address of the interface PIM-SM is configured

### Parameters

This command includes the following parameters:

<b>config ip pim interface &lt;ipaddr&gt;</b> followed by:	
cbsrpreference <integer>	Specifies the preference value for the local PIM candidate bootstrap router. Parameter <ul style="list-style-type: none"><li><i>integer</i> is expressed as an integer between -1 and 255; the default is -1</li></ul> <b>TIP:</b> The default indicates that the current interface is not a candidate BSR
disable	Disables PIM on the local switch interface.
enable	Enables PIM on the local switch interface.

<b>config ip pim interface &lt;ipaddr&gt;</b>	
followed by:	
<i>hellointerval &lt;seconds&gt;</i>	Specifies how long to wait, in seconds, before the PIM switch sends out the next hello message to neighboring switches. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as a numeric value; the default is 30</li> </ul>
<i>info</i>	Displays current PIM configuration settings on the local switch interface.
<i>joinprune-interval &lt;seconds&gt;</i>	Specifies how long to wait, in seconds, before the PIM switch sends out the next join/prune message to its upstream neighbors. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as a numeric value; the default is 60</li> </ul>

## config ip prefix-list

Use this command to configure a prefix list.

A prefix list is a list of networks that route policies use to define an action.

### Syntax

```
config ip prefix-list
```

## Parameters

This command includes the following parameters:

<b>config ip prefix-list &lt;prefix-list name&gt;</b> followed by:	
info	Displays all the prefixes in a given list .
add-prefix <ipaddr/mask> [maskLenFrom <value>] [maskLenTo <value>]	<p>Adds a prefix entry to the prefix list.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• &lt;ipaddr/mask&gt; is the IP address and mask.</li> <li>• maskLenFrom &lt;value&gt; is the lower bound of mask length. The default is the mask length.</li> <li>• maskLenTo &lt;value&gt; is the higher bound mask length. The default is the mask length.</li> </ul> <p><b>Note:</b> Lower bound and higher bound mask lengths together can define a range of networks.</p>
delete	Deletes the prefix list.
name <name>	The name command is used to rename the specified prefix list. The name length can be from 1 to 64 characters.
remove-prefix <ipaddr/mask>	Removes a prefix entry from the prefix list. <i>ipaddr/mask</i> is the IP address and mask.



## config ip rip

Use this command to enable or disable RIP globally on the switch and configure global RIP parameters.

### Syntax

```
config ip rip
```

### Parameters

This command includes the following parameters:

<b>config ip rip</b> followed by:	
default-import-metric <metric>	Sets the value of the default metric to apply to routes imported into the RIP domain. The default metric is used for routes not learned through RIP if a route policy does not specify a metric for a particular protocol, such as OSPF.  Parameter <ul style="list-style-type: none"> <li><i>metric</i> is an integer value with a range of 0 to 15. The default is 8.</li> </ul> <b>TIP:</b> You cannot assign a value of 0 to the default import metric. Entering the command <code>config ip rip default-import-metric 0</code> deconfigures this parameter and restores the default value of 8.
disable	Globally disables RIP on the switch.
enable	Globally enables RIP on the switch.
holddown <seconds>	Sets the RIP holddown timer. The value of the holddown timer is the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable.  Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is an integer value with a range of 0 to 360. The default is 120 seconds.</li> </ul> <b>TIP:</b> The global <code>holddown</code> parameter sets the value of the holddown timer for the VLAN interfaces, but you can override the value for a specific interface.

<b>config ip rip</b> followed by:	
<code>info</code>	Shows RIP global configuration.
<code>timeout &lt;seconds&gt;</code>	<p>Sets the RIP timeout interval.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><code>seconds</code> is an integer value with a range of 15 to 259200.</li> </ul> <p>The default value is set indirectly by the global update time parameter. By default, the timeout timer is set at 6 times the default update timer, in accordance with the RFC specification. With a default global update parameter setting of 30 seconds, the default timeout interval is 180 seconds.</p> <p>Configure the timeout parameter only if you want to break the relationship with the update timer. For example, if you set the global update parameter to a short interval to minimize the problem of fast convergence, the associated default timeout may be too short. In this case, configure the timeout interval manually.</p> <p>The global timeout parameter sets the value of the timeout timer for the VLAN interfaces, but you can override the value for a specific interface.</p>
<code>updatetime &lt;seconds&gt;</code>	<p>Sets the RIP update timer. The value of the update timer is the time interval (in seconds) between regular RIP updates.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><code>seconds</code> is an integer value with a range of 1 to 2147483647. The default is 30 seconds.</li> </ul> <p>The global <code>updatetime</code> parameter sets the update timer for the VLAN interfaces.</p> <p>The <code>updatetime</code> value must be less than the timeout interval.</p>

## config ip rip interface

Use this command to configure RIP parameters on a specific interface. Configuration changes made using `config ip rip interface` apply only to a specific interface and are not applied to the entire switch.

**Note:**

Two sets of commands are available to configure RIP on a specific interface. The two sets share some commands, and you can use either set to configure the shared parameters.

---

### Syntax

```
config ip rip interface <ipaddr>
```

where *ipaddr* indicates the IP address of the interface

OR

```
config vlan <vid> ip rip
```

where *vid* is the VLAN ID

## Parameters

This command includes the following parameters:

<b>config ip rip interface &lt;ipaddr&gt;</b>	
followed by:	
auto-aggr <enable disable>	Enables or disables automatic route aggregation on the interface. When automatic route aggregation is enabled, the router switch automatically aggregates routes to their natural mask when they are advertised on an interface in a network of a different class. The default is <i>disable</i> . Routes with different metrics can be aggregated. RIP uses the out metric associated with the first route to be aggregated as found in the routing table.
cost <cost>	Sets the RIP cost (metric) for this interface. Parameter <ul style="list-style-type: none"> <li><i>cost</i> is an integer value with a range of 1 to 15 The default value is 1.</li> </ul>
default-listen <enable disable>	Configures whether the interface listens for RIP updates for the default route learned through RIP. The default is <i>disable</i> .
default-supply <enable disable>	Configures whether the interface sends RIP advertisements for the default route, if one exists in the routing table. The default is <i>disable</i> .
disable	Disables RIP on the interface.
domain <value>	Specifies the value inserted into the Routing Domain field of all RIP packets sent on this interface. Parameter <ul style="list-style-type: none"> <li><i>value</i> is an integer value with a range of 0 to 65535. The default is 0</li> </ul>
enable	Enables RIP on the interface.

<b>config ip rip interface &lt;ipaddr&gt;</b> followed by:	
<code>holddown &lt;seconds&gt;</code>	<p>Sets the RIP holddown timer for the interface. The value of the holddown timer is the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer value with a range of 0 to 360</li> </ul> <p>The default value of 120 seconds is set by the global holddown parameter. The interface timer setting overrides the global parameter. However, if you subsequently reset the global parameter, the global setting then overrides the interface timer setting.</p>
<code>info</code>	Shows RIP configuration for the interface.
<code>in-policy &lt;policy name&gt;</code>	<p>Sets the RIP policy for inbound filtering on the interface. The in-policy determines which routes are learned on the interface.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>policy name</i> is a string length {0..64}.</li> </ul> <p><b>TIP:</b> To delete the policy from the interface configuration, enter an empty string.</p>
<code>listen &lt;enable disable&gt;</code>	Configures whether the interface listens for RIP routes. The default is enabled.
<code>out-policy &lt;policy name&gt;</code>	<p>Sets the RIP policy for outbound filtering on the interface. The out-policy determines which routes are advertised from the routing table on the interface.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>policy name</i> is a string length {0..64}.</li> </ul> <p><b>TIP:</b> To delete the policy from the interface configuration, enter an empty string.</p>
<code>poison &lt;enable disable&gt;</code>	<p>Sets whether RIP routes on the interface learned from a neighbor are advertised back to the neighbor.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>If disabled, split horizon is invoked, and IP routes learned from an immediate neighbor are not advertised back to the neighbor.</li> <li>If enabled, the RIP updates sent to a neighbor from which a route is learned are poisoned with a metric of 16. The receiver neighbor ignores this route because the metric 16 indicates infinite hops in the network.</li> </ul> <p>The default is <i>disable</i>.</p>

<b>config ip rip interface &lt;ipaddr&gt;</b> followed by:	
receive-mode <mode>	Indicates which version of RIP updates are accepted on this interface. The options for <i>mode</i> are: Parameters <ul style="list-style-type: none"> <li>• <i>rip1</i> — RIP version 1 (complies with RFC 1058).</li> <li>• <i>rip2</i> — RIP version 2 (complies with RFC 2453).</li> <li>• <i>rip1orrip2</i> — both versions of RIP.</li> </ul> The default is <i>rip1orrip2</i> .
send-mode <mode>	Indicates which version of RIP updates the router sends on this interface. The options for <i>mode</i> are: Parameters <ul style="list-style-type: none"> <li>• <i>notsend</i> — no updates are sent</li> <li>• <i>rip1</i> — RIP version 1 (complies with RFC 1058; updates are broadcast)</li> <li>• <i>rip1comp</i> — compatible with RIP version 1 (RIP version 2 updates are broadcast using RFC 1058 route subsumption rules)</li> <li>• <i>rip2</i> — RIP version 2 (complies with RFC 2453; updates are multicast)</li> </ul> The default is <i>rip1comp</i> .
supply <enable disable>	Enables or disables the interface to supply RIP updates. The default is <i>enable</i> .

**config ip rip interface <ipaddr>**

followed by:

<pre>timeout &lt;seconds&gt;</pre>	<p>Sets the RIP timeout interval for the interface.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li>• <i>seconds</i> is an integer value with a range of 15 to 259200.</li> </ul> <p>The default value is set indirectly by the global update time parameter. By default, the timeout timer is set at 6 times the update timer, in accordance with the RFC specification. With a default global update timer setting of 30 seconds, the default timeout interval is 180 seconds.</p> <p>Configure the timeout parameter on the interface only if you want to break the relationship with the update timer. For example, if you set the global update parameter to a short interval to minimize the problem of fast convergence, the associated default timeout may be too short. In this case, configure the timeout interval manually.</p> <p>The interface timer setting overrides the global parameter. However, if you subsequently reset the global parameter, the global setting then overrides the interface timer setting.</p> <p>The timeout interval must be greater than the global update time parameter.</p>
<pre>trigger &lt;enable disable&gt;</pre>	<p>Enables or disables automatic triggered updates for RIP on this interface. The default is <i>disable</i>.</p>

## config ip route preference

Use this command to configure route preferences by protocol.

### Syntax

```
config ip route preference
```

### Parameters

This command includes the following parameters:

<b>config ip route preference</b> followed by:	
info	Displays the route preference configured for different protocols.
protocol <protocol> <value>	Sets the preference value for the specified protocol. Parameters: <ul style="list-style-type: none"><li>• <i>protocol</i> specifies the protocol set for the route preference. The supported protocols are: static, RIP, and OSPF.</li><li>• <i>value</i> specifies the value, between 0 and 255, to assign to the protocol.</li></ul>



## config ip route-discovery

Use this command to enable and disable route discovery.

### Syntax

```
config ip route-discovery
```

### Parameters

This command includes the following parameters:

<b>config ip route-discovery</b> followed by:	
info	Displays the global status of the router discovery feature.
disable	Disables ICMP router discovery globally on the switch.
enable	Enables ICMP router discovery globally on the switch.

## config ip route-policy <policy name> info

Use this command to obtain information about a specific ip route-policy.

### Syntax

```
config ip route-policy <policy name> info
```

where *policy name* is a unique name—between 1 and 64 characters in length—assigned to the policy

## config ip route-policy

Use this command to configure a route policy.

### Syntax

```
config ip route-policy <policy name> seq <seq number>
```

where

- *policy name* is a unique name—between 1 and 64 characters in length—assigned to the policy
- *seq* is the sequence associated with the specific policy name

### Parameters

This command includes the following parameters:

<b>config ip route-policy &lt;policy name&gt; seq &lt;seq number&gt;</b> followed by:	
info	Displays current configuration information about this policy sequence number.
action <permit/deny>	Specifies the required action when a policy is selected for a specific route. Parameters <ul style="list-style-type: none"> <li>• <i>permit</i> accepts the route</li> <li>• <i>deny</i> ignores the route</li> </ul>
create	Creates a route policy with a policy name and a sequence number. Note: When you create a route policy in the CLI, the ID is generated internally by automated algorithm. When you create a route policy in Device Manager, you can manually assign the ID number.
delete	Deletes a route policy with a policy name and a sequence number.

<b>config ip route-policy &lt;policy name&gt; seq &lt;seq number&gt;</b> followed by:	
disable	Disables a route policy with a policy name and a sequence number.
enable	Enables a route policy with a policy name and a sequence number.
match-interface <prefix-list> [clear]	Instructs the policy to perform matching based on the interface list. Matches the IP address of the interface from which the RIP route was learned with the contents of the specified prefix list. This parameter is used only for RIP routes. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>prefix list</i> specifies the list to match in a string from 1 to 1027 characters in length</li> <li>• <i>clear</i> clears the list criteria</li> </ul>
match-metric <metric> [clear]	If configured, the switch matches the metric of the incoming advertisement or existing route against the specified value. If 0, then this field is ignored. <b>Parameters</b> <ul style="list-style-type: none"> <li>• &lt;metric&gt; is 1 to 65535. The default is 0.</li> <li>• <i>clear</i> clears the match criteria</li> </ul>
match-network <prefix-list> [clear]	If configured, the switch matches the destination network against the contents of the specified prefix lists. <b>Parameters</b> <ul style="list-style-type: none"> <li>• &lt;prefix-list&gt; specifies the name of up to four defined prefix lists, by name, separated by a comma</li> <li>• <i>clear</i> clears the listing</li> </ul>
match-next-hop <prefix-list> [clear]	If configured, matches the next hop IP address of the route against the contents of the specified prefix list. This field applies only to non-local routes. <b>Parameters</b> <ul style="list-style-type: none"> <li>• &lt;prefix-list&gt; specify the name of up to four defined prefix lists, by name, separated by a comma</li> <li>• <i>clear</i> clears the listing</li> </ul>

<b>config ip route-policy &lt;policy name&gt; seq &lt;seq number&gt;</b> followed by:	
match-protocol <protocol name> [clear]	Matches the protocol from which the route is learned. This parameter is used only for RIP announce purposes. Parameters <ul style="list-style-type: none"> <li>• <i>protocol name</i> specifies the protocol to use</li> <li>• <i>clear</i> clears the specified protocol</li> </ul>
match-route-src <prefix-list> [clear]	If configured, matches the next hop IP address for RIP routes and advertising router IDs for OSPF routes against the contents of the specified prefix list. This option is ignored for all other route types. Parameters <ul style="list-style-type: none"> <li>• &lt;prefix-list&gt; specifies the name of up to four defined prefix lists, by name, separated by a comma.</li> <li>• <i>clear</i> clears the specified prefix list name</li> </ul>
match-route-type <route-type>	Sets a specific route-type to be matched (applies only to OSPF routes). Parameter <ul style="list-style-type: none"> <li>• &lt;route-type&gt; External-1 and External-2 specifies OSPF routes of the specified type only (any other value is ignored).</li> </ul>
name <policy name>	Renames the selected policy. This command changes the name field for all sequence numbers under the given policy. Parameter <ul style="list-style-type: none"> <li>• <i>policy name</i> is a string value between 1 and 64 characters in length</li> </ul>
set injectlist <prefix-list> [clear]	Instructs the policy to replace the destination network of the route that matches this policy with the contents of the value specified in the inject list parameter. If configured, the switch replaces the destination network of the route that matches this policy with contents of the specified prefix list. Parameters <ul style="list-style-type: none"> <li>• &lt;prefix-list&gt; specifies a prefix list by name</li> <li>• <i>clear</i> clears the specified prefix list</li> </ul>

<b>config ip route-policy &lt;policy name&gt; seq &lt;seq number&gt;</b> followed by:	
<code>set-mask &lt;ipaddr&gt;</code>	<p>Sets the subnet mask only for RIP Accept policies. If configured, the switch sets the mask of the route that matches this policy.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <code>&lt;ipaddr&gt;</code> is a valid contiguous IP mask</li> <li>• <code>clear</code> clears the IP address</li> </ul>
<code>set-metric &lt;metric-value&gt; [clear]</code>	<p>If configured, the switch sets the metric value for the route while announcing a redistributing. The default is 0. If the default is configured, the original cost of the route is advertised into OSPF; for RIP, the original cost of the route or default-import-metric is used.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <code>metric-value</code> is the cost of the route</li> <li>• <code>clear</code> clears the specified metric value</li> </ul>
<code>set-metric-type &lt;metric-type&gt; [clear]</code>	<p>If configured, sets the metric type for the routes to be announced into the OSPF domain that matches this policy. The default is type 2. This field is applicable only for OSPF Announce policies.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <code>metric-type</code> is type 1 or type 2</li> <li>• <code>clear</code> clears the specified metric type</li> </ul>
<code>set-nssa-pbit &lt;enable/disable&gt;</code>	<p>Applicable to BGP protocol only and to OSPF Announce policies only. Enables or disables the translation P bit in specified type 7 LSA. By default, P bit is enabled.</p> <p>NOTE: If the nssa pbit is disabled for a particular route policy, the the P bit is cleared for all type 7 LSAs associated with that route policy. With P bit intact, NSSA ABR does not perform translation of these LSAs to type 5.</p>

<b>config ip route-policy &lt;policy name&gt; seq &lt;seq number&gt;</b> followed by:	
<code>set-next-hop &lt;ipaddr&gt; [clear]</code>	Applicable to BGP protocol only. Sets the IP address of the next hop router for RIP routes. Parameters <ul style="list-style-type: none"> <li>• <i>ipaddr</i> is the IP address of the next hop router</li> <li>• <i>clear</i> clears the specified IP address</li> </ul>
<code>set-preference &lt;pref-value&gt; [clear]</code>	Sets the preference value for Accept policies. Setting the preference greater than zero specifies the route preference value assigned to routes that match this policy. Parameters <ul style="list-style-type: none"> <li>• <i>&lt;pref-value&gt;</i> is expressed as an integer from 0 to 255. The default is 0. If the default is configured, the global preference value is used.</li> <li>• <i>clear</i> clears the specified preference value</li> </ul>

## config ip route preference

Use this command to configure route preferences by protocol.

When you execute `config ip route preference`, you to override default route preferences and substitute a protocol preference value for routes learned for a specific protocol.



**Note:** Nortel recommends that you change a prefix list or a routing protocol before you enable the protocol. Changing route preferences is a process-oriented operation that can affect system performance and network accessibility.

## Syntax

```
config ip route preference
```

## Parameters

This command includes the following parameters:

<b>config ip route preference</b>	
followed by:	
info	Displays the route preference configured for different protocols.
protocol <protocol> <value>	<p>Sets the preference value for the specified protocol.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>protocol</i> {<i>static</i>/<i>rip</i>/<i>ospf-internal</i>/<i>ospf-internal</i>/<i>ospf-external1</i>/<i>ospf-external2</i>} indicates the protocol type.</li> <li>• <i>value</i> is an integer value with a range of 0 to 255.</li> </ul> <p>If two protocols hold the same configured value, the default value breaks the tie. The default preference values are:</p> <ul style="list-style-type: none"> <li>• local routes = 0</li> <li>• static routes = 5</li> <li>• RIP routes = 100</li> </ul>

## config ip static-route

Use this command to create a new static route or modify existing static route parameters.

### Syntax

```
config ip static-route
```

### Parameters

This command includes the following parameters:

<b>config ip static-route</b> followed by:	
info	Displays characteristics of the static route.
<pre>create &lt;ipaddr/mask&gt; next-hop &lt;value&gt; cost &lt;value&gt; [preference &lt;value&gt;] [local-next-hop &lt;value&gt;]</pre>	<p>Adds a static or default route to the switch.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>ipaddr/mask</i> is the IP address and subnet mask for the route destination.</li> <li>• <i>next-hop &lt;value&gt;</i> is the IP address of the next hop router in the route</li> <li>• <i>cost &lt;value&gt;</i> is the cost metric of the route expressed as an integer between 1 and 65535</li> </ul> <p><b>Optional parameters</b></p> <ul style="list-style-type: none"> <li>• <i>preference &lt;value&gt;</i> is expressed as an integer from 1.. 255—routes with no specified preference are given a preference of 1</li> <li>• <i>local-next-hop &lt;value&gt;</i> is the IP address of the local router</li> </ul>
<pre>delete &lt;ipaddr/mask&gt; next-hop &lt;value&gt;</pre>	<p>Deletes a static route.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>ipaddr/mask</i> is the IP address and subnet mask for the route destination</li> <li>• <i>next-hop &lt;value&gt;</i> is the IP address of the next hop router in the route</li> </ul>



<b>config ip static-route</b> followed by:	
disable <ipaddr/mask> next-hop <value>	Disables a static route. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ipaddr/mask</i> is the IP address and subnet mask for the route destination</li> <li>• <i>next-hop &lt;value&gt;</i> is the IP address of the next hop router in the route</li> </ul>
enable <ipaddr/mask> next-hop <value>	Enables a static route. The default is <i>enable</i> for created static routes. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>ipaddr/mask</i> is the IP address and subnet mask for the route destination</li> <li>• <i>next-hop &lt;value&gt;</i> is the IP address of the next hop router in the route</li> </ul>
local-next-hop <true false> <ipaddr/mask> next-hop <value>	Sets the local next hop. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>true/false</i> enables or disables the specified local next hop router</li> <li>• <i>ipaddr/mask</i> specifies the IP address and subnet mask of the local next hop router</li> <li>• <i>next-hop &lt;value&gt;</i> is the IP address of the local next hop router</li> </ul>
preference <value> <ipaddr/mask> next-hop <value>	Modifies static route preference. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>value</i> specifies the preference value for the static route</li> <li>• <i>ipaddr/mask</i> specifies the IP address and subnet mask for the static route</li> <li>• <i>next-hop &lt;value&gt;</i> specifies the IP address of the next hop router for the static route</li> </ul>

## config ip udpfwd info

Use this command to obtain the configuration information about the UDP forwarding policies applied to the specified interface.

