

# Perle IDS Managed Switches CLI Reference Guide

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## About This Book

This guide provides the information you need to:

- configure the Perle series of IDS Switches using the Command Line Interface (CLI)

## Intended Audience

This guide is for administrators who will be configuring the Perle series of IDS Switches hereafter known as the switch.

Some prerequisite knowledge is needed to understand the concepts and examples in this guide:

- If you are using an external authentication application(s), working knowledge of the authentication application(s).
- Knowledge of the transfer protocols the Perle series of IDS Switches uses.

## Typeface Conventions

Most text is presented in the typeface used in this paragraph. Other typefaces are used to help you identify certain types of information. The other typefaces are

Typeface Example	Usage
<b>system mtu jumbo</b>	Commands are in bold blue text and keywords for those command use bold green text.
<i>name-of-tacacs-server</i>	Arguments in which you supply the values are in purple italics.
[ <b>nopassword</b>   <b>privilege 1</b>   <i>15</i>   <b>secret</b> ]	Square brackets means optional elements, but not required to complete the command. Such as command username does not require nopassword, privilege or secret for completion. Vertical bars within this example separate alternative choices and can be viewed as an or between parameters.
<b>snmp-server</b> { <b>contact</b> <i>contact-name</i> }	Curly braces surrounding a group of parameter means that a choice or value must be entered.
<i>IDS User's Guide</i>	This typeface indicates a book or document title.
See <a href="#">About This Book</a> for more information.	This indicates a cross-reference to another chapter or section that you can click on to jump to that section.



# 1 Using the Command-Line Interface

This book provides the command line interface (CLI) options available for the Perle IDS series of Managed Switches. This chapter describes how to use the command-line interface (CLI) to configure software features. Commands are grouped by Command modes.

## Command Modes

Command Mode	Prompt	Exit Mode	Access Next Mode
User EXEC mode	PerleSwitch>	<b>logout</b> command	<b>enable</b> command
Privileged EXEC mode	PerleSwitch#	<b>disable</b> command	<b>configure</b> command
Global configuration mode	PerleSwitch(config)#	<b>end</b> or <b>exit</b> command	<b>interface</b> command
Interface configuration mode	PerleSwitch(config-if)# PerleSwitch(config-if-range)#	<b>end</b> command	<b>interface</b> command, interface type, interface number
Line configuration mode	PerleSwitch(config-line)#	<b>end</b> command	<b>interface</b> command, interface type, interface number

Each command is broken down into several categories:

- **Description**—Provides a brief explanation of how the command is used.
- **Syntax**—Shows the actual command line options. The options can be typed in any order on the command line. The syntax explanation will use the following command to break down the command syntax:

For example: `telnet 172.16.4.92`

This command will open a telnet session to the host with the IP address of 172.16.4.92. If you use a name rather than an IP address, you can use the `/ipv4` option to force the connection to use an IPv4 format for the network address.

For example: `ptp {version [1|2]}`

This command `ptp version` has an option of either 1 (use Global PTP version 1 or 2 (use Global PTP version 2)). You can specify either option but not both.

Braces ({} ) group required choices and vertical bars (|) separate the alternative choices. Square brackets ([]) show the options that are available for the command. You can type a command with each option individually, or string options together in any order you want. Brace and vertical bars within square brackets {[]} means requires a choice within and optional element. The pipe (|) within a square bracket means a choice between the elements.

For example, valid values for (config)#ip {version ssh [1 | 2]}. Valid values are 1 for Protocol version 1 or 2 for Protocol version 2.

- **Options**—Provides an explanation of each of the options for a command and the default value if there is one. Some commands do not have any options, so this category is absent.
- **UP arrow**—show a history of the previous commands entered.

## Command Shortcuts

When you type a command, you can specify the shortest unique version of that command or you can press the **TAB** key to complete the command. For example, the following command:

```
PerleSwitch(config)#service dhcp<cr>
```

can be typed as:

```
PerleSwitch(config)#se d <cr>
```

or, you can use the **TAB** key to complete the lines as you go along:

```
se<TAB>d<TAB><cr>
```

where the **TAB** key was pressed to complete the option as it was typed.