### Syntax

```
config ip udpfwd info
```

## config ip udpfwd interface

Use this command to apply a port forwarding list to a specified interface and to view and manage the UDP forwarding policies applied to the specified interface.

### Syntax

```
config ip udpfwd interface <ipaddr>
```

where *<ipaddr>* is the IP address for the local interface expressed in dotted, decimal notation (a.b.c.d format)

### Parameters

This command includes the following parameters:

<b>config ip udpfwd interface &lt;ipaddr&gt;</b> followed by:	
info	Displays current-level parameter settings and next-level directories.
create <fwddlistid>	Applies a UDP forwarding policy to the specified interface. Parameter <ul style="list-style-type: none"><li>• <i>fwddlistid</i> is name of the desired UDP forwarding policy to apply</li></ul>
delete	Removes the UDP forwarding policy from the specified interface.

---

<b>config ip udpfwd interface &lt;ipaddr&gt;</b> followed by:	
<code>broadcastmask &lt;mask&gt;</code>	Sets the broadcast mask for this interface. This value can be different from the interface mask. Parameter <ul style="list-style-type: none"><li>• <i>mask</i> is the subnet mask in dotted-decimal notation {a.b.c.d}</li></ul>
<code>maxttl &lt;maxttl&gt;</code>	Sets the maximum TTL value for this interface. Parameter <ul style="list-style-type: none"><li>• <i>maxttl</i> is the maximum TTL value (1..16) Default value is 4.</li></ul>
<code>udpportfwlist &lt;fwlistid&gt;</code>	Sets the UDP forwarding policy to use. Parameter <ul style="list-style-type: none"><li>• <i>fwlistid</i> is name of the desired UDP forwarding policy to apply.</li></ul>

## config ip udpfwd portfwd

Use this command to configure a UDP port forwarding entry on the switch.

### Syntax

```
config ip udpfwd portfwd
```

### Parameters

This command includes the following parameters:

<b>config ip udpfwd portfwd</b> followed by:	
info	Displays the current-level parameter settings and next-level directories.
add-portfwd <udpport> <ipaddr>	Adds a portfwd entry to the list. Parameters <ul style="list-style-type: none"><li>• <i>udpport</i> is the UDP port number (1..65535)</li><li>• <i>ipaddr</i> is the forwarding destination You can enter either a specific server IP address or an IP limited broadcast in dotted-decimal notation {a.b.c.d}.</li></ul>
remove-portfwd <udpport> <ipaddr>	Removes a portfwd entry from the list. Parameters <ul style="list-style-type: none"><li>• <i>udpport</i> is the UDP port number (1..65535)</li><li>• <i>ipaddr</i> is the forwarding destination You can enter either a specific server IP address or an IP limited broadcast in dotted-decimal notation {a.b.c.d}.</li></ul>

## config ip udpfwd portfwdlist

Use this command to configure and manage the specified UDP port forwarding list.

### Syntax

```
config ip udpfwd portfwdlist <fwdlistid>
```

where *<fwdlistid>* is the policy ID expressed as an integer between 1 and 1000

### Parameters

This command includes the following parameters:

<b>config ip udpfwd portfwdlist &lt;fwdlistid&gt;</b> followed by:	
info	Displays the current-level parameter settings and next-level directories.
create	Creates a UDP forwarding policy.
delete	Deletes the UDP forwarding policy.
add-portfwd <udpport> <ipaddr>	Adds a portfwd entry to the forwarding policy. Parameters <ul style="list-style-type: none"> <li>• <i>udpport</i> is the UDP port number (1..65535)</li> <li>• <i>ipaddr</i> is the forwarding destination You can enter either a specific server IP address, or an IP limited broadcast in dotted-decimal notation {a.b.c.d}.</li> </ul>
remove-portfwd <udpport> <ipaddr>	Removes a portfwd entry from the forwarding policy. Parameters <ul style="list-style-type: none"> <li>• <i>udpport</i> is the UDP port number (1..65535)</li> <li>• <i>ipaddr</i> is the forwarding destination You can enter either a specific server IP address, or an IP limited broadcast in dotted-decimal notation {a.b.c.d}.</li> </ul>
name <name>	Sets the forwarding policy name, expressed in a string between 1 and 15 characters in length.

## config ip udpfwd protocol

Use this command to configure a UDP protocol entry on the switch.

### Syntax

```
config ip udpfwd protocol <udpport>
```

where <udpport> is the port number for the protocol expressed as an integer between 1 and 65535

### Parameters

This command includes the following parameters:

<b>config ip udpfwd protocol &lt;udpport&gt;</b> followed by:	
info	Displays the current UDP forwarding configuration on the switch.
create <protoname>	Creates a UDP forwarding entry for the port specified by the <i>udpport</i> parameter. Parameter <ul style="list-style-type: none"><li><i>protoname</i> is the name applied to the UDP port expressed in a string between 1 and 15 characters in length</li></ul>
delete	Deletes the UDP forwarding entry based on the <i>udpport</i> parameter.

## config ip vrrp info

Use this command to show the current-level parameter settings and next-level directories for IP Virtual Router Redundancy Protocol configuration.

### Syntax

```
config ip vrrp info
```

## config ip vrrp ping-virtual-address

Use this command to enable or disable virtual address ping.

### Syntax

```
config ip vrrp ping-virtual-address <enable|disable>
```

## config ip vrrp send-trap

Use this command to enable or disable a VRRP send trap.

### Syntax

```
config ip vrrp send-trap <enable|disable>
```

## config license load license-file

Use this command to load software licenses.

### Syntax

```
config license load license-file
```

## config load-module

Use this command to load modules dynamically.

## Syntax

```
config load-module <3DES|DES> <srcfile>
```

where:

- *3DES/DES* is a module ID
- *srcfile* is the file name expressed as */flash/<file>* with a string length from 1..1536 characters

## config log

Use this command to configure and display the log files for the switch. When you save the **config bootconfig flags logging true** command in the configuration file, the log entries are written to the `syslog.txt` file. If the logging flag is not set to true, the entries are stored in memory.

## Syntax

```
config log
```

## Parameters

This command includes the following parameters:

<b>config log</b> followed by:	
<code>info</code>	Displays the current log settings.
<code>clear</code>	Clears the log file.



<b>config log</b> followed by:	
<code>level [&lt;level&gt;]</code>	Shows and sets the logging level. <i>level</i> is one of these values: <ul style="list-style-type: none"> <li>• 0 = Information—all messages are recorded</li> <li>• 1 = Warning—warning and more serious messages are recorded</li> <li>• 2 = Error— error and more serious messages are recorded</li> <li>• 3 = Manufacturing—this parameter is not available for customer use</li> <li>• 4 = Fatal—fatal messages are recorded</li> </ul>
<code>screen [&lt;setting&gt;]</code>	Sets the log display on the screen to on or off. Parameter <ul style="list-style-type: none"> <li>• <i>setting</i> is off or on</li> </ul> The default is off.
<code>write &lt;str&gt;</code>	Writes the log file with the designated string. Parameter <ul style="list-style-type: none"> <li>• <i>str</i> is the string or command that you append to the log file.</li> </ul> If the string contains spaces, you must enclose the string in quotation marks. The range is 1 to 432 characters.
<code>filter add &lt;string&gt; action &lt;value&gt; [pos &lt;value&gt;]</code>	Adds a new string for matching. Parameters <ul style="list-style-type: none"> <li>• <i>string</i> specifies the string to match—string length can be 1..80</li> <li>• <i>action &lt;value&gt;</i> specifies the filter match action.</li> </ul> The values are: <ul style="list-style-type: none"> <li>• dropfile</li> <li>• onlyscreen</li> <li>• onlyboth</li> <li>• <i>pos &lt;value&gt;</i> specifies the position to insert the filter string. The values are t..50.</li> </ul>
<code>filter delete [string &lt;value&gt;] [pos &lt;value&gt;]</code>	Deletes an entry specified by string or by position. Parameters <ul style="list-style-type: none"> <li>• <i>string &lt;value&gt;</i> specifies the string to delete. The value can be 1..80</li> <li>• <i>pos &lt;value&gt;</i> specifies the position to delete the filter string—the values can be 1..80.</li> </ul>
<code>filter info</code>	Shows the configured string with position numbers.

## config mlt

Use this command to set up MultiLink Trunking (MLT) on the switch.

### Syntax

```
config mlt <mid>
```

where:

*mid* is the MLT ID expressed as a value from 1..7.

### Parameters

This command includes the following parameters:

<b>config mlt &lt;mid&gt;</b> followed by:	
info	Displays the current settings for the specified MLT.
create	Creates an MLT with the specified MLT ID.
delete	Deletes the specified MLT.
name <string>	Indicates the name of the MLT. Parameter • <i>string</i> is 1 to 20 alphanumeric characters
nstg disable	Disables NTSTG mode so that Cisco-compatible Spanning Tree mode can be enabled.
perform-tagging <enable disable>	Configures tagging for all ports in the link aggregation group. Parameters • <i>enable</i> enables tagging on the specified MLT • <i>disable</i> disables tagging on the specified MLT The default value is disable.

## config mlt <mid> add

Use this command to add ports to an MLT.

### Syntax

```
config mlt <mid> add
```

where *mid* is the MLT ID expressed as a value from 1..7

### Parameters

This command includes the following parameters:

<b>config mlt &lt;mid&gt; add</b> followed by:	
info	Displays ports added to the MLT.
ports <ports>	<p>Adds ports to the MLT.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>ports</i> is the port number or a list of ports you want to add to the MLT</li> </ul> <p>Use the following convention when adding one or more ports to the MLT: {slot/port[-slot/port][, ...]}.</p>
vlan <vid>	<p>Adds the initial configuration of the specified Virtual LAN (VLAN) to the MLT.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>vid</i> is the VLAN ID number expressed as an integer from 1..4000</li> </ul>

## config mlt <mid> ist

Use this command to configure an Inter-Switch Trunk (IST) Multi-Link Trunk (MLT).

### Syntax

```
config mlt <mid> ist
```

### Parameters

This command includes the following parameters:

<b>config mlt &lt;mid&gt; ist</b> followed by:	
create ip <value> vlan-id <value>	Creates an IST MLT. <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>ip &lt;value&gt;</i> specifies the IP address of the peer</li><li>• <i>vlan-id &lt;value&gt;</i> specifies the unique value that defines the VLAN ID for the IST– expressed as an integer from 1..4000</li></ul>
delete	Deletes a specified IST MLT.
disable	Disables the specified IST MLT.
enable	Enables the specified IST MLT.
info	Displays information for the specified IST MLT.

## **config mlt <mid> ntstg**

Use this command to enable or disable the Nortel Spanning Tree Group mode. You must disable the NTSTG mode.

### **Syntax**

```
config mlt <mid> nstg <enable|disable>
```

where *mid* is a unique identification value for the link aggregation group. When the STSTG mode is disabled, the NSTG mode is automatically enabled.

## **config mlt <mid> remove**

Use this command to remove ports or Virtual LANs (VLANs) from a MultiLink Trunk (MLT).

### **Syntax**

```
config mlt <mid> remove
```

where *mid* is the MLT ID expressed as a value from 1..7

## Parameters

This command includes the following parameters:

<b>config mlt &lt;mid&gt; remove</b> followed by:	
info	Displays the ports removed from the MLT.
ports <ports>	Removes ports from the MLT. Parameter <ul style="list-style-type: none"><li>• <i>ports</i> is the port number or a list of ports to be removed from the MLT</li></ul> Use the following convention when removing one or more ports from the MLT: { <i>slot/port</i> [- <i>slot/port</i> ][,...]}.
vlan <vid>	Defines the VLAN to remove from the MLT. Parameter <ul style="list-style-type: none"><li>• <i>vid</i> is the VLAN ID number in a range range from 1 to 4000</li></ul>

## config mlt <mid> smlt

Use this command to configure Split Multi-Link Trunking (SMLT).

### Syntax

```
config mlt <mid> smlt
```

### Parameters

This command includes the following parameters:

<b>config mlt &lt;mid&gt; smlt</b> followed by:	
info	Displays information for the specified SMLT.
create smlt-id <value>	Creates a split MLT. Parameter • <i>smlt-id</i> <value> is expressed as an integer from 1..32
delete	Deletes the specified SMLT.

## config mstp

Use this command to configure Multiple Spanning Tree Protocol on the switch.

### Syntax

```
config mstp
```

### Parameters

This command includes the following parameters:

<b>config mstp</b> followed by:	
hop-count <number>	Sets the MSTP bridge hop count. <ul style="list-style-type: none"><li>• <i>number</i> is expressed as a value from 600..4000</li></ul>
info	Displays current-level parameter settings and next-level directories for MSTP.
pathcost-type <16-bit 32-bit>	Sets the version of Spanning Tree used by the Bridge. Parameters <ul style="list-style-type: none"><li>• <i>16-bit</i> uses the default path costs from IEEE Standard 802.1D</li><li>• <i>32-bit</i> uses the default path costs from IEEE Standard 802.1t</li></ul>
tx-holdcount <number>	Sets the maximum number of BPD packets transmitted per hellotime interval Parameter <ul style="list-style-type: none"><li>• <i>number</i> is expressed as a value from 1..10 The default is 3.</li></ul>



## config mstp cist

Use this command to configure MSTP Common and Internal Spanning Tree (CIST).

### Syntax

```
config mstp cist
```

### Parameters

This command includes the following parameters:

<b>config mstp cist</b> followed by:	
<code>force-version &lt;stp-compatible rstp  mstp&gt;</code>	Specifies the Spanning Tree mode. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>stp</i> Spanning Tree Mode</li> <li>• <i>rstp</i> Rapid Spanning Tree Mode</li> <li>• <i>mstp</i> Multiple Spanning Tree Mode</li> </ul>
<code>info</code>	Displays current-level parameter settings and the next-level directories for MSTP CIST.
<code>forward-delay &lt;number&gt;</code>	Controls how fast a port changes its spanning state when moving toward the Forwarding state. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>number</i> determines how long the port stays in a particular state—expressed in hundredths of a second in a range from 400..3000</li> </ul>
<code>max-age &lt;number&gt;</code>	Sets the maximum age of the STP information learned from the network on any port before it is discarded. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>number</i> is expressed in hundredths of a second as the actual value that the bridge is currently using</li> </ul>
<code>priority &lt;number&gt;</code>	Sets the value to specify the RSTP priority. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>number</i> is expressed as a value from 0..61440</li> </ul>

## config mstp msti

Use this command to configure MSTP Multiple Spanning Tree Instances (MSTI).

### Syntax

```
config mstp msti <instances id>
```

### Parameters

This command includes the following parameters:

<b>config mstp msti</b> followed by:	
info	Displays the current-level parameter settings and next-level directories for MSTP MSTSI.
priority <number>	Specifies the RSTP priority. <ul style="list-style-type: none"><li>• <i>number</i> is expressed as a value from 0..61440</li></ul>

## config mstp region

Use this command to configure the MSTP region on the switch.

### Syntax

```
config mstp region
```

### Parameters

This command includes the following parameters:

<b>config mstp region</b> followed by:	
<code>config-id-sel &lt;number&gt;</code>	Sets the Configuration Identifier Format Selector in use by the switch. Parameter <ul style="list-style-type: none"> <li><i>number</i> is expressed as an integer from 0..255</li> </ul>
<code>info</code>	Displays current-level parameter settings and next-level directories for MSTP region.
<code>name &lt;string&gt;</code>	Sets the unique identifier for the MSTP region on the switch. Parameter <ul style="list-style-type: none"> <li><i>string</i> is expressed as an alphanumeric string of 32 characters</li> </ul>
<code>revision &lt;number&gt;</code>	Identifies the MSTP region on the switch. Parameter <ul style="list-style-type: none"> <li><i>number</i> is expressed as an integer from 0..65535. The default is 0.</li> </ul>

## config ntp

Use this command to access the Network Time Protocol (NTP) commands.

### Syntax

```
config ntp
```

### Parameters

This command includes the following parameters:

<b>config ntp</b> followed by:	
<code>enable &lt;true false&gt;</code>	Enables or disables NTP.
<code>info</code>	Shows NTP information.
<code>interval &lt;value&gt;</code>	Configures the time interval between successive NTP updates.

## config ntp key

Use this command to obtain access to the Network Time Protocol (NTP) configuration commands.

### Syntax

```
config ntp key
```

### Parameters

This command includes the following parameters:

<b>config ntp key</b> followed by:	
<code>create &lt;value&gt; &lt;value&gt;</code>	<p>Adds an NTP key.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>value</i> specifies the authentication key from 1..2147483647</li> <li>• <i>value</i> specifies the secret key in a string from 0..8 characters</li> </ul>
<code>delete &lt;value&gt;</code>	<p>Deletes an NTP key.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li>• <i>value</i> specifies the authentication key from 1..2147483647</li> </ul>
<code>info</code>	Shows the NTP key configurations.
<code>set &lt;value&gt; &lt;value&gt;</code>	<p>Sets the NTP key parameters.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>value</i> specifies the authentication key from 1..2147483647</li> <li>• <i>value</i> specifies the secret key in a string from 0..8 characters</li> </ul>

## config ntp server

Use this command to access the NTP server commands.

### Syntax

```
config ntp server
```

### Parameters

This command includes the following parameters:

<b>config ntp server</b> followed by:	
<pre>create &lt;ipaddr&gt; [enable &lt;value&gt;] [auth &lt;value&gt;] [key &lt;value&gt;]</pre>	<p>Adds an NTP server.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>enable</i> &lt;value&gt; specifies whether the server is enabled with false for disabled or true for enabled</li> <li>• <i>auth</i> &lt;value&gt; specifies whether the server is authenticated, expressed as false for disabled or true for enabled</li> <li>• <i>key</i> &lt;value&gt; specifies the authentication key expressed as an integer from 1..2147483647</li> </ul>
<pre>delete &lt;ipaddr&gt;</pre>	<p>Deletes an NTP server.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>ipaddr</i> is address of the NTP server to delete expressed as a.b.c.d</li> </ul>
<pre>info</pre>	<p>Shows NTP server configurations.</p>
<pre>set &lt;ipaddr&gt; [enable &lt;value&gt;] [auth &lt;value&gt;] [key &lt;value&gt;]</pre>	<p>Sets NTP server parameters.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>ipaddr</i> is the NTP server IP address expressed as a.b.c.d</li> </ul> <p><b>Optional Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>enable</i>&lt;value&gt; indicates whether the server is enabled (true) or disabled (false)</li> <li>• <i>auth</i> &lt;value&gt; indicates whether the server is authenticated (true) or disabled (false)</li> <li>• <i>key</i> &lt;value&gt; is the authentication key expressed as an integer from 1..2147483647</li> </ul>

## config qos egress-counter-set id

Use this command to configure an egress counter that displays the statistics you want to monitor.

### Syntax

```
config qos egress-counter-set id
```

### Parameters

This command includes the following parameters:

<b>config qos egress-counter-set id</b> followed by:	
<code>create [port &lt;value&gt;] [vlan&lt;value&gt;] [queue &lt;value&gt;] [dp &lt;value&gt;]</code>	Configures the port, or ports, that you want the counter set to monitor. If you do not configure all ports, the switch disables the default setting, MONITOR ALL PORTS.
<code>delete</code>	Deletes a transmit queue counter set.
<code>info</code>	Shows the current setting information.

## config qos map

Use this command to configure QoS mapping tables.

### Syntax

```
config qos map
```

### Parameters

This command includes the following parameters:

<b>config qos map</b> followed by:	
info	Displays the QoS mapping information for all ports.
8021p-to-class-map <802.1p> <traffic-class>	Maps the value of the IEEE802.1 p bit (0 to 7) of the incoming packet to one of the traffic classes (0 to 7).
8021p-to-drop-precedence-map <802.1p> <drop-precedence>	Maps the value of the IEEE802.1 p bit (0 to 7) of the incoming packet to one of the following drop precedence levels: <ul style="list-style-type: none"> <li>• low</li> <li>• medium</li> <li>• high</li> </ul> Packets marked with a higher drop precedence are dropped first during periods of congestion.
class-to-8021p-map <traffic-class> <802.1p>	Maps the value of the traffic class (0 to 7) to the IEEE802.1 p bit (0 to 7) of the incoming packet.



## config radius

Use this command to configure Remote Access Dial-in User Services (RADIUS) on the switch.

### Syntax

```
config radius
```

### Parameters

This command includes the following parameters:

<b>config radius</b> followed by:	
info	Displays global RADIUS settings.
access-priority-attribute <value>	Specific to RADIUS authentication. Sets the vendor-specific attribute value of the Access-Priority attribute to match the type value set in the dictionary file on the RADIUS server. Nortel recommends the default setting of 192 for the Ethernet Routing Switch 1600 Series. The value range is between 192 and 240.
acct-attribute-value <value>	Specific to RADIUS accounting. Sets the vendor-specific attribute value of the CLI-command attribute to match the type value set in the dictionary file on the RADIUS server. This value must be different from the access-priority-attribute value configured for authentication. The value range is between 192 and 240, and the default value is 193.
acct-enable <true false>	Enables ( <i>true</i> ) or disables ( <i>false</i> ) RADIUS accounting globally. RADIUS accounting cannot be enabled unless a valid server is configured. This feature is disabled by default.

<b>config radius</b> followed by:	
<code>acct-include-cli-commands &lt;true false&gt;</code>	Specifies whether CLI commands are included in RADIUS accounting requests. If this parameter is set to true, the commands are included in the requests. If this parameter is set to false, the commands are not included, and interim updates are not sent.
<code>authentication-enable &lt;true false&gt;</code>	Enables ( <i>true</i> ) or disables ( <i>false</i> ) the RADIUS authentication features.
<code>cli-commands-attribute &lt;value&gt;</code>	Specifies the value for the cli commands attribute.
<code>cli-profile-enable &lt;true false&gt;</code>	Specifies Enabling of the profile globally. The default is false.
<code>command-access-attribute &lt;value&gt;</code>	Specific to RADIUS authentication. Sets the vendor-specific attribute value of the Access-Priority attribute to match the type value set in the dictionary file on the RADIUS server. Nortel recommends the default setting of 192 for the Ethernet Routing Switch 1600 Series. The value range is between 192 and 240.
<code>clear-stat</code>	Clears RADIUS statistics from the server.
<code>maxserver &lt;value&gt;</code>	Specific to RADIUS authentication. Sets the maximum number of servers allowed for the switch. The value range is between 1 and 10.

## config radius server

Use this command to add a Remote Access Dial-in User Services (RADIUS) server.

### Syntax

```
config radius server
```

### Parameters

This command includes the following parameters:

<b>config radius server</b> followed by:	
info	Displays a list of all configured RADIUS servers.
delete <ipaddr> usedby <value>	<p>Deletes a radius server.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>ipaddr</i> is the IP address of the server to be deleted in dotted-decimal notation {a.b.c.d}</li> <li>• <i>usedby</i> {cli igap snmp eapol} selects one of the following protocols for the user: <ul style="list-style-type: none"> <li>- Command Line (CLI)</li> <li>- Extensible Authentication Protocol over LANS (EAPOL)</li> </ul> </li> </ul>

**config radius server**

followed by:

```

create <ipaddr>
secret <value>
[usedby <value>]
[port <value>]
[priority <value>]
[retry <value>]
[timeout <value>]
[enable <value>]
[acct-port <value>]
[acct-enable <value>]
[source-ip <value>]

```

Creates and configures a server:

**Parameters**

- *ipaddr* is the IP address of the server to add in dotted-decimal notation {a.b.c.d}
- *secret <value>* is the secret key of the server. Its string length is 0..20

**Optional parameters:**

- *usedby <value>* selects one of the following protocols for the user:
  - Command Line (CLI)
  - Extensible Authentication Protocol over LANS (EAPOL)
- *port <value>* is the UDP port value for authentication (1..65535). The default value is 1812.
- *priority <value>* is the priority value for this server from 1..10; the default is 10
- *retry <value>* is the maximum number of authentication retries the server accepts, expressed as an integer from 1..6; the default value is 1
- *timeout <value>* is the number of seconds before the authentication request times out from 1..10; the default value is 3
- *enable <value>* enables authentication on the server
- *acct-port <value>* is the UDP port of the RADIUS accounting server from 1..65535; the default value is 1813
 

**Note:** The User Datagram Protocol (UDP) port value set for the client must match the UDP value set for the RADIUS server.
- *acct-enable <value>* enables RADIUS accounting on this server
 

By default, RADIUS accounting is enabled on a server.
- *source-ip <value>* includes the IP address of the gateway or router in the RADIUS packet

<b>config radius server</b>	
followed by:	
<pre>set &lt;ipaddr&gt; [usedby &lt;value&gt;] [secret &lt;value&gt;] [port &lt;value&gt;] [priority &lt;value&gt;] [retry &lt;value&gt;] [timeout &lt;value&gt;] [enable &lt;value&gt;] [acct-port &lt;value&gt;] [acct-enable &lt;value&gt;] [source-ip &lt;value&gt;]</pre>	<p>Changes specify server values without having to delete the server and re-create it again:</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>ipaddr</i> is the IP address of the server to change in dotted-decimal notation {a.b.c.d}</li> <li>• <i>usedby</i> {cli eapol} selects one of the following protocols for the user: <ul style="list-style-type: none"> <li>- Command Line (CLI)</li> <li>- Extensible Authentication Protocol over LANS (EAPOL)</li> </ul> </li> </ul> <p><b>Optional parameters:</b></p> <ul style="list-style-type: none"> <li>• <i>secret &lt;value&gt;</i> is the secret key of the authentication client; the string length is 0..20.</li> <li>• <i>port &lt;value&gt;</i> is the UDP ports to be used from 1..65536; the default value is 1812</li> <li>• <i>priority &lt;value&gt;</i> is the priority value for this server from 1..10; the default value is 10</li> <li>• <i>retry &lt;value&gt;</i> is the maximum number of authentication retries the server accept, expressed as an integer from 1..6; the default value is 1</li> <li>• <i>timeout &lt;value&gt;</i> is the number of seconds before the authentication request times out from 1..10. The default value is 3.</li> <li>• <i>enable &lt;true false&gt;</i> true enables the server and false disables it The default is true.</li> <li>• <i>acct-port &lt;value&gt;</i> The UDP port of the RADIUS accounting server (1..65536) The default value is 1813. <b>Note:</b> The User Datagram Protocol (UDP) port value set for the client must match the UDP value set for the RADIUS server.</li> <li>• <i>acct-enable &lt;true false&gt;</i> true enables RADIUS accounting on the server and false disables it By default, RADIUS accounting is enabled on a server.</li> <li>• <i>source-ip &lt;value&gt;</i> indicates the IP address of the gateway or router in the RADIUS packet</li> </ul>
<pre>sourceip-flag &lt;true false&gt;</pre>	Enables or disables the sourceip flag.

## config rmon

Use this command to configure the Remote Monitoring (RMON) functions on the switch.

### Syntax

```
config rmon
```

### Parameters

This command includes the following parameters:

<b>config rmon</b> followed by:	
info	Displays whether RMON is enabled or disabled on the switch.
alarm create <id> type <value> intv <value> variable <value> [r_th <value>] [r_ev <value>] [f_th <value>] [f_ev <value>] [owner <value>]	Creates an alarm interface. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>id</i> is the interface index number (1 to 65535)</li> <li>• <i>type &lt;value&gt;</i> is the sample type, absolute or delta</li> <li>• <i>intv &lt;value&gt;</i> is the sample interval (1 to 3600)</li> <li>• <i>variable &lt;value&gt;</i> is the variable name or Object Identifier (OID), case sensitive (string length 1 to 1536)</li> </ul> <p><b>Note:</b> The rising or falling event must exist before an alarm can be created.</p> <p><b>Optional parameters:</b></p> <ul style="list-style-type: none"> <li>• <i>r_th &lt;value&gt;</i> is the rising threshold (- 32768 to + 65535)</li> <li>• <i>r_ev &lt;value&gt;</i> is the rising event number (1 to 65535)</li> <li>• <i>f_th &lt;value&gt;</i> is the falling threshold ((- 32768 to + to 65535)</li> <li>• <i>f_ev &lt;value&gt;</i> is the falling event number (1 to 65535)</li> <li>• <i>owner &lt;value&gt;</i> is the name of the owner (string length 1 to 48)</li> </ul>

<b>config rmon</b> followed by:	
alarm delete <i>&lt;id&gt;</i>	Deletes the specified RMON alarm.
alarm info	Displays information about the RMON alarms.
disable	Disables RMON on the switch.
enable	Enables RMON on the switch.
ether-stats create <i>&lt;id&gt;</i> <i>&lt;ports&gt;</i> [owner <i>&lt;value&gt;</i> ]	Creates an ether-stats control interface. Parameters <ul style="list-style-type: none"> <li><i>id</i> is the index number of the ether-stats control interface (1 to 65535)</li> <li><i>ports</i> is the single port interface {<i>slot/port</i>[-<i>slot/port</i>][,...]}</li> </ul> Optional parameter: <ul style="list-style-type: none"> <li>owner <i>&lt;value&gt;</i> is name of the owner (string length 1 to 48)</li> </ul>
ether-stats delete <i>&lt;id&gt;</i>	Deletes an ether-stats control interface. Parameter <ul style="list-style-type: none"> <li><i>id</i> is the index number of the ether-stats control interface (1 to 65535)</li> </ul>
ether-stats info	Displays the current ether-stats settings.
ether-stats owner <i>&lt;id&gt;</i> <i>&lt;name&gt;</i>	Changes the owner name for the ether-stats control interface. Parameters <ul style="list-style-type: none"> <li><i>id</i> is the index number of the ether-stats control interface (1 to 65535)</li> <li><i>name</i> is name of the owner (string length 1 to 48)</li> </ul>

<b>config rmon</b>	
followed by:	
<pre>event create &lt;id&gt; trap_src &lt;value&gt; trap_dest &lt;value&gt; [desc &lt;value&gt;] [type &lt;value&gt;] [community &lt;value&gt;] [owner &lt;value&gt;]</pre>	<p>Creates an event.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>id</i> is the event index number (1 to 65535)</li> <li>• <i>trap_src &lt;value&gt;</i> is the trap source IP address</li> <li>• <i>trap_dest &lt;value&gt;</i> is the trap destination IP address</li> </ul> <p><b>Optional parameters:</b></p> <ul style="list-style-type: none"> <li>• <i>desc &lt;value&gt;</i> is the event description (string length 0 to 127)</li> <li>• <i>type &lt;value&gt;</i> is the event type, none, log, snmp-trap, or log-and-trap. The default is log-and-trap</li> <li>• <i>community &lt;value&gt;</i> is the event community (string length 1 to 127). The default is public.</li> <li>• <i>owner &lt;value&gt;</i> is the name of the owner (string length 1 to 48). The default is cli.</li> </ul>
<pre>event delete &lt;id&gt;</pre>	<p>Deletes an event control interface.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>id</i> is the event index number (0 to 65535)</li> </ul>
<pre>event info</pre>	<p>Displays the event information.</p>



<b>config rmon</b> followed by:	
<pre>history-control create &lt;id&gt; &lt;ports&gt; [buckets &lt;value&gt;] [intv &lt;value&gt;] [owner &lt;value&gt;]</pre>	<p>Creates a history control interface.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>id</i> is the index number of the history control interface (1 to 65535)</li> <li><i>ports</i> is the single port interface {<i>slot/port</i>[-<i>slot/port</i>][...]}</li> </ul> <p><b>Optional parameters:</b></p> <ul style="list-style-type: none"> <li><i>buckets &lt;value&gt;</i> is the number of buckets requested expressed as an interval from 1..350 The default is 50.</li> <li><i>intv &lt;value&gt;</i> is the time interval, in seconds, when the data is sampled for each bucket—expressed as an integer from 1..3600 The default is 1800.</li> <li><i>owner &lt;value&gt;</i> is the name of the owner expressed in a string from 1..48 characters in length. The default is <i>cli</i>.</li> </ul>
<pre>history-control delete &lt;id&gt;</pre>	<p>Deletes a history control interface.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>id</i> is the interface index number of the history control interface (1 to 65535)</li> </ul>
<pre>history-control info</pre>	<p>Displays the setting for history control interfaces.</p>
<pre>memsiz e &lt;memsize&gt;</pre>	<p>Sets the amount of RAM in bytes to allocate for RMON.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>memsize</i> is the memory size in bytes (250000 to 4000000)</li> </ul>
<pre>trap-option &lt;toOwner toAll&gt;</pre>	<p>Controls whether the RMON traps should be sent to the owner or all trap recipients.</p> <p><b>Parameter</b></p> <p><i>toOwner toAll</i> is set to either the owner or all trap recipients</p>
<pre>util-method &lt;half full&gt;</pre>	<p>Controls whether port utilization is calculated in half or full duplex.</p>

## config rstp

Use this command to configure Rapid Spanning Tree mode (RSTP) on the switch.

### Syntax

```
config rstp
```

### Parameters

This command includes the following parameters:

<b>config rstp</b> followed by:	
force-version <stp-compatible rstp>	Maintains a backward compatibility with the IEEE 802.1d—the Spanning Tree implementation prior to RSTP. <ul style="list-style-type: none"> <li>• <i>stp-compatible</i> mode transmits and receives only STP BPDUs</li> <li>• <i>rstp-compatible</i> mode transmits and receives STP and RSTP BPDUs</li> </ul>
forward-delay <number>	Controls the speed that a port changes its spanning state when moving toward the Forwarding state. Parameter <ul style="list-style-type: none"> <li>• <i>number</i> is a value from 400..3000, measured in hundredths of a second</li> </ul>
group-stp <enable disable>	Enables or disables RSTP for a specific STG.
hello-time <number>	Sets the time between the transmission of configuration bridge PDUs by the node on any port when it is, or is trying to become, the root of the spanning tree. <ul style="list-style-type: none"> <li>• <i>number</i> is the time, in hundredths of a second, between 100..1000</li> </ul>
info	Displays information about the RSTP configuration.

<b>config rstp</b> followed by:	
max-age <number>	<p>Sets the maximum age of the STP information learned from the network on any port before it is discarded.</p> <ul style="list-style-type: none"> <li><i>number</i> is the age, in hundredths of a second, measured in the actual value that the bridge is currently using</li> </ul>
pathcost-type <16-bit 32-bit>	<p>Sets the version of the Spanning Tree default Path Costs used by the Bridge.</p> <ul style="list-style-type: none"> <li><i>16-bit</i> is the default path cost from IEEE Standard 802.1D</li> <li><i>32-bit</i> is the default path cost from IEEE Standard 802.1t</li> </ul>
priority <number>	<p>Sets the RSTP priority.</p> <ul style="list-style-type: none"> <li><i>number</i> is a value from 0..61440 TIP: number must be divisible by 4096</li> </ul>
tx-holdcount <number>	<p>Sets the maximum number of BPDU packets transmitted per hellotime interval.</p> <ul style="list-style-type: none"> <li><i>number</i> is expressed as a number from 1..10 The default value is 3.</li> </ul>

## config setdate

Use this command to set the calendar time.

### Syntax

```
config setdate <MMddyymmss>
```

## config snmp-server

Use this command to enable or disable the SNMP server.

### Syntax

```
config snmp-server
```

### Parameters

This command includes the following parameters:

<b>config snmp-server</b> followed by:	
info	Displays the status of the snmp server.
bootstrap <minsecure semisecure verysecure>	Specifies the security level for bootstrapping.

## config snmp-v3 community

Use this command to configure a Simple Network Management Protocol (SNMP) version 3 community on an Ethernet Routing Switch 1600 Series switch.

### Syntax

```
config snmp-v3 community
```

## Parameters

This command includes the following parameters:

<b>config snmp-v3 community</b>	
followed by:	
<i>info</i>	Displays the current SNMP-V3 settings.
<i>create</i> <Comm Idx> <name> <security> [tag <value>]	<p>Creates a new entry for the community table on a 1600 Series switch.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Comm Idx</i> specifies a unique index value of a row in the table, expressed as a string from 1..32 characters in length</li> <li>• <i>name</i> specifies a community string for a row to represent a configuration in the table as a string from 1..255 characters in length</li> <li>• <i>security</i> specifies a security name that maps to a community string in the View-based Access Control Model (VACM) Group Member Table expressed as a string from 1..32 characters in length</li> </ul> <p><b>Optional Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>tag</i> &lt;value&gt; specifies the transport tag name in a string from 1..32 characters in length</li> </ul>
<i>delete</i> <Comm Idx>	<p>Deletes an entry for a community table.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>Comm Idx</i> is a unique index value of a row in the table expressed in a string from 1..32 characters in length</li> </ul>
<i>commname</i> <Comm Idx> <i>new-commname</i> <value>	<p>Changes a name for an entry in the community table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Comm Idx</i> specifies the community index expressed in a string from 1..32 characters in length</li> <li>• <i>new-commname</i> &lt;value&gt; specifies the community name in a string from 1..255 characters in length</li> </ul>
<i>rmtag</i>	Removes the transport tab for an entry in the community table.

<b>config snmp-v3 community</b> followed by:	
<i>secname</i> <Comm Idx> <i>new-secname</i> <value>	Changes the security name for an entry in the community table. <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>Comm Idx</i> specifies the community index in a string from 1..32 characters in length</li><li>• <i>new-secname</i> &lt;value&gt; specifies the security name in a string from 1..32 characters in length</li></ul>
<i>tag</i> <Comm Idx> <i>new-tag</i> <value>	Changes the transport tag for an entry in the community table. <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>Comm Idx</i> specifies the community index in a string from 1..32 characters in length</li><li>• <i>new-tag</i> &lt;value&gt; specifies the transport tag in a string from 1..32 characters in length</li></ul>

## config snmp-v3 group-access

Use this command to configure access for a group in the View-based Access Control Model (VACM) table on an Ethernet Routing Switch 1600 Series switch.

### Syntax

```
config snmp-v3 group-access
```

## Parameters

This command includes the following parameters:

<b>config snmp-v3 group-access</b>	
followed by:	
info	Displays the current-level parameter settings and next level directories.
create <group name> <prefix> <model> <level>	<p>Creates a new group member.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>group name</i> creates a new entry with this group name The range is 1 to 32 characters.</li> <li>• <i>prefix</i> assigns a context prefix The range is 0 to 32 characters.</li> <li>• <i>security model</i> assigns authentication checking to communicate with the switch Enter one of the following parameters: usm for the user-based security model snmpv1 for SNMP version 1 snmpv2c for SNMP version 2c</li> <li>• <i>level</i> assigns the minimum level of security required to gain the access rights allowed by this conceptual row</li> </ul> <p><b>Optional parameter:</b></p> <ul style="list-style-type: none"> <li>• <i>match</i> contains the following parameters: <i>exact</i> specifies that all rows where the context Name exactly matches the context prefix are selected. <i>prefix</i> specifies that all rows where the starting octets of the context Name exactly match the context prefix are selected.</li> </ul>

<b>config snmp-v3 group-access</b>	
followed by:	
delete <group name> <prefix> <model> <level>	Removes group access from the v3 VACM table. The range is 1 to 32 characters.
view <group name> <prefix> <model> <level> [read <value>] [write <value>] [notify <value>]	<p>Changes group access view name match for the v3 VACM table.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>group name</i> is the name of the group member The range is 1 to 32 characters.</li> <li>• <i>prefix</i> is the context prefix The range is 1 to 32 characters.</li> <li>• <i>model</i> is the authentication checking for communication with the switch Enter one of the following parameters: usm for the user-based security model snmpv1 for SNMP version 1 snmpv2c for SNMP version 2c</li> <li>• <i>level</i> is the minimum level of security required to gain the access rights allowed by this conceptual row.</li> <li>• <i>read &lt;value&gt;</i></li> <li>• <i>write &lt;value&gt;</i></li> <li>• <i>notify &lt;value&gt;</i></li> </ul>



## config snmp-v3 group-member

Use this command to configure a group member in the View-based Access Control Model (VACM) table on an Ethernet Routing Switch 1600 Series switch.

### Syntax

```
config snmp-v3 group-member
```

### Parameters

This command includes the following parameters:

<b>config snmp-v3 group-member</b> followed by:	
info	Displays the VACM group membership configuration.
create <user name> <model> [<group name>]	<p>Creates a new group member.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>user name</i> creates a new entry with this user name The range is 1 to 32 characters.</li> <li><i>model</i> specifies the message processing model to use when generating a Simple Network Management Protocol (SNMP) message Enter one of the following parameters: usm for the user-based security model snmpv1 for SNMP version 1 snmpv2c for SNMP version 2c</li> </ul> <p><b>Optional parameter:</b></p> <ul style="list-style-type: none"> <li><i>group name</i> assigns the user to the group for data access The range is 1 to 32 characters.</li> </ul>

<b>config snmp-v3 group-member</b>	
followed by:	
delete <user name> <model>	Deletes a user group from the v3 VACM table. The range is 1 to 32 characters.
name <user name> <model> <group name>	<p>Changes the group name for the v3 VACM table.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• <i>user name</i> is the name of the group member The range is 1 to 32 characters.</li> <li>• <i>model</i> is the message processing model to use when generating a Simple Network Management Protocol (SNMP) message One of the following parameters can be entered: usm for the user-based security model snmpv1 for SNMP version 1 snmpv2c for SNMP version 2c</li> <li>• <i>group name</i> is the user of the group for data access The range is 1 to 32 characters.</li> </ul>

## config snmp-v3 mib-view

Use this command to configure an entry for the Management Information Base (MIB) View table on a 1600 Series switch.

### Syntax

```
config snmp-v3 mib-view
```

### Parameters

This command includes the following parameters:

<b>config snmp-v3 mib-view</b> followed by:	
<i>info</i>	Displays the current snmp-v3 mib-view information.
<code>create &lt;view name&gt; &lt;subtree oid&gt; [mask &lt;value&gt;] [type &lt;include exclude&gt;]</code>	Creates a new entry for the MIB View table. <b>Parameters</b> <ul style="list-style-type: none"> <li><i>view name</i> creates a new entry with this group name The range is 1 to 32 characters.</li> <li><i>subtree oid</i> is the prefix that defines the set of MIB objects accessible by this Simple Network Management Protocol (SNMP) entity The range is 1 to 32 characters.</li> </ul> <b>Optional parameters:</b> <ul style="list-style-type: none"> <li><i>mask &lt;value&gt;</i> specifies that a bit mask be used with <code>vacmViewTreeFamilySubtree</code> to determine whether an Object Identifier (OID) falls under a view subtree. Its range is 1 to 47 characters</li> <li><i>type &lt;include exclude&gt;</i> determines whether access to a MIB object is granted (<code>include</code>) or denied (<code>exclude</code>)</li> </ul>

<b>config snmp-v3 mib-view</b>	
followed by:	
delete <view name> <subtree oid>	<p>Deletes an entry for the MIB View table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>view name</i> is the entry with this group name The range is 1 to 32 characters.</li> <li>• <i>subtree oid</i> is the prefix that defines the set of MIB objects accessible by this Simple Network Management Protocol (SNMP) entity The range is 1 to 32 characters.</li> </ul>
mask <view name> <subtree oid> <new-mask>	<p>Changes the view mask for an entry in the MIB View table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>view name</i> is the entry with this group name. The range is 1 to 32 characters.</li> <li>• <i>subtree oid</i> is the prefix that defines the set of MIB objects accessible by this Simple Network Management Protocol (SNMP) entity The range is 1 to 32 characters.</li> <li>• mask &lt;value&gt; specifies that a bit mask be used with vacmViewTreeFamilySubtree to determine whether an Object Identifier (OID) falls under a view subtree The range is 1 to 32 characters.</li> </ul>
type <view name> <subtree oid> <new-type>	<p>Changes the type for an entry in the MIB View table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>view name</i> is the entry with this group name The range is 1 to 32 characters.</li> <li>• <i>subtree oid</i> is the prefix that defines the set of MIB objects accessible by this Simple Network Management Protocol (SNMP) entity The range is 1 to 32 characters.</li> <li>• type &lt;include exclude&gt; determines whether access to a MIB object is granted (include) or denied (exclude)</li> </ul>

## config snmp-v3 notify

Use this command to set the SNMP-V3 notify table.