## Command Options

When you are typing commands on the command line (while connected to the IDS Switch, you can view the options by typing a question mark (?), after any part of the command to see what options are available/valid. For example:

```
PerleSwitch(config)#interface?
```

```
FastEthernet  
GigabitEthernet  
Port-Channel  
Vlan  
range
```

## Common Commands

### default

Use the default command to set a command back to its defaults.

### disable

Use the disable command to de-elevate from Privilege EXEC mode to User Exec mode.

### do-exec

Run exec commands while in config mode.

## **no**

Use the no command to negate a command.

## **enable**

Use the enable command to elevate to Privilege EXEC mode from User Exec mode.

## **exit**

The exit command in User EXEC mode logs you out of the IDS switch. In command mode it takes you to down one level of authority.

## **help**

The help command gives you full help or partial help depending on your needs.

### **Usage Guidelines**

Help may be requested at any point in a command by entering a question mark '?'. If nothing matches, the help list will be empty and you must backup until entering a '?' shows available options.

Two styles of help are provided:

1. Full help is available when you are ready to enter a command argument (e.g. show?.)
2. Partial help is provided when an abbreviated argument and you want to know what arguments match the input (e.g. 'show pr?'.)

login

## **login**

Log into the IDS switch. Default user name is admin and password is perle1.

## **logout**

Log out of the IDS switch.

```
PerleSwitch>? (User EXEC mode)
Exec commands:
  clear      Reset functions
  enable     Switch to privilege mode
  exit       exit from EXEC
  help       Description of the interactive help
  login      Login as a new user
  logout     Logout of current user
  ping       Send echo messages
  show       Display internal settings
  ssh        Open a secure shell client connection
  sysstat    Display information about terminal lines
  telnet     Open a telnet connection
  terminal   Set terminal characteristics
  traceroute Trace route to destination

PerleSwitch>clear ? (User EXEC mode)
  alert  clear alert log
  ip     IP

PerleSwitch#? (Privilege EXEC mode)

  archive  Manage archive files
  boot     Modify system boot parameters
  cd       Change current directory
  clear    Reset functions
  clock    Manage system clock
  configure Switch to (config)#
  copy     Copy from one file to another
  debug    Debugging functions (see also 'undebug')
  delete   Delete a file
  dir      List files on a file system
  disable  Leave privileged mode
  dot1x    IEEE 802.1X Exec commands
  erase    Erase a file system
  exit     Exit from the EXEC
  .....

PerleSwitch# boot ? (Privilege EXEC mode)
  system  System image file
PerleSwitch# boot system ?
  backup  Boot with a backup image?
PerleSwitch# boot system backup <cr>

PerleSwitch#configure <cr>
Configuring from terminal, memory, or network[terminal]? <cr>
PerleSwitch(config)# ((config)#)
PerleSwitch(config)#interface vlan 1<cr>
PerleSwitch(config-if)#(Config interface mode)
```

## 2 User Exec Mode

---

Once you have accessed the switch, you are automatically in User Exec mode. The following commands are valid in User EXEC mode.

### clear alert

```
clear {alert interface [fastethernet slot / port-number] | [gigabitethernet slot / port-number] | [port-channel channel]}
```

---

Syntax	clear alert interface
Description	

---

```
{alert interface  
[fastethernet slot /  
port-number] |  
[gigabitethernet  
slot / port-number]  
| [port-channel  
channel]}
```

---

Command Default	None
-----------------	------

---

Command Modes	PerleSwitch>
---------------	--------------

---

#### Usage Guidelines

You can clear all the alert table messages by using the clear alert command, or you can clear only the alerts for a specified fastethernet, gigabitethernet or portchannel interface. See [Alerts](#) messages in this guide for information on Alerts. Repeats of the same alert would update the time stamp on the existing alert.