### Syntax

```
config snmp-v3 notify
```

### Parameters

This command includes the following parameters:

<b>config snmp-v3 notify</b> followed by:	
<code>create &lt;Notify Name&gt; [tag &lt;value&gt;] [type &lt;value&gt;]</code>	<p>Creates a new entry for the notify table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>Notify Name</i> specifies the name for the Notify table in a string from 1..32 characters in length</li> </ul> <p><b>Optional Parameters</b></p> <ul style="list-style-type: none"> <li>tag &lt;value&gt; specifies the tag name in a string from 1..255 characters in length</li> <li>type &lt;value&gt; specifies the notify type as trap or inform</li> </ul>
<code>delete &lt;Notify Name&gt;</code>	<p>Deletes an entry for the Notify table</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>Notify Name</i> specifies the notify name in a string from 1..32 characters in length</li> </ul>
<code>info</code>	Shows the current-level parameter settings and next-level directories.

<b>config snmp-v3 notify</b> followed by:	
tag <Notify Name> new-tag <value>	Changes the notify tag for an entry in the notify table. <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>Notify Name</i> specifies the notify name in a string from 1..32 characters in length</li><li>• <i>new-tag &lt;value&gt;</i> specifies the tag name in a string from 1..255 characters in length</li></ul>
type <Notify Name> new-type <value>	Changes the type for an entry in the notify table. <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>Notify Name</i> specifies the notify name in a string from 1..32 characters in length</li><li>• <i>new-type &lt;value&gt;</i> specifies the notify type as trap or inform</li></ul>

## config snmp-v3 ntfy-filter

Use this command to set the NSMP-V3 notify filter table.

### Syntax

```
config snmp-v3 ntfy-filter
```

### Parameters

This command includes the following parameters:

<b>config snmp-v3 ntfy-filter</b>	
followed by:	
<code>create &lt;Profile Name&gt; &lt;subtree oid&gt; [mask &lt;value&gt;] [type &lt;value&gt;]</code>	<p>Creates a new entry for the notify filter table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Profile Name</i> specifies the filter profile name in a string from 1..32 characters in length</li> <li>• <i>subtree oid</i> specifies the subtree oil in a string from 1..32 characters in length</li> </ul> <p><b>Optional Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>mask &lt;value&gt;</i> specifies the filter mask as 0x00:00 in a string from 0..16 characters in length</li> <li>• <i>type &lt;value&gt;</i> indicates whether to include or exclude the entry</li> </ul>
<code>delete &lt;Profile Name&gt; &lt;subtree oid&gt;</code>	<p>Deletes an entry from the notify filter table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Profile Name</i> specifies the filter profile name in a string from 1..32 characters in length</li> <li>• <i>subtree oid</i> specifies the subtree oid in a string from 1..32 characters in length</li> </ul>
<code>info</code>	Shows current-level parameter settings and the next-level directories for the notify filter table.

<b>config snmp-v3 ntfy-filter</b>	
followed by:	
<pre>mask &lt;Profile Name&gt; &lt;subtree oid&gt; new-mask &lt;value&gt;</pre>	<p>Changes the mask for an entry in the notify filter table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Profile Name</i> specifies the filter profile name in a string from 1..32 characters in length</li> <li>• <i>subtree oid</i> specifies the subtree oid in a string from 1..32 characters in length</li> <li>• <i>new-mask &lt;value&gt;</i> specifies the filter mask as 0x00:00 in a string from 1..16 characters in length.</li> </ul>
<pre>type &lt;Profile Name&gt; &lt;subtree oid&gt; new-type &lt;value&gt;</pre>	<p>Changes the type for an entry in the notify filter table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Profile Name</i> specifies the filter profile name in a string from 1..32 characters in length</li> <li>• <i>subtree oid</i> specifies the subtree oid in a string from 1..32 characters in length</li> <li>• <i>new-type &lt;value&gt;</i> includes or excludes the entry type</li> </ul>



## config snmp-v3 ntfy-profile

Use this command to configure the SNMP-V3 notify profile table.

### Syntax

```
config snmp-v3 ntfy-profile
```

### Parameters

This command includes the following parameters:

<b>config snmp-v3 ntfy-profile</b>	
followed by:	
<code>create &lt;Params Name&gt; [profile &lt;value&gt;]</code>	Creates a new entry for the notify profile table. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>Params Name</i> specifies the target parameters name in a string from 1..32 characters in length</li> </ul> <b>Optional Parameter</b> <ul style="list-style-type: none"> <li><i>profile &lt;value&gt;</i> specifies the filter profile name in a string from 1..32 characters in length</li> </ul>
<code>delete &lt;Params Name&gt;</code>	Deletes an entry for the notify profile table. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>Params Name</i> specifies the target parameter name in a string from 1..32 characters in length</li> </ul>
<code>info</code>	Shows the current-level parameter settings and next-level directories for the notify profile table.
<code>profile &lt;Params Name&gt; &lt;new-profile&gt;</code>	Changes the mask for an entry in the notify profile table. <b>Parameters</b> <ul style="list-style-type: none"> <li><i>Params Name</i> specifies the target parameter name in a string from 1..32 characters in length</li> <li><i>new-profile</i> specifies the filter profile name in a string from 1..32 characters in length</li> </ul>

## config snmp-v3 target-addr

Use this command to configure the SNMP-V3 target table.

### Syntax

```
config snmp-v3 target-addr
```

### Parameters

This command includes the following parameters:

<b>config snmp-v3 target-addr</b>	
followed by:	
<pre>create &lt;Target Name&gt; &lt;Ip addr:port&gt; &lt;Target parm&gt; [timeout &lt;value&gt;] [retry &lt;value&gt;] [taglist &lt;value&gt;] [mask &lt;value&gt;] [mms &lt;value&gt;]</pre>	<p>Creates a new entry for the target table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Target Name</i> specifies the target name in a string from 1..32 characters in length</li> <li>• <i>Ip Addr:port</i> specifies the target address, for example 1.2.3.4:162, in a string from 1..32 characters in length</li> <li>• <i>Target parm</i> specifies the target parameter in a string length from 1..32 characters in length</li> </ul> <p><b>Optional parameters</b></p> <ul style="list-style-type: none"> <li>• <i>timeout &lt;value&gt;</i> specifies the timeout value as an integer from 1..2147483647</li> <li>• <i>retry &lt;value&gt;</i> specifies the retry count value as an integer from 1..255</li> <li>• <i>taglist &lt;value&gt;</i> specifies the tag list in a string from 1..255 characters in length</li> <li>• <i>mask &lt;value&gt;</i> specifies the mask as 0x00:00 in a string from 1..255 characters in length</li> <li>• <i>mms &lt;value&gt;</i> specifies the maximum message size as an integer from 1..2147483647</li> </ul>
<pre>delete &lt;Target Name&gt;</pre>	<p>Deletes an entry in the target table.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>Target Name</i> specifies the target name in a string length from 1..32 characters in length</li> </ul>
<pre>info</pre>	<p>Shows the current-level parameter settings and next-level directories for the target table.</p>

<b>config snmp-v3 target-addr</b> followed by:	
mask <Target Name> new-mask <value>	Changes the mask for an entry in the target table <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>Target Name</i> specifies the target name in a string from 1..32 characters in length</li> <li>• <i>new-mask &lt;value&gt;</i> specifies the target mask as 0x00:00... in a string from 1..32 characters in length</li> </ul>
mms <Target Name> new-mms <value>	Changes the mms for an entry in the target table <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>Target Name</i> specifies the target name in a string from 1..32 characters in length</li> <li>• <i>new-mms &lt;value&gt;</i> specifies the target mms as an integer from 1..2147483647</li> </ul>
parms <Target Name> new-parms <value>	Changes the parameter for an entry in the target table. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>Target Name</i> specifies the target name in a string from 1..32 characters in length</li> <li>• <i>new-parms &lt;value&gt;</i> specifies the target parameter in a string from 1..32 characters in length</li> </ul>
retry <Target Name> new-retry <value>	Changes the retry count value for an entry in the target table. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>Target Name</i> specifies the target name in a string from 1..32 characters in length</li> <li>• <i>new-retry &lt;value&gt;</i> specifies the retry count expressed as an integer from 1..255</li> </ul>

<b>config snmp-v3 target-addr</b> followed by:	
<code>taglist &lt;Target Name&gt;</code> <code>new-taglist &lt;value&gt;</code>	Changes the target tag list for an entry in the target table. <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>Target Name</i> specifies the target name in a string from 1..32 characters in length</li><li>• <i>new-taglist &lt;value&gt;</i> specifies the tag list in a string form a..255 characters in length</li></ul>
<code>timeout &lt;Target Name&gt;</code> <code>new-timeout &lt;value&gt;</code>	Changes the timeout value for an entry in the target table. <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>Target Name</i> specifies the target name in a string from 1..32 characters in length</li><li>• <i>new-timeout &lt;value&gt;</i> specifies the timeout value as an integer from 1..32767</li></ul>

## config snmp-v3 target-param

Use this command to configure the SNMP-V3 target parameters table.

### Syntax

```
config snmp-v3 target-param
```

## Parameters

This command includes the following parameters:

<b>config snmp-v3 target-param</b>	
followed by:	
<pre>create &lt;Tparm Name&gt; mp-model &lt;value&gt; sec-level &lt;value&gt; [sec-name &lt;value&gt;]</pre>	<p>Creates a new entry for the target parameters table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Tparm Name</i> specifies the target parameters name in a string from 1..32 characters in length</li> <li>• <i>mp-model &lt;value&gt;</i> specifies the MP model as snmpv1, snmpv2c, or usm</li> <li>• <i>sec-level &lt;value&gt;</i> specifies the security level as noAuthNoPriv, authNoPriv, or authPriv</li> </ul> <p><b>Optional Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>sec-name &lt;value&gt;</i> specifies the security name in a string from 1..255 characters in length</li> </ul>
<pre>delete &lt;Tparm Name&gt;</pre>	<p>Deletes an entry for the target parameters table.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>Tparm Name</i> specifies the target parameter name in a string from 1..32 characters in length</li> </ul>
<pre>info</pre>	<p>Shows the current-level parameter settings and the next-level directories for the SNMP-V3 target parameters table.</p>
<pre>mp-model &lt;Tparm Name&gt; new-mpmodel &lt;value&gt;</pre>	<p>Changes the MP model for an entry in the target parameters table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Tparm Name</i> specifies the target parameter name in a string from 1..32 characters in length</li> <li>• <i>new-mpmodel &lt;value&gt;</i> specifies the MP model as snmpv1, snmpv2c, or usm</li> </ul>

<b>config snmp-v3 target-param</b>	
followed by:	
<pre>sec-level &lt;Tparm Name&gt; new-seclevel &lt;value&gt;</pre>	<p>Changes the security level for an entry in the target parameter table.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>Tparm Name</i> specifies the target parameter name in a string from 1..32 characters in length</li> <li>• <i>new-seclevel &lt;value&gt;</i> specifies the security level as noAuthNoPriv, authNoPriv, or authPriv</li> </ul>
<pre>sec-name &lt;Tparm Name&gt; [new-secname &lt;value&gt;]</pre>	<p>Changes the security name for an entry in the target parameter table.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>Tparm Name</i> specifies the target parameter name in a string from 1..32 characters in length</li> </ul> <p><b>Optional Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>new-secname &lt;value&gt;</i> specifies the security name in a string from 1..32 characters in length</li> </ul>

## config snmp-v3 usm

Use this command to configure a user in the User-based Security Model (USM) table on an Ethernet Routing Switch 1600 Series switch.

### Syntax

```
config snmp-v3 usm
```

## Parameters

This command includes the following parameters:

<b>config snmp-v3 usm</b> followed by:	
<i>info</i>	Displays the current-level parameter settings and next-level directories.
<pre>create &lt;User Name&gt; [&lt;auth protocol&gt;] [auth &lt;value&gt;] [priv &lt;value&gt;] [engid &lt;value&gt;]</pre>	<p>Creates a new user in the USM table.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>User Name</i> specifies the name used as an index to the table. Its range is 1 to 32 characters.</li> </ul> <p>Optional parameters:</p> <ul style="list-style-type: none"> <li><i>auth protocol</i> specifies an authentication protocol. If no value is entered, the entry has no authentication capability. The protocol choices are MD5 and SHA.</li> <li><i>auth &lt;value&gt;</i> specifies an authentication password. If no value is entered, the entry has no authentication capability. Its range is 1 to 32 characters.</li> <li><i>priv &lt;value&gt;</i> assigns a privacy password. If no value is entered, the entry has no privacy capability. Its range is 1 to 32 characters. NOTE: You must set an authentication before you can set a privacy option.</li> <li><i>engid &lt;value&gt;</i></li> </ul>
<pre>delete &lt;user name&gt; [engid &lt;value&gt;]</pre>	<p>Deletes a user for the v3 View-based Access Control Model (VACM) table. Its range is 1 to 32 characters.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>engid &lt;value&gt;</i></li> </ul>
<pre>auth &lt;User Name&gt; old-pass &lt;value&gt; new-pass &lt;value&gt; [engid &lt;value&gt;]</pre>	<p>Changes the authentication password. The range for <i>user name</i> and password <i>value</i> is 1 to 32 characters.</p>
<pre>priv &lt;User Name&gt; old-pass &lt;value&gt; new-pass &lt;value&gt; [engid &lt;value&gt;]</pre>	<p>Changes the privacy password. The range for <i>user name</i> and password <i>value</i> is 1 to 32 characters.</p>

## config stg

Use this command to configure parameters for a specified Spanning Tree Group (STG).

### Syntax

```
config stg <sid>
```

where *sid* is the Spanning Tree Group numeric from 1..64

### Parameters

This command includes the following parameters:

<b>config stg &lt;sid&gt;</b> followed by:	
info	Displays characteristics of the Spanning Tree Group.
add ports <value>	Adds ports to a Spanning Tree Group. Parameter <ul style="list-style-type: none"> <li><i>value</i> specifies one or more ports , shown as {<i>slot/port</i>[-<i>slot/port</i>][, ...]}.</li> </ul>
create [<ports>] [vlan <value>] [mac <value>] [ntstg <value>]	Creates a new Spanning Tree Group. Parameters <ul style="list-style-type: none"> <li><i>ports</i> specifies one or more ports, shown as {<i>slot/port</i>[-<i>slot/port</i>][, ...]}.</li> <li><i>vlan &lt;value&gt;</i> is the VLAN ID. If a VLAN spans multiple switches, it must be within the same STG across all switches.</li> <li><i>mac &lt;value&gt;</i> specifies the tagged BPDU MAC address</li> <li><i>ntstg &lt;value&gt;</i> enables or disables NSTG. The default is <i>enable</i>.</li> </ul>
delete	Deletes the specified Spanning Tree Group.



<b>config stg &lt;sid&gt;</b> followed by:	
<code>forward-delay &lt;timeval&gt;</code>	Sets the bridge forward delay time in 1/100 seconds. Parameter <ul style="list-style-type: none"> <li>• <i>timeval</i> is between 400 and 3000. The default is 1500 (15 seconds).</li> </ul>
<code>group-stp &lt;enable disable&gt;</code>	Enables or disables the spanning tree protocol on the specified Spanning Tree Group. The default is enable.
<code>hello-interval &lt;timeval&gt;</code>	Sets the bridge hello time in 1/100 seconds. Parameter <ul style="list-style-type: none"> <li>• <i>timeval</i> is between 100 and 1000 The default is 200 (2 seconds).</li> </ul>
<code>max-age &lt;timeval&gt;</code>	Sets the bridge maximum age time in 1/100 seconds. Parameter <ul style="list-style-type: none"> <li>• <i>timeval</i> is between 600 and 4000 The default is 2000 (20 seconds).</li> </ul>
<code>priority &lt;number&gt;</code>	Sets the bridge priority number. Parameter <ul style="list-style-type: none"> <li>• <i>number</i> is between 0 and 65535 The default is 32768.</li> </ul>
<code>remove ports &lt;value&gt;</code>	Removes ports from a Spanning Tree Group. Parameter <ul style="list-style-type: none"> <li>• <i>value</i> specifies one or more ports , shown as {<i>slot/port</i>[-<i>slot/port</i>][, ...]}</li> </ul>
<code>trap-stp &lt;enable disable&gt;</code>	Enables or disables the spanning tree protocol trap for the specified Spanning Tree Group. The default is <i>enable</i> .

## config sys access-policy

Use this command to configure IP access policies on the switch.

### Syntax

```
config sys access-policy
```

### Parameters

This command includes the following parameters:

<b>config sys access-policy</b> followed by:	
<code>info</code>	Displays the global access policy settings.
<code>enable &lt;true false&gt;</code>	Globally enables or disables the IP access policy feature on the switch. <code>false</code> means no policies on the switch are applied. The default is <code>false</code> .

## config sys access-policy policy

Use this command to create or modify specific access policies.

### Syntax

```
config sys access-policy policy <pid>
```

where *pid* is the number that identifies the policy (assigned when the policy is created) expressed as an integer from 1..65535

### Parameters

This command includes the following parameters:

<b>config sys access-policy policy &lt;pid&gt;</b> followed by:	
info	Displays characteristics of the specified access policy.
accesslevel <level>	Sets an access level for a policy. Parameter <ul style="list-style-type: none"> <li>• <i>level</i> is the access level ro, rw, or rwa The default is ro.</li> </ul>
access-strict <true false>	Sets restrictions on the access level. Parameters <ul style="list-style-type: none"> <li>• <i>true</i> enables the access level restriction</li> <li>• <i>false</i> disables the access level restriction</li> </ul>
create	Creates a new access policy with the specified policy ID.
delete	Deletes the access policy with the specified policy ID.
disable	Disables the specified access policy.
enable	Enables the specified access policy. The default is enable.
host <ipaddr>	Sets the access policy trusted host address. Applicable only for remote logon and remote shell execution. Parameter <ul style="list-style-type: none"> <li>• <i>ipaddr</i> is the IP address {a.b.c.d} of the host used to authenticate the user The logon must be the specified user at the specified host for access.</li> </ul>
mode <mode>	Sets the specified access policy to allow or deny access. Parameter <ul style="list-style-type: none"> <li>• <i>mode</i> is allow or deny. The default is allow.</li> </ul>
name <name>	Sets a name for the specified access policy. Parameter <ul style="list-style-type: none"> <li>• <i>name</i> is a string from 0 to 15 characters (for example Group 1). The default is policy &lt;pid&gt;</li> </ul>

<b>config sys access-policy policy &lt;pid&gt;</b> followed by:	
<code>network &lt;addr/ mask&gt;</code>	Sets the access policy network address and subnet mask { <i>a.b.c.d/x/a.b.c.d/x.x.x.x/default</i> }. This command defines those stations that are affected by the access policy. If you specify an IP address and subnet mask, that location is either allowed or denied access, depending on the setting of the <b>mode</b> command. <i>default</i> means that everyone on the network is either allowed or denied access, as defined by the <b>mode</b> command.
<code>precedence &lt;precedence&gt;</code>	Sets the access policy precedence. The precedence determines which policy to use if multiple policies apply. Parameter <ul style="list-style-type: none"><li>• <i>precedence</i> is a range from 1 to 128, with the lowest number having the highest precedence</li></ul> The default is 10.
<code>username &lt;string&gt;</code>	Sets the trusted host user name from the trusted host for the specified policy. Applies only to rlogon access. Parameter <ul style="list-style-type: none"><li>• <i>string</i> is the host user name (0 to 30 characters)</li></ul>

## config sys access-policy policy service

Use this command to enable or disable an access service for the specified policy.

### Syntax

```
config sys access-policy policy <pid> service
```

where *pid* is the number that identifies the policy (assigned when the policy is created) expressed as an integer from 1..65535.

## Parameters

This command includes the following parameters:

<b>config sys access-policy policy &lt;pid&gt; service</b> followed by:	
info	Displays the status (enable or disable) of each service (such as ftp, http, rlogin).
ftp <enable disable>	Enables or disables FTP for the specified policy. The default is disable.
http <enable disable>	Enables or disables HTTP for the specified policy. The default is disable.
rlogin <enable disable>	Enables or disables remote logon for the specified policy. The default is disable.
snmp <enable disable>	Enables or disables Simple Network Management Protocol (SNMP) for the specified policy. The default is enable.
ssh <enable disable>	Enables or disables SSH for the specified policy. The default is disable.
telnet <enable disable>	Enables or disables telnet for the specified policy. The default is disable.
tftp <enable disable>	Enables or disables Trivial File Transfer Protocol (TFTP) for the specified policy. The default is disable.

## config sys info

Use this command to display the current-level parameter settings and next-level directories.

### Syntax

```
config sys info
```

## config sys link-flap-detect

Use this command to monitor link–state changes and take user-defined action if the port state changes too often.