---

#### Examples

This example show how to clear all the alerts from the alert table.

```
PerleSwitch> clear alert<cr>
```

This example shows you how to clear the alert table for a specified interface.

```
PerleSwitch> clear alert interface gigabitethernet 1/1<cr>
```

---

#### Related Commands

[show alarm](#)

---

## clear ip igmp snooping

**clear** {**ip igmp snooping group** *ip-address-group*}

---

<b>Syntax</b>	<b>clear ip igmp snooping</b>
<b>Description</b>	

---

{**ip igmp snooping**  
**group**  
*ip-address-group*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

### Usage Guidelines

The clear ip igmp snooping command allows you to manually clear the igmp table.

### Examples

This example show how to immediately clear the ip igmp snooping table.

**PerleSwitch> clear ip igmp snooping <cr>**

### Related Commands

*show ip igmp*

## ping

**ping** {*ip\_address\_host\_name* [**data 1-32**] | [**repeat 1-2147483647**] | [**size 26-18024**]}

---

<b>Syntax</b>	<b>ping</b>
<b>Description</b>	

---

{*ip\_address\_host\_name* [**data 1-32**]  
| [**repeat**  
*1-2147483647*] | [**size**  
*26-18024*]}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

**Usage Guidelines**

Host name must be predefined in a host table.

Data hex pattern is from 1 to 32 hex characters.

Repeat count can be from 1-2147483647

Datagram size can be from 36-18024

---

**Examples**

This example shows you how to ping a host with an ip address of 172.16.113.44 repeating the ping request 10 times.

```
PerleSwitch> ping 172.16.113.44 repeat 10 <cr>
```

This example shows you how to ping a host with an ip address of 172.16.113.44 with hex data pattern of f1f1f1f1f1.

```
PerleSwitch> ping perlehost data f1f1f1f1f1<cr>
```

This example shows you how to ping a host with an ip address of 172.16.113.44 with a data packet size of 40 bytes.

```
PerleSwitch> ping perlehost size 40<cr>
```

---

**Related Commands**

*debug*

**show alarm**

```
show {{alarm description port }} | {profile [profile-name]} | {settings}
```

---

Syntax	<b>show alarm</b>
--------	-------------------

Description	
-------------	--

---

```
{{alarm  
description port }}
```

```
|
```

---

```
{profile  
alarm-profile-name  
} |
```

---

```
{profile  
profile-name} |
```

---

```
{settings}
```

---

Command Default	None
-----------------	------

---

Command Modes	PerleSwitch>
---------------	--------------

---

### Usage Guidelines

The following port conditions are monitored by the alarm command.

- 1 - Link fault
- 2- Port not forwarding
- 3 - Port not operating

---

### Examples

This example shows how to display all alarm profiles including the default alarm profile.

```
PerleSwitch>show alarm profile<cr>
```

```
1:
  Interfaces
  Alarms
  Syslog
  Notifies
  Relay Major
defaultPort:
  Interfaces  Gi1/1, Gi1/2, Gi1/3, Gi1/4, Gi1/5, Gi1/6
  Alarms      not-operating
  Syslog      not-operating
  Notifies    not-operating
  Relay Major
```

```
PerleSwitch>show alarm settings<cr>
```

```
Alarm relay mode: De-energized:
```

```
Power Supply:
  Alarm      Enabled
  Relay
  Notifies   Disabled
  Syslog     Enabled
```

---

### Related Commands

*alarm*

*(alarm-profile)*

## show alert

```
show {alert interface [fastethernet slot / port-number] | [gigabitethernet slot / port-number] | [port-channel channel]}
```

---

**Syntax**                    **show alert**

**Description**



---

```
{alert interface
 [fastethernet slot /
 port-number] |
 [gigabitethernet
 slot / port-number]
 | [port-channel
 channel]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

### Usage Guidelines

You can show all the alert table messages by using the show alert command, or you can show only the alerts for a specified fastethernet, gigabitethernet or portchannel interface.

---

### Examples

To show alerts for a specified interface execute the following command.