### Syntax

```
config sys link-flap-detect
```

### Parameters

This command includes the following parameters:

<b>config sys link-flap-detect</b> followed by:	
info	Displays the link-flap-detect settings.
auto-port-down <enable disable>	Enables or disables automatic disabling of the port, if the link-flap threshold is exceeded. The default is enable.
frequency <frequency>	Sets the number of changes that are allowed during the time specified by the interval command without activating the auto-port-down function. The frequency range is from 1 to 9999, and the default is 10.
interval <interval>	Sets the link-flap-detect interval in seconds. The interval range is from 2 to 600, and the default is 60.
send-trap <enable disable>	Enables or disables sending traps. The default is enable.

---

## config sys mcast-software-forwarding

Use this command to configure IP multicast software forwarding on the switch.

### Syntax

```
config sys mcast-software-forwarding
```

### Parameters

This command includes the following parameters:

<b>config sys mcast-software-forwarding</b> followed by:	
info	Displays characteristics of multicast software forwarding.
disable	Disables multicast software forwarding. <i>Disable</i> is the default setting.
enable	Enables multicast software forwarding. <i>Disable</i> is the default setting.

## config sys set

Use this command to set individual system-level switch parameters.

### Syntax

```
config sys set
```

## Parameters

This command includes the following parameters:

<b>config sys set</b> followed by:	
info	Displays current system settings.
bpdu-mac-address-range <starting-mac-address> <Mask>	Changes the default MAC address from which BPDUs are sent. <ul style="list-style-type: none"> <li>• <i>starting-mac-address</i> specifies the MAC (multicast) address from which the BPDUs are sent</li> <li>• <i>mask</i> specifies the mask for the MAC address—from 1..48—from which BPDUs are sent</li> </ul>
clock-sync-time <minutes>	Configures synchronization between the real-time and the system clocks. Parameter <ul style="list-style-type: none"> <li>• <i>minutes</i> is the number of minutes between synchronizations The range is 15 to 3600 minutes, and the default is 60 minutes.</li> </ul>
contact <contact>	Sets the contact information for the switch. Parameter <ul style="list-style-type: none"> <li>• <i>contact</i> is an ASCII string from 0 to 255 characters (for example, a phone extension or email address)</li> </ul>
location <location>	Sets the location information for the switch. Parameter <ul style="list-style-type: none"> <li>• <i>location</i> is an ASCII string from 1 to 1024 characters (for example, Finance)</li> </ul>
mgmt-virtual-ip <ipaddr/ mask>	Creates a virtual management port in addition to the physical management ports on the switch. Parameter <ul style="list-style-type: none"> <li>• <i>ipaddr/mask</i> is the IP address that you assign to the virtual management port The default is 0.0.0.0/0.0.0.0.</li> </ul> <p><b>Note:</b> The mgmt-virtual-ip address must be on the same subnet as the physical management address.</p>



<b>config sys set</b> followed by:	
msg-control <enable disable>	Enables or disables the system message control. Enable this command to suppress duplicate error messages. The default is disable.
name <prompt>	Sets the box or root level prompt name for the switch. Parameter <ul style="list-style-type: none"> <li>• <i>prompt</i> is an ASCII string from 1 to 1024 characters (for example, LabSC7 or Closet4)</li> </ul>
portlock <on off>	Turns port locking on or off. To specify the ports to be locked, use the <b>config ethernet &lt;ports&gt; lock</b> command. The default is <i>off</i> .
mroute-stream-limit <enable disable>	Enables or disables the mroute stream limit.
sendAuthenticationTrap <true false>	Sets whether to send authentication failure traps. The default is <i>false</i> .
topology <on off>	Turns the topology feature on or off. The topology feature generates topology packets used by Optivity* network management software. When this feature is off, the topology table is not generated. The default is <i>on</i> .
udp-checksum <enable disable>	Enables or disables UDP checksum.
udpsrc-by-vip <enable disable>	Enables or disables UDP source by virtual IP.

## config sys set action

Use this command to reset system functions.

### Syntax

```
config sys set action
```

### Parameters

This command includes the following parameters:

<b>config sys set action</b> followed by:	
info	Displays the current settings for system actions.
cpuswitchover	Resets the switch to change over to the backup CPU.
resetconsole	Reinitializes the hardware Universal Asynchronous Receiver/Transmitter (UART) drivers. Use this command only if the console connection is hung.
resetcounters	Resets all the statistics counters in the switch to zero.

## config sys set eapol

Use this command to set eapol.

### Syntax

```
config sys set eapol
```

## Parameters

This command includes the following parameters:

<b>config sys set eapol</b>	
followed by:	
info	Displays the current settings for EAPOL.
acct-enable <true false>	Globally enables or disables RADIUS accounting. Parameters <ul style="list-style-type: none"> <li>• <i>true</i> enables RADIUS accounting</li> <li>• <i>false</i> disables RADIUS accounting</li> </ul>
clear stat	Clears all EAPoL authentication and diagnostic statistics.
enable	Globally enables EAPOL on the switch.
disable	Globally disables EAPOL on the switch.
default-guest-vlan <enable disable>	Enables or disables EAPOL default guest VLAN.
guest-vlan <vid>	Globally assigns the Guest VLAN identification number on the switch. Parameter <ul style="list-style-type: none"> <li>• <i>vid</i> is an integer value between 1 and 4000 that represents the Guest VLAN Id.</li> </ul>
radius-discard-filter-ageout <seconds>	Globally sets the ageout period for pending non-eap-macs. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> can be set from 5 to 3600.</li> </ul>
radius-mac-centralization <enable disable>	Globally enables or disables RADIUS MAC centralization.

## config sys set snmp

Use this command to configure the Simple Network Management Protocol (SNMP).

### Syntax

```
config sys set snmp
```

### Parameters

This command includes the following parameters:

<b>config sys set snmp</b> followed by:	
info	Displays the current SNMP settings.
sender-ip <ipaddr> <ipaddr>	Sets the SNMP trap sender IP address. Parameters <ul style="list-style-type: none"><li>• <i>ipaddr</i> specifies the IP address expressed as a.b.c.d</li></ul>

## config sys set ssh

Use this command to configure SSH commands.

### Syntax

```
config sys set ssh
```

## Parameters

This command includes the following parameters:

<b>config sys set ssh</b>	
followed by:	
action <action choice> [<integer>]	<p>Sets the SSH key actions.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>action choice</i> provides the following choices: &lt;dsa-keygen/rsa-keygen/rsa-keydel/rsa-keydel&gt; {dsa-keygen/rsa-keygen/rsa-keydel/rsa-keydel}</li> </ul> <p><b>Optional Parameters</b></p> <ul style="list-style-type: none"> <li><i>integer</i> specifies the SSH host key size expressed as an integer from 512..1024</li> </ul>
dsa-auth <true false>	Enables or disables SSH DSA authentication.
enable <true false secure>	<p>Enables or disables SSH.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li><i>true</i> enables SSH</li> <li><i>false</i> disables SSH</li> <li><i>secure</i> enables SSH by turning off other daemon flags</li> </ul>
info	Shows current-level parameter settings and next-level directories for SSH.
max-sessions <integer>	<p>Sets the maximum number of SSH sessions.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>integer</i> specifies the maximum SSH sessions expressed as an integer from 0..8; the default is 4</li> </ul>
pass-auth <true false>	<p>Enables password authentication.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>true</i> enables password authentication</li> <li><i>false</i> disables password authentication</li> </ul>
port <integer>	<p>Sets the SSH connection port.</p> <p><i>Parameter</i></p> <ul style="list-style-type: none"> <li><i>integer</i> specifies the SSH connection port as an integer between 1..65535; the default is 22</li> </ul>
rsa-auth <true false>	<p>Enables SSH RSA authentication</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>enable</i> enables SSH RSA authentication</li> <li><i>false</i> disables SSH RSA authentication</li> </ul>

<b>config sys set ssh</b> followed by:	
timeout <integer>	Sets the SSH logon timeout interval. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> specifies the SSH logon timeout, expressed as an integer from 1..120</li> </ul>
version v2only both	Sets the SSH version. Parameters <ul style="list-style-type: none"> <li>• <i>v2only both</i> specify the v1/v2 version; the default is v2only</li> </ul>

## config sys syslog

Use this command to enable or disable the sending of syslog messages on the switch and specify the maximum number of syslog hosts supported.

### Syntax

```
config sys syslog
```

### Parameters

This command includes the following parameters:

<b>config sys syslog</b> followed by:	
info	Displays the current syslog settings.
max-hosts <maxhost>	Specifies the maximum number of syslog hosts supported. Parameter <ul style="list-style-type: none"> <li>• <i>maxhost</i> is the maximum number of enabled hosts allowed (1 to 10) The default is 5.</li> </ul>
state <enable disable>	Enables or disables sending syslog messages on the switch. The default is <i>enable</i> .

## config sys syslog host

Use this command to configure the syslog host.

### Syntax

```
config sys syslog host <id>
```

where *id* is the syslog host ID expressed as a value from 1 to 10

### Parameters

This command includes the following parameters:

<b>config sys syslog host &lt;id&gt;</b> followed by:	
info	Displays system log information for the specified host. This command results in the same output as the <b>show sys syslog host &lt;id&gt; info</b> command.
address <ipaddr>	Configures a host location for the syslog host. Parameter <ul style="list-style-type: none"> <li><i>address</i> is the IP address of the system syslog host. The default is 0.0.0.</li> </ul>
create	Creates a syslog host.
delete	Deletes a syslog host.
facility <facility>	Specifies the facility used in messages to the syslog host. Parameter <ul style="list-style-type: none"> <li><i>facility</i> is the system syslog host facility (LOCAL0 to LOCAL7). The default is LOCAL7.</li> </ul>
host <enable disable>	Enables or disables the syslog host. The default is <i>disable</i> .

<b>config sys syslog host &lt;id&gt;</b> followed by:	
<code>mapinfo &lt;level&gt;</code>	Specifies the syslog severity level to use for Ethernet Routing Switch 1600 Series Information messages. <b>Parameter</b> <ul style="list-style-type: none"> <li><code>level</code> is {emergency alert critical error warning notice info debug}.</li> </ul> The default is info.
<code>mapwarning &lt;level&gt;</code>	Specifies the syslog severity to use for Ethernet Routing Switch 1600 Series Warning messages. <b>Parameter</b> <ul style="list-style-type: none"> <li><code>level</code> is {emergency alert critical error warning notice info debug}</li> </ul> The default is warning
<code>maperror &lt;level&gt;</code>	Specifies the syslog severity to use for Ethernet Routing Switch 1600 Series Error messages. <b>Parameters</b> <ul style="list-style-type: none"> <li><code>level</code> is {emergency alert critical error warning notice info debug}</li> </ul> The default is error.
<code>mapfatal &lt;level&gt;</code>	Specifies the syslog severity to use for Ethernet Routing Switch 1600 Series Fatal messages. <b>Parameters</b> <ul style="list-style-type: none"> <li><code>level</code> is {emergency alert critical error warning notice info debug}</li> </ul> The default is emergency.



<b>config sys syslog host &lt;id&gt;</b> followed by:	
severity <info warning  error fatal> [<info warning  error fatal>] [<info warning  error fatal>] [<info warning  error fatal>]	Specifies severity levels of syslog messages sent for the specified host. <b>Parameters</b> <ul style="list-style-type: none"> <li>• info</li> <li>• warning</li> <li>• error</li> <li>• fatal</li> </ul>
udp-port <port>	Specifies the User Datagram Protocol (UDP) port number to send syslog messages to the syslog host. <b>Parameter</b> <ul style="list-style-type: none"> <li>• udp-port <i>port</i> is the system syslog host port number (514 to 530)</li> </ul>

## config tacacs

Use this command to configure TACACS+ on the switch.

### Syntax

```
config tacacs
```

### Parameters

This command includes the following parameters:

<b>config tacacs</b> followed by:	
enable <true false>	Enables or disables the TACACS+ authentication features. TACACS+ is disabled by default.
info	Displays global TACACS+ settings. <b>TIP:</b> You can also use <code>show tacacs info</code> to display TACACS+ server settings.

## **config tacacs server**

Use this command to create, delete, or get information about a TACACS+ server.

### **Syntax**

```
config tacacs server
```

## Parameters

This command includes the following parameters:

<b>config tacacs server</b> followed by:	
<pre>create &lt;ipaddr&gt; [secret &lt;value&gt;] [port &lt;value&gt;] [priority &lt;value&gt;] [timeout &lt;value&gt;] [single-connection &lt;value&gt;] [source &lt;value&gt;]</pre>	<p>Creates a TACACS+ server.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>ipaddr</i> is the IP address of the server you want to add</li> </ul> <p><b>Optional parameters</b></p> <ul style="list-style-type: none"> <li><i>secret &lt;value&gt;</i> specifies the authentication and encryption key for all TACACS+ communications between the device and the TACACS+ server. This key must match the encryption used on the TACACS+ daemon. The string length is 1..128 characters.</li> <li><i>port &lt;value&gt;</i> specifies the TCP port used If unspecified, the default port number is 49. The range of values is 0..65535.</li> <li><i>priority &lt;value&gt;</i> determines the order in which the servers are used. The highest priority is 1. The default value is 1. When setting a second server, a unique value must be specified. The range of values is 1..65535.</li> <li><i>timeout &lt;value&gt;</i> specifies the timeout value in seconds The default value is 10 seconds. The range of values of 10..30.</li> <li><i>single-connection &lt;true/false&gt;</i>-<i>true</i> specifies a single-connection The single-connection option enables the device to maintain a single open connection to the daemon. The default value is false.</li> <li><i>source &lt;ipaddr&gt;</i> specifies the source IP address used for communication An address value of 0.0.0.0 is interpreted as a request to use the IP address of the outgoing IP interface. The default value is 0.0.0.0.</li> </ul>
<pre>delete &lt;ipaddr&gt;</pre>	<p>Deletes a TACACS+ server.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li><i>ipaddr</i> is the IP address of the server to delete</li> </ul>

<b>config tacacs server</b> followed by:	
info	Displays the TACACS+ server settings. You can also use the <code>show tacacs server config</code> command to display TACACS+ server settings.
<pre>set &lt;ipaddr&gt; [secret &lt;value&gt;] [port &lt;value&gt;] [priority &lt;value&gt;] [timeout &lt;value&gt;] [single-connection &lt;value&gt;] [source &lt;value&gt;]</pre>	<p>Changes the specified server values without requiring deletion and recreation of the server.</p> <p>Optional parameters:</p> <ul style="list-style-type: none"> <li>• <i>server &lt;value&gt;</i> specifies the authentication and encryption key for all TACACS+ communications between the device and the TACACS+ server. This key must match the encryption used on the TACACS+ daemon. The string length is 1..128 characters.</li> <li>• <i>port &lt;value&gt;</i> specifies the TCP port to use. The range of values is 0..65535.</li> <li>• <i>priority &lt;value&gt;</i> determines the order in which servers are used—1 is the highest priority. The range of values is 1..65535.</li> <li>• <i>timeout &lt;value&gt;</i> specifies the timeout value in seconds in a range from 10..30 seconds.</li> <li>• <i>single-connection &lt;true/false&gt;</i> specifies a single-connection. The single-connection option enables the device to maintain a single open connection to the daemon. The default value is false.</li> <li>• <i>source &lt;ipaddr&gt;</i> specifies the source IP address used for communication. An address value of 0.0.0.0 is interpreted as a request to use the IP address of the outgoing IP interface. The default value is 0.0.0.0.</li> </ul>

## config vlan

Use this command to perform general Virtual LAN (VLAN) operations, such as setting a QoS level for the VLAN or adding or changing the name of a VLAN.

### Syntax

```
config vlan <vid>
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..4094

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt;</b> followed by:	
info	Displays characteristics of the specified VLAN.
action <action choice>	Flushes a table or triggers a Routing Information Protocol (RIP) update. Parameter <ul style="list-style-type: none"> <li>• <i>action choice</i> is { none   flushMacFdb   flushArp   flushIp   all }</li> </ul> To flush all tables, use all.
add-mlt <integer>	Adds a MultiLink Trunking (MLT) to a VLAN. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is the MLT ID (1 to 31)</li> </ul>
remove-mlt <integer>	Removes MultiLink Trunking (MLT) from a VLAN. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is the MLT ID from 1 to 7</li> </ul>
delete	Deletes a VLAN.
name <vname>	Changes the name of a VLAN. Parameter <ul style="list-style-type: none"> <li>• <i>vname</i> is a string from 0 to 20 characters</li> </ul>
qos-level <integer>	Sets a Quality of Service (QoS) level for a VLAN. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is the QoS level (0 to 7)</li> </ul> <b>Note:</b> Level 7 is reserved and cannot be set by a user.
update-dynamic-mac-qos-level <enable disable>	Updates the dynamic mac-qos level.

## config vlan create

Use this command to create a Virtual LAN (VLAN). It can specify the type of VLAN and assign an IP address to the VLAN.

### Syntax

```
config vlan <vid> create
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..4000. VLAN 1 is the default VLAN. The default VLAN name is VLAN-*vid*. For example, the default name for VLAN 315 is expressed as VLAN-315.

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; create</b> followed by:	
info	Displays information about the type of specified VLAN.
byport <sid> [name <value>] [color <value>]	Creates a port-based VLAN. Parameter <ul style="list-style-type: none"> <li><i>sid</i> is the Spanning Tree Group ID from 1 to 64 characters</li> </ul> Optional parameters <ul style="list-style-type: none"> <li><i>name &lt;value&gt;</i> is the name of the VLAN from 0 to 64 characters</li> <li><i>color &lt;value&gt;</i> is the numeric color ID of the VLAN from 0..32 The color attribute is used by Optivity software to display the VLAN.</li> </ul>
byport-mstprstp <instance-id> [name <value>] [color <value>]	Creates an mstp/rstp port-based VLAN. Parameter <ul style="list-style-type: none"> <li><i>instance id</i> is the instance ID from 0 to 63</li> </ul> Optional parameters <ul style="list-style-type: none"> <li><i>name &lt;value&gt;</i> is the name of the VLAN from 0 to 64 characters</li> <li><i>color &lt;value&gt;</i> is the color of VLAN {0..32}</li> </ul>

<b>config vlan &lt;vid&gt; create</b> followed by:	
<pre> byprotocol &lt;sid&gt; &lt;ip ipx802dot3  ipx802dot2 ipxSnap  ipxEthernet2 appleTalk  decLat decOther  sna802dot2 snaEthernet2  netBios xns vines ipV6  usrDefined rarp&gt; [&lt;pid&gt;] [name &lt;value&gt;] [color &lt;value&gt;] [encap &lt;value&gt;] </pre>	<p>Creates a protocol-based VLAN.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>sid</i> is a spanning tree ID from 1..64</li> <li>• <i>ip ipx802dot3 ipx802dot2 ipxSnap ipxEthernet2 appleTalk decLat decOther sna802dot2 snaEthernet2 netBios xns vines ipV6 usrDefined rarp</i> specifies the protocol</li> </ul> <p><b>Optional parameters:</b></p> <ul style="list-style-type: none"> <li>• <i>pid</i> is a user-defined protocol ID number from 0 to 65535</li> <li>• <i>name &lt;value&gt;</i> is the name of the VLAN from 0 to 64 characters</li> <li>• <i>color &lt;value&gt;</i> is the color number of the VLAN from 0..32 The color attribute is used by Optivity software to display the VLAN.</li> <li>• <i>encap &lt;value&gt;</i> is the encapsulation method for usrDefined VLANs</li> </ul>
<pre> byprotocol-mstprstp &lt;instance-id&gt; &lt;ip  ipx802dot3  ipx802d0t2 ipxSnap  ipxEthernet2  appleTalk  decLat  decOther  sna802dow2  snaEthernet2  netBios  xns  vines  ipV6  usrDefined  rarp&gt; [&lt;pid&gt;] [name &lt;value&gt;] [color &lt;value&gt;] [encap &lt;value&gt;] </pre>	<p>Creates an mstp/rstp protocol-based VLAN.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>instance id</i> is the instance ID number from 0 to 63.</li> <li>• <i>ip  ipx802dot3  ipx802d0t2 ipxSnap  ipxEthernet2  appleTalk  decLat  decOther  sna802dow2  snaEthernet2  netBios  xns  vines  ipV6  usrDefined  rarp</i> specifies the protocol.</li> </ul> <p><b>Optional parameters</b></p> <ul style="list-style-type: none"> <li>• <i>pid</i> is a user-defined protocol ID number &lt;[pid1-pidn] [...]&gt;, where pid = &lt;0x0001 .. 0xffff&gt;</li> <li>• <i>name &lt;value&gt;</i> is the name of the VLAN from 0 to 64 characters</li> <li>• <i>color &lt;value&gt;</i> is the color number of the VLAN from 0 to 32 The color attribute is used by Optivity software to display the VLAN.</li> <li>• <i>encap &lt;value&gt;</i> is the frame encapsulation method &lt;etherne-ii llc snap&gt;</li> </ul>

## config vlan fdb-entry

Use this command to configure or modify Virtual LAN (VLAN) entries in the forwarding database.

### Syntax

```
config vlan <vid> fdb-entry
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..4000

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; fdb-entry</b> followed by:	
info	Displays the VLAN fdb aging time, mac addresses, qos-level, and how each entry was learned.
aging-time <seconds>	Sets the forwarding database aging timer. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> indicates the time out period in seconds {10..1000000}</li> </ul> When this timer expires, the entry is flushed from the fdb table.
flush	Flushes forwarding database.
qos-level <mac> <0...7>	Sets a QoS Level for a VLAN. Parameter <ul style="list-style-type: none"> <li><i>integer</i> specifies a QoS level from 0..7</li> </ul>
sync	Synchronizes the switch forwarding database to synchronize with the forwarding database of the other aggregation switch.



## config vlan fdb-filter

Use this command to configure Virtual LAN (VLAN) filter members.

### Syntax

```
config vlan <vid> fdb-filter
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..4000.