```
PerleSwitch>show alert interface gigabitethernet 1/1
```

```
Interface: Gi1/1:
```

```
Error code: PORT_SECURE_VIOLATION
```

```
Timestamp: May 4 2016 14:29:53
```

```
Count: 14
```

```
Description: Access denied to one or more connecting devices on this port.
```

```
Recommendation: Maximum allowed devices on this port are already connected,
or an unauthorized device attempted to connect on this secure port. Disconnect
the device.
```

---

### Related Commands

*clear alert*

---

## show bandwidth-control

```
show bandwidth-control
```

---

<b>Syntax</b>	<b>show bandwidth-control</b>
<b>Description</b>	

---

```
bandwidth-control
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

---

**Usage Guidelines**

The show bandwidth control command allows you to see polling interval, interface state, action, direction, type, upper and lower packets per second. This is the time in seconds that the switch will count the ingress frames of the type specified for each port.

---

**Examples**

This example shows the output of the bandwidth-control command.

**PerleSwitch>show bandwidth-control <cr>**

Bandwidth control polling interval: 5 seconds

Packets per second (pps)

```
-----
Interface State      Action Direction Type Upper Lower
Current
-----
-----
Gi1/1 normal shutdown egress all 10000 100 1
Gi1/1 normal shutdown ingress bc 100000 10000 1
```

---

**Related Commands**

[\*bandwidth-control\*](#)

---

**show clock**

**show clock**

---

**Syntax** **show clock**

**Description**

**clock**

---

**Command Default** None

---

**Command Modes** PerleSwitch>

---

**Usage Guidelines****Command Options:**

1-31>days in the month. MONTH is the name of the month January, February, March, April, May, June, July, August, September, October, November, December. YEAR is 1970-2037.

---

**Examples****PerleSwitch>show clock <cr>**Thu May 05 10:32:23 summer-test 2016

---

**Related Commands***clock***show env****show {env all | power | temperature}**

---

**Syntax** **show env****Description**

<b>{env all   power   temperature}</b>	"temperature" is not available on all models.
--	---

---

**Command Default** None

---

**Command Modes** PerleSwitch>

---

**Usage Guidelines**

This command allows you to see your environment.

---

**Examples****PerleSwitch> show env all <cr>**

POWER SUPPLY 1 is DC OK

POWER SUPPLY 2 is DC Not Present

---

**Related Commands**

power-supply

## show errdisable

### show errdisable

---

<b>Syntax</b>	<b>show errdisable</b>
<b>Description</b>	

---

### errdisable

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch>

---

### Usage Guidelines

This command allows you to see what is configured for your errdisable features.

### Related Examples

Depending on your configuration for errdisable, the values in these outputs could be different for your switch.

**PerleSwitch>show errdisable detect<cr>**

ErrDisable Reason	Detection	Mode
-----	-----	-----
link-flap	Disabled	port
bpduguard	Enabled	port
psecure-violation	Enabled	port/vlan
security-violation	Enabled	port
bandwidth-exceeded	Enabled	port

**PerleSwitch>show errdisable recovery**

ErrDisable Reason	Timer Status
-----	-----
link-flap	Disabled
bpduguard	Enabled
psecure-violation	Enabled
security-violation	Disabled
bandwidth-exceeded	Disabled

Timer interval: 300 seconds

Interfaces that will be enabled at the next timeout:

**PerleSwitch>show errdisable flap-values<cr>**

ErrDisable Reason	Flaps	Time(sec)
link-flap	5	10

---

**Related Commands***errdisable***show facility-alarm****show** {*facility-alarm relay major* | *status*}

---

**Syntax**                    **show facility-alarm**  
**Description**

---

**{*facility-alarm***  
***relay major* |**  
***status*}**

---

**Command Default**            None**Command Modes**            PerleSwitch>

---

**Usage Guidelines**

---

**Examples****PerleSwitch>show facility-alarm<cr>**

Source	Severity	Description	Relay	Time
PerleSwitch	MAJOR	1 Temperature above max primary thres	MAJ	May
17 2016 02:38:55				

---

**Related Commands***alarm**(alarm-profile)***show ip igmp****show ip igmp** {*snooping* [*detail* | *groups count*] | [*dynamic count*] | [*user count*] | [*vlan vlan\_interface\_number* [*group\_information*] | [*count*] | [*dynamic count*] | [*user count*]} | {*mrouter vlan* [*vlan\_interface\_number*] | [*querier detail*] | [*querier vlan vlan\_interface\_number*] | [*detail*]} | {*vlan vlan\_interface\_number detail*] | [*mrouter vlan vlan\_interface\_number*]}

---

**Syntax**                    **show ip igmp**  
**Description**

---

```
{snooping [detail |
groups count] |
[dynamic count] |
[user count] |
[vlan
vlan_interface_nu
mber
[group_informatio
n] | [count] |
[dynamic count]
| [user count]}
```

---

```
{mrouter vlan
[vlan_interface_nu
mber] | [querier
detail] | [querier
vlan
vlan_interface_
number] | [detail]}
```

---

```
{{vlan
vlan_interface_nu
mber detail] |
[mrouter vlan
vlan_interface_
number]}}
```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch>

---

### Usage Guidelines

Shows all global details for IGMP snooping configuration and all VLANS.

Count shows total number of multicast groups.

Dynamic count shows VLAN, Group, Type, Version and Port list

VLAN interface number will depend on the hardware model.

**Examples**

This example shows snooping details for all configured vlans.

**PerleSwitch>show ip igmp snooping detail<cr>**

Global IGMP Snooping configuration:

```
-----  
IGMP snooping          : Enabled  
Report suppression     Enabled  
TCN solicit query      : Disabled  
TCN flood query count   : 3  
Robustness variable    : 2  
Last member query count : 2  
Last member query interval : 1000
```

Vlan 0:

```
-----  
IGMP snooping          : Enabled  
IGMPv2 immediate leave : Disabled
```

Vlan 1:

```
-----  
IGMP snooping          : Enabled  
IGMPv2 immediate leave : Disabled
```

Vlan 2:

```
-----  
IGMP snooping          : Enabled  
IGMPv2 immediate leave : Disabled
```

Vlan 3:

```
-----  
IGMP snooping          : Enabled  
IGMPv2 immediate leave : Disabled
```

Vlan 4:

```
-----  
IGMP snooping          : Enabled  
IGMPv2 immediate leave : Disabled
```

Vlan 5:

```
-----  
IGMP snooping          : Enabled  
IGMPv2 immediate leave : Disabled
```

Vlan 1000:

```
-----  
IGMP snooping          : Enabled  
IGMPv2 immediate leave : Disabled
```

---

**Related Commands***clear ip igmp snooping**ip igmp logging | snooping***show ip ssh**

```
show {ip ssh[detail | groups count] | [dynamic count] | [user count] |  
[vlan vlan_interface_number | [group_information] | [count] | [dynamic  
count] | [user count]}
```

---

**Syntax** **show ip ssh****Description**

---

```
{ip ssh [detail |  
groups count] |  
[dynamic count] |  
[user count] |  
[vlan  
vlan_interface_nu  
mber |  
[group_informatio  
n] | [count] |  
[dynamic count]  
| [user count]}
```

---

**Command Default** None

---

**Command Modes** PerleSwitch>

---

**Usage Guidelines**

Shows information on ssh parameters.



**Examples**

This example shows the values for ssh.