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; fdb-filter</b> followed by:	
info	Displays current information about the VLAN fdb-filter members.
add <mac> port <value> drop <value> [qos <value>]	Adds a filter member to a VLAN bridge. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>mac</i> indicates the MAC address</li> <li>• <i>port &lt;value&gt;</i> indicates the port (slot/port) number</li> <li>• <i>drop</i> indicates nonelsrcOnly/dstOnly/Both</li> </ul> <b>Optional parameter:</b> <ul style="list-style-type: none"> <li>• <i>qos &lt;value&gt;</i> is the Quality of Service level The default value is 1.</li> </ul>
remove <mac>	Removes a filter member from a VLAN bridge. <b>Parameter</b> <ul style="list-style-type: none"> <li>• <i>mac</i> indicates the MAC address</li> </ul>

## config vlan fdb-static

Use this command to configure Virtual LAN (VLAN) static member parameters.

### Syntax

```
config vlan <vid> fdb-static
```

where *vid* identifies the VLAN ID. Enter a number in the range 1 to 4094.

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; fdb-static</b> followed by:	
info	Displays all statistically configured entries in the fdb table for the VLAN.
add <mac> port <value> [qos <value>]	<p>Adds a static member to a VLAN bridge.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>mac</i> indicates the MAC address.</li> <li>• <i>port &lt;value&gt;</i> indicates the port (slot/port) number.</li> </ul> <p><b>Optional parameter:</b></p> <ul style="list-style-type: none"> <li>• <i>qos &lt;value&gt;</i> is the Quality of Service level. The default is 1. The range is 0 to 7, where 7 is reserved.</li> </ul>
remove <mac>	<p>Removes a static member from a VLAN bridge.</p> <p><b>Parameter</b></p> <ul style="list-style-type: none"> <li>• <i>mac</i> indicates the MAC address.</li> </ul>

## config vlan <vid> ip

Use this command to assign an IP address to a Virtual LAN (VLAN).

### Syntax

```
config vlan <vid> ip
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..4000.

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip</b> followed by:	
info	Displays current-level parameter settings and next-level directories.
create <ipaddr/mask>	Assigns an IP address and subnet mask to the VLAN. Parameter <ul style="list-style-type: none"> <li><i>ipaddr/mask</i> is the IP address and mask {a.b.c.d}</li> </ul>
delete <ipaddr>	Deletes the specified VLAN address.

## config vlan <vid> ip arp-response

Use this command to enable and disable Address Resolution Protocol (ARP) responses on a Virtual LAN (VLAN).

### Syntax

```
config vlan <vid> ip arp-response
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..4000.

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip arp-response</b> followed by:	
info	Displays ARP response status on the VLAN.
disable	Disables ARP responses on the VLAN.
enable	Enables ARP responses on the VLAN.

## config vlan <vid> ip dhcp-relay

Use this command to configure DHCP routing on a VLAN.

### Syntax

```
config vlan <vid> ip dhcp-relay
```

where *vid* is a valid VLAN ID

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip dhcp-relay</b> followed by:	
broadcast <enable disable>	Enables or disables sending the server reply as a broadcast back to the end station.
disable	Disables DHCP relay on the VLAN.
enable	Enables DHCP relay on the VLAN.
info	Shows current DHCP relay configuration on the VLAN.
max-hop <max-hop>	Sets the maximum number of hops that can occur before the DHCP packet is dropped expressed as an integer between 1 and 16.

<b>config vlan &lt;vid&gt; ip dhcp-relay</b> followed by:	
<code>min-sec &lt;min-sec&gt;</code>	Sets the minimum time bound for DHCP. If the field in the packet header is greater than the min-sec value, the switch forwards the packet. If the field in the packet header is not greater than the min-sec value, the packet is dropped. The min-sec value is expressed as an integer between 0 and 65535.
<code>mode &lt;mode&gt;</code>	Sets the DHCP mode to forward only BootP packets, DHCP packets, or both.

## config vlan <vid> ip igmp

Use this command to configure Internet Group Management Protocol (IGMP) on a Virtual LAN (VLAN).

### Syntax

```
config vlan <vid> ip igmp
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..4000

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip igmp</b> followed by:	
<code>info</code>	Displays IGMP settings on the VLAN.
<code>del-mrouter &lt;ports&gt;</code>	Deletes multicast router ports. Parameter <ul style="list-style-type: none"> <li><i>ports</i> specifies one or more ports, shown as {<i>slot/port</i>[-<i>slot/port</i>][, ...]}</li> </ul>

<b>config vlan &lt;vid&gt; ip igmp</b> followed by:	
fast-leave <enable disable>	Enables or disables IGMP v 2 Fast Leave functionality. A group member can leave a group upon receipt of this message, instead of waiting to time out.
flush <mrouter sender  grp-member> [<SenderAddress>] [<GroupAddress>]	Flushes the specified table. Parameters <ul style="list-style-type: none"> <li>• <i>SenderAddress</i> indicates the IP address of the selected sender</li> <li>• <i>GroupAddress</i> indicates the IP address of the selected multicast group</li> </ul>
mrouter <ports>	Adds multicast router ports. Parameter <ul style="list-style-type: none"> <li>• <i>ports</i> is the portlist form {<i>slot/port</i>[-<i>slot/port</i>][, ...]}</li> </ul>
proxy-snoop <enable disable>	Enables or disables the proxy-snoop option for the VLAN.
query-interval <seconds>	Sets the frequency (in seconds) that host query packets are transmitted on the VLAN. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is the range from 10 to 65535 The default value is 125 seconds.</li> </ul>
robustval <integer>	Tunes for the expected packet loss of a network. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is an integer value with a range of 2 to 255 seconds The default value is 2 seconds. Increase the value if you expect the network to experience loss.</li> </ul>

<b>config vlan &lt;vid&gt; ip igmp</b> followed by:	
router-alert <enable disable>	Enables or disables the router alert option. When enabled, this parameter instructs the router to process packets not directly addressed to it. <b>Note:</b> To maximize your network performance, Nortel recommends that you set this parameter according to the version of IGMP currently in use. <ul style="list-style-type: none"> <li>• IGMPv1 - Disable</li> <li>• IGMPv2 - Enable</li> <li>• IGMPv3 - Enable</li> </ul>
snoop <enable disable>	Enables or disables the snoop option for the VLAN.
version <integer>	Sets the version of IGMP that you want to configure on this interface. For IGMP to function correctly, all routers on a LAN must use the same version. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is an integer value with a value of 1, 2 or 3 The default value is 2 (IGMPv2).</li> </ul>

## config vlan <vid> ip igmp access-list <GroupAddress>

Use this command to configure access lists on an IGMP interface.

### Syntax

```
config vlan <vid> ip igmp access-list <GroupAddress>
```

where

- *vid* is the ID of the VLAN where IGMP is configured
- *GroupAddress* is the IP address of the multicast group to configure

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip igmp access-list &lt;GroupAddress&gt;</b> followed by:	
<pre>create &lt;HostAddress&gt; &lt;HostMask&gt; &lt;denyRX denyBoth&gt;</pre>	<p>Creates an access list on the interface with the specified host address or subnet of the IGMP client or IP subnet mask.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>HostAddress</i> is the specified host address of the IGMP client</li> <li>• <i>HostMask</i> is the IP subnet mask of the IGMP client</li> <li>• <i>denyRX</i> prevents a matching receiver, or receivers, from receiving multicast traffic from the matching group on the VLAN where the denyRX access list is configured</li> <li>• <i>denyBoth</i> prevents a matching host, or range, from both sending and receiving multicast traffic to and from a matching group on the VLAN where the denyBoth access list is configured</li> </ul>
<pre>delete &lt;HostAddress&gt; &lt;HostMask&gt;</pre>	<p>Deletes the static members on the interface with the specified host address or subnet of the IGMP client, or IP subnet mask.</p> <p><b>Parameters</b></p> <ul style="list-style-type: none"> <li>• <i>HostAddress</i> is the specified host address of the IGMP client</li> <li>• <i>HostMask</i> is the IP subnet mask of the IGMP client</li> </ul>
<pre>info</pre>	<p>Displays information about the current access-list configuration.</p>



## config vlan ip igmp fast-leave-members

Use this command to configure Internet Group Management Protocol (IGMP) fast-leave members on a Virtual LAN (VLAN).

### Syntax

```
config vlan <vid> ip igmp fast-leave-members
```

where *vid* identifies the VLAN ID, expressed as an integer between 1 and 4000, where the IGMP is configured

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip igmp fast-leave-members</b> followed by:	
<code>info</code>	Displays information about the fast-leave members of the VLAN.
<code>enable &lt;ports&gt;</code>	Enables members to join a fast-leave group on a given port on the VLAN. Parameter <ul style="list-style-type: none"> <li><i>ports</i> is the port, or list of ports ,to be joined with the fast-leave group</li> </ul>
<code>disable &lt;ports&gt;</code>	Removes a given port from receiving a leave message from any member of any given group, and the normal IGMP behavior is skipped.

## config vlan <vid> ip igmp mrdisc

Use this command to configure router discovery options for the IGMP interface.

### Syntax

```
config vlan <vid> ip igmp mrdisc
```

where *vid* is the ID of the VLAN where IGMP is configured

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip igmp mrdisc</b> followed by:	
info	Displays information about the current router discovery options.
max-advertisement-interval [seconds]	Sets the maximum interval, in seconds, between successive advertisements. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 2 and 180</li> </ul>
max-initial-advertisement-interval [seconds]	Sets the maximum interval, in seconds, between successive initial advertisements. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 2 and 180</li> </ul>
max-initial-advertisements [integer]	Sets the maximum advertisements that are sent after initialization. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 2 and 15</li> </ul>
min-advertisement-interval [seconds]	Sets the minimum interval, in seconds, between successive advertisements. Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 3 and 180</li> </ul>

<b>config vlan &lt;vid&gt; ip igmp mrdisc</b> followed by:	
mrdisc-enable <enable disable>	Enables or disables IGMP router discovery.
neighbor-dead-interval [seconds]	Sets the interval allowed to pass, in seconds, before a neighbor is declared dead.  Parameter <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 2 and 180</li> </ul>

## config vlan ip igmp static-members

Use this command to configure Internet Group Management Protocol (IGMP) static members on a Virtual LAN (VLAN).

### Syntax

```
config vlan <vid> ip igmp static-members <GroupAddress>
```

where

- *vid* identifies the VLAN ID, expressed as an integer from 1..4094, where the IGMP is configured
- *GroupAddress* is the IP address of the configured multicast group

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip igmp static-members &lt;GroupAddress&gt;</b> followed by:	
info	Displays information about the static members of the VLAN.
add <ports> <static blocked>	Adds a static-member entry on the VLAN. Parameters <ul style="list-style-type: none"> <li>• <i>ports</i> is the port, or list of ports, to redirect the multicast stream for this multicast group</li> <li>• <i>static blocked</i> sets the route to static or blocked</li> </ul>
create <ports> <static blocked>	Creates a static-member entry on the VLAN. Parameters <ul style="list-style-type: none"> <li>• <i>ports</i> is the port, or list of ports, to redirect the multicast stream for this multicast group</li> <li>• <i>static blocked</i> sets the route to static or blocked</li> </ul>
delete	Deletes a static-member entry on the VLAN.
remove <ports> <static blocked>	Removes a port from the static-member entry on the VLAN. Parameters <ul style="list-style-type: none"> <li>• <i>ports</i> is the port, or list of ports, to redirect the multicast stream for this multicast group</li> <li>• <i>static blocked</i> sets the route to static or blocked</li> </ul>

## config vlan <vid> ip ospf

Use this command to configure OSPF parameters for a VLAN.

### Syntax

```
config vlan <vid> ip ospf
```

where *vid* is the ID of the VLAN to configure

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip ospf</b> followed by:	
info	Displays OSPF characteristics on the VLAN.
enable	Enables OSPF on the VLAN.
disable	Disables OSPF on the VLAN
advertise-when-down <enable disable>	If enabled, the network on this interface is advertised as up, even if no ports in the VLAN are active. The default is disabled. <b>TIP:</b> To disable advertising based on link status, disable this parameter.
area <ipaddr>	Sets the OSPF interface area ID for the VLAN. Parameter • ipaddr
authentication-key <string>	Sets the authentication key for the VLAN. Parameter • <i>string</i> is a key expressed as a string up to 8 characters in length
authentication-type <auth-type>	Sets the OSPF authentication type for the VLAN Parameter • <i>auth type</i> is expressed as: <i>none</i> —no authentication type <i>simple</i> —all OSPF updates received by the VLAN must contain the authentication key specified by <i>authentication-key</i> <i>message-digest</i> —all OSPF updates received by the VLAN must contain the MD5 key
dead-interval <seconds>	Sets the OSPF dead interval for the VLAN. Dead interval is the number of seconds the switch OSPF neighbors should wait before assuming that this OSPF router is down. Parameter • <i>seconds</i> is expressed as an integer from 1 to 2147483647; the default is 40 <b>TIP:</b> This value must be at least four times the hello interval value.

<b>config vlan &lt;vid&gt; ip ospf</b> followed by:	
hello-interval <seconds>	Sets the OSPF hello interval for the VLAN. The hello interval is the number of seconds between hello packets sent on this VLAN. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer between 1 and 65535; the default is 10</li> </ul>
interface-type <if-type>	Sets the OSPF interface type. Parameter <i>if type</i> is one of the following OSPF interface types: <ul style="list-style-type: none"> <li>• broadcast</li> <li>• nmba</li> <li>• passive</li> </ul>
metric <cost>	Sets the OSPF metric for the VLAN. The switch advertises the metric in router link advertisements. Parameter <ul style="list-style-type: none"> <li>• <i>cost</i> is the metric value from 0..65535</li> </ul>
poll-interval <seconds>	Sets the OSPF poll interval for the VLAN. Poll interval is the number of seconds the switch OSPF neighbors should wait before sending the next poll. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> is expressed as an integer from 1 to 2147483647</li> </ul>
priority <integer>	Sets the OSPF priority for the VLAN during the election process for the designated router. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is expressed as a number from 0 to 255; the default is 1</li> </ul> <p><b>TIP:</b> If the priority is 0, the VLAN cannot become either the designated router or a backup.</p>

## config vlan <vid> ip pim

Use this command to configure PIM-SM on a VLAN.

### Syntax

```
config vlan <vid> ip pim
```

where *vid* is the ID of the VLAN to configure

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip pim</b> followed by:	
info	Displays current PIM configuration settings on the selected VLAN.
enable	Enables PIM on the selected VLAN.
disable	Disables PIM on the selected VLAN.
candbsr disable	Disables the Candidate BSR on the interface.
candbsr enable preference <value>	Enables the Candidate BSR on this interface and sets the Candidate BSR preference value to become a BSR. Parameter <ul style="list-style-type: none"> <li><i>value</i> is a numeric value; the default is -1</li> </ul> <b>TIP:</b> The default value indicates that the current interface is not a Candidate BSR.
candbsr info	Displays the candidate BSR preference setting for this interface.
cbsrpreference <integer>	The preference value for the local PIM candidate bootstrap router. Parameter <ul style="list-style-type: none"> <li><i>integer</i> is expressed as a value between -1 and 255; the default is -1</li> </ul> <b>TIP:</b> The default indicates that the current interface is not a candidate

<b>config vlan &lt;vid&gt; ip pim</b> followed by:	
hellointerval <seconds>	Specifies how long to wait, in seconds, before the PIM switch sends out the next hello message to neighboring switches. Parameter • <i>seconds</i> is a numeric value; the default is 30
joinprune-interval <seconds>	Specifies how long to wait, in seconds, before the PIM switch sends out the next join/prune message to its upstream neighbors. Parameter • <i>seconds</i> is a numeric value; the default is 60

## config vlan <vid> proxy

Use this command to enable and disable a proxy Address Resolution Protocol (ARP) on a Virtual LAN (VLAN). A router can answer a local ARP request for a remote destination when a proxy ARP exists on a VLAN.

### Syntax

```
config vlan <vid> proxy
```

where *vid* identifies the VLAN ID, expressed as an integer from 1..2000

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip proxy</b> followed by:	
info	Displays ARP proxy status on the VLAN.
enable	Disables proxy ARP on the VLAN.
disable	Enables proxy ARP on the VLAN, allowing a router to answer a local ARP request for a remote destination.



## config vlan <vid> ip rip

Use this command to configure RIP parameters on a specific interface.

**Note:**

Two sets of commands are available to configure RIP on a specific interface. The two sets share some commands, and you can use either set to configure the shared parameters.

---

### Syntax

```
config vlan <vid> ip rip
```

where *vid* is the VLAN ID

OR

```
config ip rip interface <ipaddr>
```

where *ipaddr* indicates the IP address of the interface

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip rip</b>	
followed by:	
advertise-when-down <enable disable>	Configures whether the network on this interface is advertised as up, even if the port is down. The default is <i>disable</i> . <b>Note:</b> When you configure a VLAN without any link and enable advertise-when-down, the route is not advertised until the port is active. Then the route is advertised, even when the link is down. To disable advertising based on link states, disable advertise-when-down.
auto-aggr <enable disable>	Enables or disables automatic route aggregation on the interface. When enabled, the router switch automatically aggregates routes to their natural mask when they are advertised on an interface in a network of a different class. The default is <i>disable</i> . Routes with different metrics can be aggregated. RIP uses the out metric associated with the first route found in the routing table that is aggregated.
cost <cost>	Sets the RIP cost (metric) for this interface. Parameter <ul style="list-style-type: none"> <li><i>cost</i> is an integer value with a range of 1 to 15 The default value is 1.</li> </ul>
default-listen <enable disable>	Configures whether the interface listens for RIP updates for the default route learned through RIP. The default is <i>disable</i> .
default-supply <enable disable>	Configures whether the interface sends RIP advertisements for the default route, if one exists in the routing table. The default is <i>disable</i> .
disable	Disables RIP on the interface.
enable	Enables RIP on the interface.

<b>config vlan &lt;vid&gt; ip rip</b> followed by:	
<code>holddown &lt;seconds&gt;</code>	<p>Sets the RIP holddown timer for the interface. The value of the holddown timer is the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>seconds</i> is an integer value with a range of 0 to 360</li> </ul> <p>The global holddown parameter sets the default value of 120 seconds. The interface timer setting overrides the global parameter. However, if you subsequently reset the global parameter, the global setting then overrides the interface timer setting.</p>
<code>info</code>	Shows RIP configuration for the interface.
<code>in-policy &lt;policy name&gt;</code>	<p>Sets the RIP policy for inbound filtering on the interface. The in-policy determines which routes are learned on the interface.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>policy name</i> is a string length {0..64}</li> </ul> <p>To delete the policy from the interface configuration, enter an empty string.</p>
<code>listen &lt;enable disable&gt;</code>	<p>Configures whether the interface listens for RIP routes. The default is <i>enable</i>.</p>
<code>manualtrigger</code>	Executes a manually triggered RIP update.
<code>out-policy &lt;policy name&gt;</code>	<p>Sets the RIP policy for outbound filtering on the interface. The out-policy determines which routes are advertised from the routing table on the interface.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li><i>policy name</i> is a string length {0..64}</li> </ul> <p>To delete the policy from the interface configuration, enter an empty string.</p>

<b>config vlan &lt;vid&gt; ip rip</b> followed by:	
<code>poison &lt;enable disable&gt;</code>	<p>Sets whether RIP routes on the interface learned from a neighbor are advertised back to the neighbor.</p> <p>Parameters</p> <ul style="list-style-type: none"> <li>• If disabled, split horizon is invoked, and IP routes learned from an immediate neighbor are not advertised back to the neighbor.</li> <li>• If enabled, the RIP updates sent to a neighbor from which a route is learned are poisoned with a metric of 16, and the receiver neighbor ignores this route because the metric 16 indicates infinite hops in the network.</li> </ul> <p>The default is disabled.</p>
<code>supply &lt;enable disable&gt;</code>	<p>Enables or disables the interface to supply RIP updates.</p>
<code>timeout &lt;seconds&gt;</code>	<p>Sets the RIP timeout interval for the interface.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li>• <i>seconds</i> is an integer value with a range of 15 to 259200.</li> </ul> <p>The default value is set indirectly by the global update time parameter. By default, the timeout timer is set at 6 times the update timer, in accordance with the RFC specification. With a default global update timer setting of 30 seconds, the default timeout interval is 180 seconds.</p> <p>Configure the timeout parameter on the interface only if you want to break the relationship with the update timer. For example, if you set the global update parameter to a short interval to minimize the problem of fast convergence, the associated default timeout may be too short. In this case, configure the timeout interval manually.</p> <p>The interface timer setting overrides the global parameter. However, if you subsequently reset the global parameter, the global setting then overrides the interface timer setting.</p>
<code>trigger &lt;enable disable&gt;</code>	<p>Enables or disables automatic triggered updates for RIP on this interface. The default is disabled.</p>

## config vlan <vid> ip route-discovery

Use this command to configure VLAN ICMP route discovery.

### Syntax

```
config vlan <vid> ip route-discovery
```

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip route-discovery</b> followed by:	
advertise-flag <true false>	Sets or resets the advertise flag for route discovery. Parameters <ul style="list-style-type: none"> <li>• <i>true</i> enables route discovery</li> <li>• <i>false</i> disables route discovery</li> </ul>
advertisement-address < 224.0.0.1 OR 255.255.255.255>	Sets the route discovery advertisement address. Parameter <ul style="list-style-type: none"> <li>• 224.0.0.1</li> <li>• 255.255.255.255</li> </ul>
advertisement-lifetime <seconds>	Sets the lifetime for router advertisements. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> specifies the advertisement lifetime expressed as an integer from 4..9000</li> </ul>
info	Shows the current-level parameter settings and next-level directories for route discovery.
max-advertisement-interval <seconds>	Sets the maximum advertisement interval for router advertisements. Parameter <ul style="list-style-type: none"> <li>• <i>seconds</i> specifies the maximum advertisement interval as an integer from 4..1800</li> </ul>

<b>config vlan &lt;vid&gt; ip route-discovery</b> followed by:	
min-advertisement-interval <seconds>	Sets the minimum advertisement interval for router advertisements. Parameter <ul style="list-style-type: none"><li>• <i>seconds</i> specifies the minimum advertisement interval as an integer from 3..1800</li></ul>
preference-level <preference-level value>	Sets the preference level for router advertisement. Parameter <ul style="list-style-type: none"><li>• <i>preference-level</i> value specifies the preference level as an integer from -2147483648..2147483647</li></ul>

## config vlan <vid> ip vrrp <vrid>

Use this command to configure VRRP on a VLAN.

### Syntax

```
config vlan <vid> ip vrrp <vrid>
```

where

- *vid* is ID of the VLAN configured for VRRP
- *vrid* is the ID of the virtual routing interface

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ip vrrp &lt;vrid&gt;</b> followed by:	
action <action choice>	Selects the manual override of the delay timer for the virtual router interface. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>action choice</i> can be <i>none</i>, for no manual override, or <i>preempt</i> to set the manual override</li> </ul>
address <ipaddr>	Sets the IP address of the virtual router interface.
adver-int <seconds>	Sets the time between VRRP advertisements. <b>Parameter</b> <ul style="list-style-type: none"> <li><i>seconds</i> is expressed as an integer between 1 and 255</li> </ul>
backup-master <enable disable>	Enables or disables the VRRP backup master feature—available only on SMLT ports.
critical-ip <ipaddr>	Sets the critical IP address for VRRP—the IP address of the interface on the local router configured so that a change in its state causes a role switch in the virtual router.
critical-ip-enable <enable disable>	Enables or disables the critical IP feature.
delete	Deletes VRRP configuration on the VLAN.
disable	Disables the VRRP configuration on the VLAN.
enable	Enables the VRRP configuration on the VLAN.
fast-adv-enable <enable disable>	Enables or disables the fast advertisement interval feature.
fast-adv-int <milliseconds>	Sets the VRRP fast advertisement interval, expressed as an integer between 200 and 1000 milliseconds in multiples of 200.
holddown-timer <seconds>	Sets the time interval that a router is delayed before changing to a master state, expressed as an integer between 0 and 21600 seconds.

<b>config vlan &lt;vid&gt; ip vrrp &lt;vrid&gt;</b> followed by:	
info	Displays information about the current VLAN and VRRP configuration.
priority <prio>	Sets the port VRRP priority value used by the VRRP router, expressed as an integer between 1 and 254. <b>TIP:</b> The value 255 is assigned automatically to the router that owns the IP address associated with the virtual router interface.

## config vlan <vid> ports

Use this command to add or remove ports on an existing Virtual LAN (VLAN).

### Syntax

```
config vlan <vid> ports
```

where *vid* identifies the VLAN numeric ID from 1..4000



## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; ports</b> followed by:	
info	Displays member status of the ports in a VLAN.
add <ports> [member <value>]	<p>Adds one or more ports to an existing VLAN.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li>ports is the portlist form {slot/port[-slot/port][, ...]}</li> </ul> <p>Optional parameter:</p> <ul style="list-style-type: none"> <li>member &lt;value&gt; is the port member type It can be a portmember (always a member), static (sometimes a member), or notallowed (never a member).</li> </ul>
remove <ports> [member <value>]	<p>Removes ports from a VLAN but does not delete the VLAN.</p> <p>Parameter</p> <ul style="list-style-type: none"> <li>ports is the portlist form {slot/port[-slot/port][, ...]}</li> </ul> <p>Optional parameter:</p> <ul style="list-style-type: none"> <li>member &lt;value&gt; is the port member type: portmember (always a member), static (always a member), or notallowed (never a member).</li> </ul>

## config vlan <vid> static-mcastmac

Use this command to configure Layer 2 multicast Media Access Control (MAC) filtering on a VLAN.

### Syntax

```
config vlan <vid> static-mcastmac
```

where *vid* identifies the VLAN ID, expressed as an integer from 1 to 4000

## Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; static-mcastmac</b> followed by:	
info	Displays current settings.
add mac <value> [port <value>] [mlt <value>]	Adds VLAN static multicast MAC entries. <b>Parameter</b> <ul style="list-style-type: none"> <li>• mac &lt;value&gt; is the MAC address</li> </ul> <b>Optional parameters:</b> <ul style="list-style-type: none"> <li>• port &lt;value&gt; is the port to receive the multicast flooding</li> <li>• mlt &lt;value&gt; is the MultiLink Trunking ID</li> </ul>
add-mlt <mid> mac <value>	Adds MLT to VLAN static multicast MAC entries. <b>Parameters</b> <ul style="list-style-type: none"> <li>• mid is the MultiLink Trunking ID</li> <li>• mac &lt;value&gt; is the MAC address</li> </ul>
add-ports <ports> mac <value>	Adds ports to VLAN static multicast MAC entries. <b>Parameters</b> <ul style="list-style-type: none"> <li>• ports is the portlist form            {slot/port[-slot/port][, ...]}</li> <li>• mac &lt;value&gt; is the MAC address</li> </ul>
delete mac <value>	Deletes VLAN static multicast MAC entries. <b>Parameter</b> <ul style="list-style-type: none"> <li>• mac &lt;value&gt; is the MAC address</li> </ul>
delete-mlt <mid> mac <value>	Deletes MLT-to-VLAN static multicast MAC entries. <b>Parameters</b> <ul style="list-style-type: none"> <li>• mid is the MultiLink Trunking ID</li> <li>• mac &lt;value&gt; is the MAC address</li> </ul>
delete-ports <ports> mac <value>	Deletes ports from VLAN static multicast MAC entries. <b>Parameters</b> <ul style="list-style-type: none"> <li>• ports is the portlist form            {slot/port[-slot/port][, ...]}</li> <li>• mac &lt;value&gt; is the MAC address</li> </ul>

---

## config vlan update-dynamic-mac-qos-level

Use this command to update the VLAN dynamic MAC QoS level.

### Syntax

```
config vlan <vid> update-dynamic-mac-qos-level <enable/  
disable>
```

where *vid* identifies the numerical VLAN ID, in a range from 1 to 2000.

### Parameters

This command includes the following parameters:

<b>config vlan &lt;vid&gt; update-dynamic-mac-qos-level</b> followed by:	
enable	Enables the updated dynamic MAC QoS level.
disable	Disables the updated dynamic MAC QoS level.

## config web-server

Use this command to enable, disable, and manage the Web server.

### Syntax

```
config web-server
```

## Parameters

This command includes the following parameters:

<b>config web-server</b> followed by:	
info	Indicates whether Web access is enabled or disabled on the switch and displays the current Web user name and password setting.
def-display-rows <integer>	Sets the number of rows displayed per page. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is 10 to 100</li> </ul>
disable	Disables the Ethernet Routing Switch 1600 Series Web interface.
enable	Enables the Ethernet Routing Switch 1600 Series Web interface.
html-source-dir help-tftp <file>	Specifies the file location and name for the Web server HTML Help file. The string length is 0 to 256. Parameter <ul style="list-style-type: none"> <li>• <i>file</i> specifies the path and file name of the HTML source</li> </ul>
http-port <integer>	Specifies the http port of the Web server. Parameter <ul style="list-style-type: none"> <li>• <i>integer</i> is a value from 1 to 49151</li> </ul>
password <ro> <username> <passwd>	Sets passwords for access to the Web interface. Parameters <ul style="list-style-type: none"> <li>• <i>username</i> is the user's logon name, up to 20 characters in length</li> <li>• <i>passwd</i> is the password associated with the logon name, up to 20 characters in length</li> </ul>

---

## Chapter 3

# show commands

---

This chapter describes all Ethernet Routing Switch 1600 Series `show` commands and their parameters.

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## show asic info

Use this command to show the current configuration with the Application-Specific Integrated Circuit (asic) unicast multicast ratio information.

### Syntax

```
show asic info
```

## show bootconfig

Use this command to display the current configuration of the Boot Monitor CLI while you are in the Run-Time CLI.

### Syntax

```
show bootconfig
```

### Parameters

This command includes the following parameters:

<b>show bootconfig</b> followed by:	
bootp	Displays bootp configuration.
choice	Displays the boot-choice information.
cli	Displays the Boot Monitor CLI information.
config [verbose]	Displays the Boot Monitor configuration settings. <ul style="list-style-type: none"><li>• <code>verbose</code> includes all possible information.</li></ul> <b>TIP:</b> If you omit <code>verbose</code> , only the nondefault settings are displayed.
flags	Displays the flag settings for the switch.
host	Displays the remote-host login information.



<b>show bootconfig</b> followed by:	
info	Displays information about the switch boot image.
net	Displays information about the network ports.
sio	Displays information about the serial ports.
tz	Displays information about the switch time–zone settings.

## **show bridging-counter-set <1..2>**

Use this command to display the current port bridging statistics.

### **Syntax**

```
show bridging
```

## show cli

Use this command to display information about the switch CLI configuration.

### Syntax

```
show cli
```

### Parameters

This command include the following parameters:

<b>show cli</b> followed by:	
info	Displays the CLI configuration
who	Displays a list of users who are logged on to the switch.
password	Displays the CLI access, login, and password combinations.

## show config

Use this command to display the current switch configuration.

### Syntax

```
show config
```

### Parameters

This command includes the following parameters:

<b>show config</b> followed by:	
[verbose]	Displays the current switch configuration, including software (versions), performance, ports (such as type, status), routes, memory, interface, and log and trace files. With this command, you can see current configuration and default values. Without <code>verbose</code> , not all default values are displayed.
[module <value>]	Specifies the command group for which you are requesting configuration settings.

## show date

Use this command to display the current date settings for the switch.

### Syntax

```
show date
```

## show diag mirror-by-port

Use this command to display information about mirrored ports on the switch.

### Syntax

```
show diag mirror-by-port
```

## show flow-classifier

Use this command to show flow-classifier parameters.

### Syntax

```
show flow-classifier
```

### Parameters

This command includes the following parameters:

<b>show flow-classifier</b> followed by:	
global-filter	Displays the destination IP (dst-IP) filters.
template	Displays major template information.

## show ip

Use this command to display general IP routing information, such as the status of IP routing on the switch and the configured community lists.

### Syntax

```
show ip
```

### Parameters

This command includes the following parameters:

<b>show ip</b> followed by:	
forwarding	Displays the status of IP forwarding (routing) on the switch.
interface	Displays the IP interfaces on the switch.

## show ip arp

Use this command to display the Address Resolution Protocol (ARP) table.

### Syntax

```
show ip arp
```

## Parameters

This command includes the following parameters:

<b>show ip arp</b> followed by:	
<code>info [&lt;ip address&gt;] [-s &lt;value&gt;]</code>	<b>Displays the ARP table.</b> <b>Parameters</b> <ul style="list-style-type: none"><li>• <i>ip address</i> is the specific net IP address for the table.</li><li>• <i>-s value</i> is the specific subnet in the format (a.b.c.d/x a.b.c.d/x.x.x default).</li></ul>

## show ip circuitless info

Use this command to display information about all circuitless IP interfaces configured on the switch.

### Syntax

```
show ip circuitless info
```

## show ip dhcp-relay counters

Use this command to display the counters for the ip dhcp-relay.

### Syntax

```
show ip dhcp-relay counters
```

## show ip dhcp-relay fwd-path

Use this command to display the forward path of the ip -dhcp-relay.

### Syntax

```
show ip dhcp-relay fwd-path
```

## show ip forwarding

Use this command to display the status of IP forwarding (routing) on the switch.

### Syntax

```
show ip forwarding
```

## show ip igmp

Use this command to display information about the Internet Group Management Protocol (IGMP).

### Syntax

```
show ip igmp
```

### Parameters

This command includes the following parameters:

<b>show ip igmp</b> followed by:	
access	Displays information about the configured IGMP multicast access control groups.
cache	Displays information about the IGMP cache.

<b>show ip igmp</b> followed by:	
<code>group [count]</code>	Displays information about the IGMP group. <ul style="list-style-type: none"><li><code>count</code> is used to limit the number of entries displayed by the command and is expressed as an integer from 1 to 1536</li></ul>
<code>interface</code>	Displays information about the interfaces where IGMP is enabled.
<code>mrdisc</code>	Shows IGMP discovered router ports.
<code>mrdisc-neighbors</code>	Shows IGMP discovered router neighbors.
<code>router-alert</code>	Displays the status of the IGMP router alert.
<code>sender [count]</code>	Displays information about the IGMP senders. <ul style="list-style-type: none"><li><code>count</code> is used to limit the number of entries displayed by the command and is expressed as an integer from 1 to 1536</li></ul>
<code>snoop</code>	Displays the status of IGMP snooping on the switch.
<code>static</code>	Displays information about the static and blocked ports for the IGMP-enabled interfaces.

## show ip interface

Use this command to display the IP interfaces on the switch.

### Syntax

```
show ip interface
```

## show ip mroute interface

Use this command to display information about the multicast routes configured on an interface.

### Syntax

```
show ip mroute interface
```



## show ip mroute next-hop

Use this command to show the next hops for all multicast routes.

### Syntax

```
show ip mroute next-hop
```

## show ip mroute route

Use this command to show information about the multicast routes on the switch.

### Syntax

```
show ip mroute route
```

## show ip mroute static-source-group

Use this command to show information about the static source group configured on the switch.

### Syntax

```
show ip mroute static-source-group [<GroupAddress>]
```

where *GroupAddress* is the interface IP address for the static source group to be displayed

**TIP:** omit *GroupAddress* to show all static source groups.

## show ip mroute-hw group-trace

Use this command to show the exact hardware view of existing IP multicast records and information on sender and receiver ports for every stream.

### Syntax

```
show ip mroute-hw group-trace [src <value>] [grp <value>]
```

where

- src <value> is the sender IP address
- grp <value> group IP address

## show ip mroute-hw group-prune-state

Use this command to show the prune-state information for a given group.

### Syntax

```
show ip mroute-hw group-prune-state
```

## show ip ospf

Use this command to provide access to the show IP Open Shortest Path First (OSPF) commands.

### Syntax

```
show ip ospf
```

## Parameters

This command includes the following parameters:

<b>show ip ospf</b> followed by:	
accept info	Shows OSPF accept policy information.
area	Shows current OSPF area configuration.
ase [metric-type <value>]	Shows the OSPF Autonomous System External (ASE) link Link State Advertisements (LSA). Parameters <ul style="list-style-type: none"> <li>• <i>metric-type</i> &lt;value&gt; specifies the metric type where the value is a string length from 1..2.</li> </ul>
default-metric	Shows the default OSPF metric value for each type of switch connection.
host-route	Shows the current OSPF host route configuration.
ifstats [mismatch] [detail]	Shows the OSPF interface statistics. Parameters <ul style="list-style-type: none"> <li>• <i>mismatch</i> is the chosen keyword</li> <li>• <i>detail</i> is the interface statistics detail</li> </ul>
info	Shows current switch OSPF configuration general information.
interface	Shows the configured OSPF interfaces.
int-auth	Shows the interface authentication key.
int-timers	Shows the OSPF interface timers.
lsdb [area <value> [lsatype <value>] [adv-rtr <value>] [detail]	Shows the OSPF Link State Database (LSDB) header only. Parameters <ul style="list-style-type: none"> <li>• <i>area</i> &lt;value&gt; provides the area string expressed as {a.b.c.d}.</li> <li>• <i>lsatype</i> &lt;value&gt; provides the LSA type as a numerical value from 0..7.</li> <li>• <i>lsid</i> &lt;value&gt; provides the link state identification expressed as {a.b.c.d}.</li> <li>• <i>adv-rtr</i> &lt;value&gt; provides the advertisement retry value expressed as {a.b.c.d}.</li> <li>• <i>detail</i> provides the LSA details.</li> </ul>
neighbors	Shows the OSPF neighbor configuration.

<b>show ip ospf</b> followed by:	
range	Shows the OSPF area range.
redistribute info	Shows the OSPF redistribute list.
stats	Shows the OSPF range statistics.

## show ip pim

Use this command to provide access to the IP Protocol Independent Multicast (PIM) commands.

### Syntax

```
show ip pim
```

### Parameters

This command includes the following parameters:

<b>show ip pim</b> followed by:	
active-rp [ <i>&lt;grp&gt;</i> ]	Shows the active rendezvous point (RP) for a specific group. Parameter • <i>&lt;grp&gt;</i> specifies the PIM group
bsr	Shows the current Bootstrap router table and provides information about the bootstrap router (BSR) for the PIM-SM domain.
info	Shows the PIM general group table and provides information about the global status of PIM-SM on the switch.
interface	Shows the PIM interface table and provides information about PIM-SM interface configuration.

<b>show ip pim</b> followed by:	
neighbor	Shows the PIM neighbor table and provides information about neighboring routers configured with PIM-SM..
rp-set	Shows the PIM-RP set table and provides information about the rendezvous points (RP) for the PIM-SM domain.
candidate-rp	Shows the PIM candidate RP table and provides information about the candidate rendezvous points (C-RP) for the PIM-SM domain.
mroute [src <value>] [grp <value>]	Shows the PIM Multicast route information from the route table. <b>Parameter</b> <ul style="list-style-type: none"> <li>• src &lt;value&gt; is the source IP address expressed as {a.b.c.d}.</li> <li>• grp &lt;value&gt; is the group IP address expressed as {a.b.c.d}.</li> </ul>

## show ip prefix-list

Use this command to display the prefix list of networks used by route policies to define an action.

### Syntax

```
show ip prefix-list
```

## show ip rip info

Use this command to provide the IP Routing Information Protocol (RIP) global configuration on the switch.

### Syntax

```
show ip rip info
```

## show ip rip interface

Use this command to provide the IP RIP interface configuration information.

### Syntax

```
show ip rip interface [<ipaddr>]
```

## show ip route-discovery

Use this command to show whether route discovery is enabled on the device.

### Syntax

```
show ip route-discovery
```

## show ip route info

Use this command to display the existing IP route table for the switch or for a specific net or subnet.

### Syntax

```
show ip route info [ip <value>] [-s <value>] [alternative]
```

where:

- `ip <value>` is the specific net (1.2. = 1.2.0.0) {a.b.c.d}.
- `-s <value>` is the specific subnet {a.b.c.d/x | a.b.c.d/x.x.x.x | default}.
- `alternative` displays alternative routes.

## show ip route preference info

Use this command to display information about IP route preferences.

### Syntax

```
show ip route preference info
```

## show ip routing

Use this command to display port routing statistics.

### Syntax

```
show ip routing
```

where:

- RX\_PKTS is the number of transmitted packets.
- RX-OCTETS is the number of transmitted octets.
- DISC\_PKTS is the number of discarded packets.
- DISC-OCTETS is the number of discarded octets.

## show ip static-route info

Use this command to display the existing IP static routes for the switch or for a specific net or subnet.

### Syntax

```
show ip static-route info [<ip address>] [-s <value>]
```

where:

- *ip address* is the specific net (1.2. = 1.2.0.0) {a.b.c.d}.
- *-s <value>* is the specific subnet {a.b.c.d/x | a.b.c.d/x.x.x.x | default}.



## show ip tcp

Use this command to display information about Transmission Control Protocol (TCP) global properties, TCP global statistics, and the TCP connection table.

### Syntax

```
show ip tcp
```

### Parameters

This command includes the following parameters:

<b>show ip tcp</b> followed by:	
properties-global	Displays information about TCP global properties, including the RTO minimum and maximum values, and the maximum number of connections.
statistics-global	Displays information about TCP statistics, including the number of active and passive opens.
info-connections	Displays information about the TCP connection table, including the port number and address of the local and remote ports, and the status (for example, listen or established) of each port.

## show ip udpfwd interface info

Use this command to view UDP forwarding information for the configured switch interfaces.

### Syntax

```
show ip udpfwd interface info [<ipaddr>]
```

where *ipaddr* specifies the IP address of the interface to view.

## show ip udpfwd portfwd

Use this command to view information about the current UDP port forwarding configuration for the configured switch ports.

### Syntax

```
show ip udpfwd portfwd
```

## show ip udpfwd portfwdlist

Use this command to display the configured UDP forwarding lists on the switch.

### Syntax

```
show ip udpfwd portfwdlist info [<fwddlistid>]
```

where *fwddlistid* specifies a particular list policy ID to view

## show ip udpfwd protocol info

Use this command to display the configured UDP forwarding protocols on the switch.

### Syntax

```
show ip udpfwd protocol info
```

## show ip vrrp

Use this command to provide access to the IP Virtual Router Redundancy Protocol (VRRP) commands.

### Syntax

```
show ip vrrp
```

### Parameters

This command includes the following parameters:

<b>show ip vrrp</b> followed by:	
global-settings	Shows the VRRP global settings.
info [vrid <value>] [ip <value>]	Shows the VRRP boot flags. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>vrid</i> &lt;value&gt; specifies the virtual router identification number from 1..255.</li> <li>• <i>ip</i> &lt;value&gt; specifies the IP address expressed as {a.b.c.d}.</li> </ul>
vrp stats [vrid <value>] [ip <value>]	Shows the VRRP statistics. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <i>vrid</i> &lt;value&gt; specifies the virtual router identification number from 0..255.</li> <li>• <i>ip</i> &lt;value&gt; specifies the ip address expressed as {a.b.c.d}.</li> </ul>

## show license

Use this command to display the current license.

### Syntax

```
show license
```

## show log

Use this command to display log information for the switch.

### Syntax

```
show log
```

### Parameters

This command includes the following parameters:

<b>show log</b> followed by:	
<code>file [tail]</code>	Displays the specified log file. Parameter <ul style="list-style-type: none"><li>• <code>tail</code> displays the log file in reverse order, with the most recent information first.</li></ul>
<code>level</code>	Displays the level of information entered in the log. The level ranges from information (INFO), where all messages are entered, to FATAL, where only fatal errors are recorded. The manufacturing (MFG) level is for manufacturing purposes only and not available for customer use.
<code>name-of-file &lt;value&gt;</code>	Displays the name of the log file.
<code>category &lt;value&gt;</code>	Displays the category of the log file.
<code>severity &lt;value&gt;</code>	Displays the level of severity.
<code>save-to-file &lt;value&gt;</code>	Displays the file where log information is saved.

## show mlt

Use this command to obtain access to the MultiLink Trunking (MLT) commands.

### Syntax