**PerleSwitch>show ip ssh**

SSH version: 1.99

Authentication timeout: 120 seconds

Authentication retries: 3

SSH public key:

ssh-rsa

```
AAAAB3NzaC1yc2EAAAADAQABAAQCAQDXSoVYch1Elp1AO2z/Px17m3w
fuXBI/ZxTqvS7SQCJxWSLNZGphXN5VE9SGsp9D5wLAhIFrZKNc44T+O79A1
N3oCPkNuxq24j444ybxOnF8Ttxttrib8fpfDH8pNstYIIX4QPvUUeTPaEc4QkJ+X
TI+hArI4PK1VYCKsijKn6sucP0nqNlcQsGN5C0ST/SwreR/U4azwmaA+24+k/v1N
yBFFXecWp5gFvx8/7vsJMousiOmbvtjxQyUZJKkkuudWvNxkrMs0QmcUsj7nz5
ODGwD2K55LVocKOzWqOQQN7R9w5LMF4Lyc7DIz5j81BUQpHpAPdIdyTj7J
UFlrnOF3NgLLmaVbqbUsrG3x5AzOQLW+AcpwPwnnt/BCIjaj1MAOH8NFCbB
AepKaY+BizlfJLtCDE0yZ3XO7c6kcv/qN07acC5edTCRyzDGqJ/1ronjtQYppPDO
5YaxQ4UfPbedC3OghJJvwSegq45bLuhYhIO+kLgPNe+jVKWXcckfjiePL2EYX0q
SdJQ+CWvy+qQSl2+0HkuzKnEnT+t9XKqqvIPIWtxIo7vxfhqBP+Y+I5CzHxqOP
4nbMvUnIDN3blakRAp7wiTSeU7MbGi/c8qdjgSnRpIwW0Vcu4CHf6dvP8+wjf4L
sJPpyzW33+UakZLJST/ratP1OrdWn1mWsKxi+kWCQ==
```

**Related Commands**

*telnet*

**show line**

**show {line console x-x}**

Syntax	show line
Description	

**{line console x-x}**

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

**Usage Guidelines**

Shows the status of all vtys and console line.

Shows the baud rate, parity, stop bits, and data bits for the console port.

---

**Examples****PerleSwitch> show line console 0 <cr>**

Baud rate (TX/RX) is 9600/9600. parity none, 1 stop bit, 8 data bits

This example shows all lines.

**PerleSwitch> show line <cr>**

con0: Active

vty0: Active

vty1: Active

vty2: Active

vty3: Active

vty4: Inactive

vty5: Active

vty6: Inactive

vty7: Active

vty8: Active

vty9: Active

vty10: Inactive

vty11: Inactive

vty12: Inactive

vty13: Inactive

vty14: Inactive

vty15: Inactive

---

**Related Commands***terminal***show lldp****show lldp** {[**interface fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**] | [**neighbors**] | [**traffic summary**] | [**mrouter vlan vlan\_interface\_number**]}

---

<b>Syntax</b>	<b>show lldp</b>
<b>Description</b>	

---

```
{[interface  
fastethernet slot /  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [neighbors] |  
[traffic summary]  
| [mrouter vlan  
vlan_interface_nu  
mber]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

### Usage Guidelines

The show lldp command is used as a network management tool to. Displays global information, such as frequency of transmissions, the hold time for packets being sent, and the delay time before LLDP initializes on an interface.

---

## Examples

This example shows the lldp traffic summary for

**PerleSwitch> show lldp traffic summary**

LLDP Global statistics:

-----  
 Summary of stats:

Frames Transmitted: 222000  
 Frames Received: 3000020  
 Frames Discarded: 0  
 TLVs Unrecognized: 0  
 MSAP Ageouts: 2  
 MSAP Inserts: 1  
 MSAP Deletes: 0

-----  
 This example shows interface gigabitEthernet 1/1 lldp information

**PerleSwitch>show lldp interface gigabitEthernet 1/1**

GigabitEthernet1/1:

Tx: enabled

Rx: enabled

Maximum Neighbors: 10

TLVs Advertised:

port-description, system-name, system-description,  
 system-capabilities, management-address

port-vlan, vlan-name

mac-phy-cfg, power-management, link-aggregate, max-frame-size

**This example shows the lldp traffic.**

**PerleSwitch>show lldp traffic<cr>**

-----  
 LLDP statistics:

-----  
 Interface: Gi1/1  
 Frames Transmitted: 8  
 Frames Received: 45  
 Frames Discarded: 0  
 TLVs Unrecognized: 62  
 MSAP Ageouts: 0  
 MSAP Inserts: 5  
 MSAP Deletes: 0

---

## Related Commands

*lldp*

## show location