```
show mlt
```

### Parameters

This command includes the following parameters:

<b>show mlt</b> followed by:	
<code>error collision</code> <code>[&lt;mid&gt;]</code>	Displays the number and type of Ethernet collision errors for a specified or all configured MLTs. Parameter <ul style="list-style-type: none"> <li><i>mid</i> is the MLT identification number in the range from 1..7.</li> </ul>
<code>error main</code> [ <code>&lt;mid&gt;</code> ]	Displays information about the types of Ethernet errors sent and received by a specific link aggregation group or all link aggregation groups. Parameter <ul style="list-style-type: none"> <li><i>mid</i> is the MLT ID. The valid values are 1 to 32.</li> </ul>
<code>info</code> [ <code>&lt;mid&gt;</code> ]	Displays the index value, IP address, and the port members for all configured MLTs or for the specified MLT. Parameter <ul style="list-style-type: none"> <li><i>mid</i> is the MLT identification number in the range from 1..7.</li> </ul>
<code>ist info</code>	Shows the MLT Internal Spanning Tree (IST) information.
<code>ist stat</code>	Shows the MLT IST message statistics.
<code>smlt info</code>	Shows MLT Split Multi Link Trunking (SMLT) information.

<b>show mlt</b> followed by:	
<code>stats interface utilization [&lt;mid&gt;]</code>	
<code>stats [&lt;mid&gt;]</code>	Shows the MLT interface statistics—including the number of incoming and outgoing packets for configured MLT interfaces.  Parameter <ul style="list-style-type: none"><li>• <i>mid</i> is the MLT identification number in the range from 1..7.</li></ul>

## show mstp config

Use this command to display the MSTP-related VLAN, bridge level, and region information.

### Syntax

```
show mstp config
```

## show mstp instance

Use this command to display the status of an MSTP instance.

### Syntax

```
show mstp instance [<instanceid>]
```

where {<instanceid>} is an integer from 1..63

## show mstp statistics

Use this command to display statistics for MSTP.

### Syntax

```
show mstp stats
```

## show mstp status

Use this command to display status information for MSTP.

### Syntax

```
show mstp status
```

## show ntp

Use this command to obtain access to the Network Time Protocol (NTP) commands.

### Syntax

```
show ntp
```

### Parameters

This command includes the following parameters:

<b>show ntp</b> followed by:	
info	Shows NTP information.
key config	Shows NTP key configuration information.

<b>show ntp</b> followed by:	
<code>server config</code>	Shows NTP server configuration information.
<code>server stat</code>	Shows NTP server statistics.

## show ports error

Use this command to display port errors.

### Syntax

```
show ports error
```

### Parameters

This command includes the following parameters:

<b>show ports error</b> followed by:	
<code>collision [&lt;ports&gt;]</code>	Displays the number and type of Ethernet collision errors for the specified port or all ports.
<code>extended [&lt;ports&gt;]</code>	Displays additional information about Ethernet errors for the specified port or for all ports.
<code>main [&lt;ports&gt;]</code>	Displays basic information about the number of different types of Ethernet errors for the specified port or for all ports.
<code>ospf [&lt;ports&gt;]</code>	Displays the basic information about the OSPF errors on all ports or a specific port in the port list (see Note).



**Note:** *ports* specify the ports in the portlist form {*slot/port*[-*slot/port*][, ...]}.

---



## show ports info

Use this command to display information about the ports on the switch.

### Syntax

```
show ports info
```

### Parameters

This command includes the following parameters:

<b>show ports info</b> followed by:	
all [ <i>&lt;ports&gt;</i> ] [by <i>&lt;value&gt;</i> ]	Displays general information for the specified port, ports, or all ports. <b>Parameter</b> <ul style="list-style-type: none"> <li>by <i>&lt;value&gt;</i> displays group information by ID number or by each feature {default ID}.</li> </ul>
auto-negotiate-advertisements [ <i>&lt;ports&gt;</i> ]	Displays the port auto-negotiation advertisements.
auto-negotiate-ad-capability { <i>&lt;ports&gt;</i> }	Displays the port auto-negotiation capabilities.
config [ <i>&lt;ports&gt;</i> ]	Displays general configuration information for the specified port, ports, or all ports.
dvmrp [ <i>&lt;ports&gt;</i> ]	Displays the port IP Distance Vector Multicast Routing Protocol (DVMRP) information.
eapol auth-diags [ <i>&lt;ports&gt;</i> ]	Displays the Extensible Authentication Protocol Over Local Area Network (EAPOL) authenticator diagnostics table.
eapol auth-stats [ <i>&lt;ports&gt;</i> ]	Displays the EAPOL authenticator statistics.
eapol config [ <i>&lt;ports&gt;</i> ]	Displays the EAPOL authenticator configuration table.
eapol oper-stats [ <i>&lt;ports&gt;</i> ]	Displays the EAPOL operating statistics.

<b>show ports info</b>	
followed by:	
<code>eapol session-stats [&lt;ports&gt;]</code>	Displays the EAPOL authenticator session statistics.
<code>eapol multi-host-session-stats [&lt;ports&gt;]</code>	Displays the port EAPOL authenticator session statistics for multiple sessions.
<code>eapol non-eap-mac [&lt;ports&gt;]</code>	Displays the port EAPOL non-eap MAC addresses.
<code>eapol radius-non-eap-mac [&lt;ports&gt;]</code>	Displays port EAPOL Remote Authentication Dial-in User Service (RADIUS) non-EAP MAC addresses and authentication status.
<code>interface [&lt;ports&gt;]</code>	Displays information about the physical interface for the specified port, ports, or all ports.
<code>ip [&lt;ports&gt;]</code>	Displays routing (IP) information for the specified port, ports, or all ports.
<code>mroute-limit [&lt;ports&gt;]</code>	Displays the multicast route size and timer limits, and status.
<code>mstp cistinfo {&lt;ports&gt;}</code>	Displays MSTP CIST port information. Parameter • <i>ports</i> is the portlist
<code>mstp mstiinfo [&lt;ports&gt;]</code>	Displays MSTP instance-specific port information. Parameter • <i>ports</i> is the portlist
<code>mstp ciststat [&lt;ports&gt;]</code>	Displays MSTP CIST statistics for ports. Parameter • <i>ports</i> is the portlist
<code>mstp mstistat [&lt;ports&gt;]</code>	Displays MSTP instance-specific port statistics. Parameter • <i>ports</i> is the portlist
<code>mstp cistrole [&lt;ports&gt;]</code>	Displays information about CIST port roles and states. Parameter • <i>ports</i> is the portlist

<b>show ports info</b>	
followed by:	
mstp mstirole [<ports>]	Displays information about MSTI port roles and states. Parameter • <i>ports</i> is the portlist
name [<ports>]	Displays general information, including the name or names of the specified port, ports , or all ports.
rate-limit [<ports>]	Displays the rate limit in packets per second for the specified port, ports , or all ports.
smlt [<ports>]	Displays the port SMLT information.
stg extended [<ports>]	Displays the port STG extended information.
stg main [<ports>]	Displays the port STG information.
unknown-mac-discard [<ports>]	Displays unknown-mac-discard information for the specified port, ports, or all ports.
vlangs [<ports>]	Displays virtual LAN information for the specified port, ports, or all ports.
filter [<ports>]	Displays filter information for the specified port, ports, or all ports.
qos [<ports>]	Displays qos information for the specified port, ports, or all ports.
route-discovery [<ports>]	Displays routing information for the specified port, ports, or all ports.
rate-limit [<ports>]	Displays rate limit information for the specified port, ports, or all ports.
rstp config <ports>	Displays RSTP-related port-level configuration details.
rstp role <ports>	Displays the role of RSTP ports.
rstp stats <ports>	Displays RSTP-related port-level statistics.
rstp status <ports>	Displays RSTP-related status information for a port or list of ports.
tx-queue [<ports>]	Displays traffic queue information for the specified port, ports, or all ports.



**Note:** *ports* specify the ports in the portlist form {*slot/port*[-*slot/port*][, ...]}.

---

## show ports stats

Use this command to display statistics for the ports. You can specify a single port, a list of ports, or all ports.

### Syntax

```
show ports stats
```

### Parameters

This command includes the following parameters:

<b>show ports stats</b> followed by:	
<code>dhcp-relay [&lt;ports&gt;]</code>	Displays the port IP DHCP relay statistics.
<code>rmon [&lt;ports&gt;]</code>	Displays the RMON statistics.
<code>stg [&lt;ports&gt;]</code>	Displays statistics counters for spanning tree groups (STG) on the specified port, ports, or all ports.



**Note:** *ports* specify the ports in the portlist form {*slot/port*[-*slot/port*][, ...]}.

---

## show ports stats interface

Use this command to display basic and extended information about the specified port, ports, or all ports.

### Syntax

```
show ports stats interface
```

### Parameters

This command includes the following parameters:

<b>show ports stats interface</b> followed by:	
main [ <i>&lt;ports&gt;</i> ]	Displays basic interface information about the specified port, ports, or all ports.
extended [ <i>&lt;ports&gt;</i> ]	Displays extended OSPF information about all switch ports or a specific switch port.



**Note:** *ports* specify the ports in the portlist form {*slot/port*[-*slot/port*][, ...]}.

## show qos egress-stats

Use this command to display information about the QoS egress counter set.

### Syntax

```
show qos egress-stats [<counter_set_id>]
```

where *<counter\_set\_id>* is a value from 1..40.

## show qos egress-counter-set

Use this command to display information about the QoS egress counter set.

### Syntax

```
show qos egress-counter-set [<counter_set_id>]
```

where <counter\_set\_id> is a value in the range from 1 to 40.

## show qos info

Use this command to display the status of the MAC QoS-level override setting.

### Syntax

```
show qos info
```

## show qos map 8021p-to-class-map

Use this command to display how the switch maps 802.1p user priority to traffic class levels.

### Syntax

```
show qos map 8021-to-class-map
```

## **show qos map 8021p-to-drop-precedence-map**

Use this command to display how the switch maps 802.1p bits to drop precedence.

### **Syntax**

```
show qos map 8021-to-drop-precedence-map
```

## **show qos map 8021p-to-dscp-map**

Use this command to display the status of the 802.1p dscp to map setting.

### **Syntax**

```
show qos map 8021p-to-dscp-map
```

## **show qos map class-to-8021p-map**

Use this command to display how the switch maps traffic class levels to an 802.1p user priority.

### **Syntax**

```
show qos map class-to-8021p-map
```

## show radius

Use this command to display Remote Access Dial-In User Services (RADIUS) settings.

### Syntax

```
show radius
```

### Parameters

This command includes the following parameters:

<b>show radius</b> followed by:	
<code>info</code>	Displays the global status of RADIUS information.
<code>server config</code>	Displays current RADIUS server configurations.
<code>server stat accounting [&lt;server ip&gt;]</code>	Displays RADIUS accounting statistics. <b>Parameter</b> <ul style="list-style-type: none"><li>• <i>server ip</i> is the IP address of the RADIUS server expressed as {a.b.c.d}.</li></ul>
<code>server stat authentication [&lt;server ip&gt;]</code>	Displays the RADIUS authentication statistics. <b>Parameter</b> <ul style="list-style-type: none"><li>• <i>server ip</i> is the IP address of the RADIUS server expressed as {a.b.c.d}.</li></ul>



---

## show rmon

Use this command to display various Remote Monitoring (RMON) settings.

### Syntax

```
show rmon
```

### Parameters

This command includes the following parameters:

<b>show rmon</b> followed by:	
info	Displays the status of RMON on the switch.
alarm	Displays the RMON alarm table.
ether-stats	Displays the RMON Ethernet statistics table.
event	Displays the RMON event table.
history-control	Displays the RMON history control table.
log	Displays the RMON log table.

## show rstp

Use this command to show RSTP-related configuration details.

### Syntax

```
show rstp config
```

## show rstp stats

Use this command to show RSTP-related statistics.

### Syntax

```
show rstp stats
```

## show rstp status

Use this command to show RESP-related status information.

### Syntax

```
show rstp status
```

## show slot

Use this command to display the administrative status of the appliance.

### Syntax

```
show slot <slot-number>
```

where *slot number* is the slot number in the appliance, expressed as 1

## show smlt

Use this command to obtain MLT SMLT and port SMLT information.

### Syntax

```
show smlt
```

---

## show snmp-v3

Use this command to obtain access to the SNMP-V3 commands.

### Syntax

```
show snmp-v3
```

### Parameters

This command includes the following parameters:

<b>show stg snmp-v3</b> followed by:	
community	Provides the Simple Network Management Protocol Version 3 (SNMPV3) community table configuration.
group-access	Provides the View-based Access Control Model (VACM) group access configuration information.
group-member	Provides the VACM group membership configuration information.
mib-view	Provides the SNMPV3 Management Information Base (MIB) view table configuration.
usm	Provides the SNMPV3 User-based Security Model (USM) table configuration.

## show stg info

Use this command to display Spanning Tree Group (STG) configuration and status information.

### Syntax

```
show stg info
```

### Parameters

This command includes the following parameters:

<b>show stg info</b> followed by:	
<code>config [&lt;sid&gt;]</code>	Displays the Spanning Tree Group configuration for the switch or for the specified Spanning Tree Group. <ul style="list-style-type: none"><li>• <i>sid</i> is a Spanning Tree Group ID from 1 to 64characters.</li></ul>
<code>status [&lt;sid&gt;]</code>	Displays the Spanning Tree Group status for the specified Spanning Tree Group or all STGs. <ul style="list-style-type: none"><li>• <i>sid</i> is a Spanning Tree Group ID from 1 to 25 characters.</li></ul>

## show sys

Use this command to display the status, performance, and module configuration of the switch, and the version of software running on the switch.

### Syntax

```
show sys
```

## Parameters

This command includes the following parameters:

<b>show sys</b> followed by:	
<code>info [card] [asic]</code>	Displays system status and technical information about the switch hardware components. <b>Parameters</b> <ul style="list-style-type: none"> <li>• <code>card</code> displays information about all the installed appliance card.</li> <li>• <code>asic</code> describes the Application-Specific Integrated Circuit for the Ethernet Routing Switch 1600 Series model</li> </ul>
<code>eapol</code>	Displays the global Extensible Authorization Protocol (EAP) configuration.
<code>link-flap-detect</code> <code>general-info</code>	Displays the link-flap-detect settings.
<code>mcast-software-forwarding</code>	Displays the current IP multicast software forwarding configuration.
<code>msg-control</code>	Displays the system message control function status (enabled or disabled).
<code>perf</code>	Displays system performance information—for example, CPU utilization, switch fabric utilization, NVRAM size, and NVRAM used. The information is updated once per second, so it is never more than one second from real time.
<code>sw</code>	Displays the version of software running on the switch, the last update of that software, and the Boot Config Table. The Boot Config Table lists the current system settings and flags.
<code>topology</code>	Displays the topology table. This table shows the information sent to Optivity network management software for creating network displays.

## show sys access-policy info

Use this command to display the global access policy settings. If you specify a policy name, the settings for the policy are displayed.

### Syntax

```
show sys access-policy info [<polname>]
```

where *polname* is the name of the policy

## Show sys ssh global

Use this command to show the secure shell (SSH) global information.

### Syntax

```
show sys ssh global
```

## Show sys ssh session

Use this command to show the current SSH session information.

### Syntax

```
show sys ssh session
```

## show sys ssh sw

Use this command to show the SSH software information.

### Syntax

```
show sys ssh sw
```

## show sys syslog general-info

Use this command to display system log information for the entire system.

### Syntax

```
show sys syslog general-info
```

## show sys syslog host info

Use this command to display system log information for the specified host.

### Syntax

```
show sys syslog host <id> info
```

where *id* identifies the host.

## show tacacs info

Use this command to show the Terminal Access Controller Access-Control System (TACACS) information.

### Syntax

```
show tacacs info
```

## show tacacs server config

Use this command to show the TACACS server configuration.

### Syntax

```
show tacacs server config
```

## show tech

Use this command to display technical information about system status and obtain output information about the hardware, software, and operation of the switch.

The information available from the **show tech** command includes:

- general system information—such as location
- hardware information—power supplies, and fans
- system errors
- boot configuration
- software versions
- memory
- port information, such as:
  - locking status
  - configurations
  - names



- interface status
- log files
- trace files

## Syntax

```
show tech
```

## show test

Use this command to display test information for the switch.

## Syntax

```
show test
```

## Parameters

This command includes the following parameter:

<b>show test</b> followed by:	
loopback <ports>	Displays the results of the latest loopback test for the switch or for the specified port or ports.

## show trace

Use this command to display trace information for the switch.

### Syntax

```
show trace
```

### Parameters

This command includes the following parameters:

<b>show trace</b> followed by:	
<code>file [tail]</code>	Displays the trace message file when tracing is enabled. Parameter <ul style="list-style-type: none"><li>• <code>tail</code> lets you to view the log file in reverse order</li></ul>
<code>level &lt;modid&gt; &lt;level&gt;</code>	Displays the current software module ID numbers and the corresponding trace levels. Parameters <ul style="list-style-type: none"><li>• <code>modid</code> is the identifier for the software module you are tracing</li><li>• <code>level</code> is a number that specifies the amount of detail in the trace message file (1 to 4, from least detail to most) or disables trace activity (0)</li></ul>

## show vlan info

Use this command to display protocol, configuration, and parameter information for a specified or all Virtual LANs (VLAN) .

### Syntax

```
show vlan info
```

### Parameter

This command includes the following parameters:

<b>show vlan info</b> followed by:	
advance [ <i>&lt;vid&gt;</i> ]	Displays additional parameters for the specified VLAN or all VLANs.
all [ <i>&lt;vid&gt;</i> ] [by <i>&lt;value&gt;</i> ]	Displays all general information about the VLANs on the switch or a specified VLAN. Parameters <ul style="list-style-type: none"> <li><i>vid</i> represents the ID of a specific VLAN <b>TIP:</b> Omit this parameter to show configuration information for all VLANs.</li> <li><i>by &lt;value&gt;</i> groups the information by ID number or by each feature.</li> </ul>
arp [ <i>&lt;vid&gt;</i> ]	Displays the address resolution protocol configurations for all VLANs on the switch or for the specified VLAN.
autolearn-mac	Displays bridging autolearn–mac address information for all VLANs on the switch or for the specified VLAN.
basic [ <i>&lt;vid&gt;</i> ]	Displays the basic configurations for all VLANs or the specified VLAN.
dhcp-relay [ <i>&lt;vid&gt;</i> ]	Displays VLAN DHCP information.
fdb-entry <i>&lt;vid&gt;</i>	Displays forwarding database information for the specified VLAN

<b>show vlan info</b> followed by:	
<code>fdb-filter &lt;vid&gt;</code>	Displays the forwarding database filters for the specified VLAN.
<code>fdb-static &lt;vid&gt;</code>	Displays the static forwarding database status, the VLAN Media Access Control (MAC) address, and the Quality of Service (QoS) level for the specified VLAN.
<code>igmp [&lt;vid&gt;]</code>	Displays information about the Internet Group Management Protocol (IGMP) configuration for VLANs on the switch. Parameter <ul style="list-style-type: none"> <li><code>vid</code> represents the ID of a specific VLAN <b>TIP:</b> Omit this parameter to show configuration information for all VLANs.</li> </ul>
<code>igmp-mrdisc [&lt;vid&gt;]</code>	Displays the IGMP MRdisc interface information.
<code>ip [&lt;vid&gt; ]</code>	Displays the routing (IP) configuration for all VLANs on the switch or for the specified VLAN.
<code>manual-edit-mac</code>	Displays bridging manual-edit-mac address information for all VLANs on the switch or for the specified VLAN.
<code>ospf [&lt;vid&gt;]</code>	Displays the OSPF configuration for all VLANs or for a specific VLAN.
<code>pgm [&lt;vid&gt;]</code>	Displays the VLAN IP PGM information.
<code>pim [&lt;vid&gt;]</code>	Displays information about the PIM-SM interface configuration for VLANs.
<code>ports [&lt;vid&gt;]</code>	Displays the port member status for a specified VLAN or all VLANs on the port. A port can be an active member, a static member, or a not-allowed member. Parameter <ul style="list-style-type: none"> <li><code>vid</code> is the numeric ID of a specific VLAN <b>TIP:</b> To display information for all VLANs, omit <code>vid</code>.</li> </ul>
<code>rip [&lt;vid&gt;]</code>	Displays the configuration information for a RIP interface.

<b>show vlan info</b> followed by:	
route-discovery [<vid>]	Displays the VLAN IP Internet Control Message Protocol (ICMP) route discovery information.
static-mcastmac [<vid>]	Displays the Layer 2 multicast media access control (MAC) filters. Parameter <ul style="list-style-type: none"> <li>• <i>vid</i> is the numeric ID of a specific VLAN <b>TIP:</b> To display information for all VLANs, omit <i>vid</i>.</li> </ul>
userdefined-advance [<vid>]	Displays the VLAN advance user-defined information.
vrrp extended {<vid>}	Displays the extended VRRP configuration for one specific VLAN or all VLANs configured for the switch. Optional parameter <ul style="list-style-type: none"> <li>• <i>vid</i> displays the VRRP configuration for a specific VLAN</li> </ul>
vrrp main {<vid>}	Displays the VLAN VRRP information.



**Note:** *vid* refers to the VLAN ID, expressed as an integer from 1..4000.

## show web-server

Use this command to display password and access information and whether Web access is enabled.

### Syntax

```
show web-server
```