```
show location {civic-location [identifier identifier-string] | interface
[fastethernet slot / port-number] | [gigabitethernet slot / port-number] |
civic-location [static]} | {[elin-location identifier identifier-string interface
[fastethernet slot / port-number] | [gigabitethernet slot / port-number] |
[static]}
```

Syntax	show location
Description	
	<pre>{civic-location [identifier <i>identifier-string</i>]   interface [fastethernet <i>slot / port-number</i>]   [gigabitethernet <i>slot / port-number</i>]   civic-location [static]}    {[elin-location identifier <i>identifier-string</i> interface [fastethernet <i>slot / port-number</i>]   [gigabitethernet <i>slot / port-number</i>]   [static]}</pre>
Command Default	None
Command Modes	PerleSwitch>

**Usage Guidelines**  
 Show location civic and elin information.

---

**Examples****PerleSwitch>show location civic-location static<cr>**

Civic location information

-----  
Identifier : civic-tst  
Country :-----  
Identifier : civic1  
Country :-----  
Identifier : civictest  
Country :-----  
Identifier : testcivic  
Country :  
City : toronto  
Additional location info : mr-peters  
Building : maincampus

---

**Related Commands***(config-civic)*

---

**show mac address-table**

```

show {mac address-table [address h.h.h] interface [fastethernet slot /
port-number] | [gigabitethernet slot / port-number] | [port-channel channel]}
notifications mac-move | [vlan vlan_interface_number]} | {[aging-time]} |
{[config-static address h.h.h] | [interface [gigabitethernet slot / port-number]
| [fastethernet slot / port-number] | [portchannel port-channel] | [vlan
vlan_interface_number]} | {[dynamic address h.h.h] interface [gigabitethernet
slot / port-number] | [fastethernet slot / port-number] | [portchannel
port-channel] | [vlan [vlan_interface_number]} | {[interface [gigabitethernet
slot / port-number] | [fastethernet slot / port-number] | [portchannel
port-channel]} | {learning [vlan vlan_interface_number] | [fastethernet slot /
port-number] | [gigabitethernet slot / port-number] | [port-channel channel]} |
{[move update]} | {[multicast vlan vlan_interface_number]} | {[notification]}
| {[quick-disconnect interface [fastethernet slot / port-number] |
[gigabitethernet slot / port-number] | [port-channel channel]} | {[secure
address h.h.h interface [fastethernet slot / port-number] | [gigabitethernet slot /
port-number] | [port-channel channel] vlan vlan_interface_number]} | {[static
address h.h.h interface [fastethernet slot / port-number] | [gigabitethernet slot /
port-number] | [port-channel channel] vlan vlan_interface_number]} | {[vlan
vlan_interface_number]}

```

Syntax	show mac address table
Description	
<pre> {mac address-table [address <i>h.h.h</i>]   interface [fastethernet <i>slot / port-number</i>]   [gigabitethernet <i>slot / port-number</i>]   [port-channel channel]} notifications mac-move   [vlan vlan_interface_ number]}   </pre>	
<pre> {{aging-time}}   </pre>	
<pre> {{config-static address <i>h.h.h</i>]   interface [gigabitethernet <i>slot / port-number</i>]   [fastethernet <i>slot / port-number</i>]   [portchannel port-channel]   [vlan vlan_interface_ number]}   </pre>	
<pre> {{dynamic address <i>h.h.h</i>] interface [gigabitethernet <i>slot / port-number</i>]   [fastethernet <i>slot / port-number</i>]   [portchannel port-channel]   [vlan vlan_interface_ number]}   </pre>	

---

```
[interface  
gigabitethernet  
slot/port-number]  
| [fastethernet  
slot/port-number]  
| [portchannel  
port-channel]}}
```

---

```
{learning [vlan  
vlan_interface_nu  
mber] |  
[fastethernet slot/  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [port-channel  
channel]}}
```

---

```
{[move update]}}
```

---

```
{[notification]}}
```

---

```
{[quick-disconnect  
interface  
[fastethernet slot/  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [port-channel  
channel]}}
```

---

```
{[secure address  
h.h.h interface  
[fastethernet slot/  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [port-channel  
channel] | [vlan  
vlan_interface_nu  
mber]}}
```



---

```
{[static address  
h.h.h interface  
[fastethernet slot /  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [port-channel  
channel] vlan  
vlan_interface_nu  
mber]} |
```

---

```
{[vlan  
vlan_interface_  
number]}
```

---

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

### Usage Guidelines

Shows the mac address table.

---

## Examples

**PerleSwitch>show mac address-table move update <cr>**

Default/Current settings: Rcv Off/Off, Xmt Off/Off  
 Rcv packet count : 0  
 Rcv last src-mac-address : 0000:0000:0000  
 Rcv last switch-ID : 0000:0000:0000  
 Xmt packet count : 0

**PerleSwitch>show mac address-table interface gigabitEthernet 1/1<cr>**

Mac Address Table

```
-----
Vlan  Mac Address  Type  Ports
----  -
1  0100.5e00.0182  STATIC  Gi1/1 Gi1/2 Gi1/3 Gi1/4 Gi1/5
1  0100.5e00.0183  STATIC  Gi1/1 Gi1/2 Gi1/3 Gi1/4 Gi1/5
1  0100.5e00.0184  STATIC  Gi1/1 Gi1/2 Gi1/3 Gi1/4 Gi1/5
Total Mac Addresses for this criterion: 3
```

**PerleSwitch>show mac address-table learning vlan 1<cr>**

```
Interface  Learning Status
-----  -
Vlan 0001  Enabled
```

**PerleSwitch>show mac address-table address 0100.5e00.0181<cr>**

Mac Address Table

```
-----
Vlan  Mac Address  Type  Ports
----  -
1  0100.5e00.0181  STATIC  CPU
Total Mac Addresses for this criterion: 1
```

---

## Related Commands

*clear mac*

## show network-policy

**show {network-policy profile 1-4294967295}**

---

**Syntax**                    **show network-policy**  
**Description**

---

```
{network-policy
profile
1-4294967295}
```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch>
<b>Hardware model</b>	All models

---

### Usage Guidelines

Shows configured network policies.

---

### Examples

This example shows network policy profiles.

**PerleSwitch> show network-policy profile<cr>**

```
Network Policy Profile 1
  voice vlan 50 cos 2 dscp 50
  voice-signaling vlan dot1p
Interface:
  Gi1/2
Network Policy Profile 2
  voice vlan dot1p
  voice-signaling vlan untagged
Interface:
  none
Network Policy Profile 3
  voice vlan dot1p cos 1
Interface:
  Gi1/1
```

---

### Related Commands

*network-policy*  
*(config-if)#network-policy*  
*(config-if)switchport*

---

## show ntp

```
show {ntp associations | status}
```

---

<b>Syntax</b>	<b>show ntp</b>
<b>Description</b>	

---

```
{associations |
status}
```

---

<b>Command Default</b>	None
------------------------	------

---

**Command Modes** PerleSwitch>

**Hardware model** All models

---

**Usage Guidelines**

Shows ntp associations and status.

---

**Examples**

**PerleSwitch>show ntp associations>**

```

remote      refid      st t when poll reach  delay  offset jitter
=====
=====
172.16.55.77 .INIT.     16 u - 1024  0  0.000  0.000  0.000
172.16.113.55 .INIT.     16 s - 32   0  0.000  0.000  0.000

```

**PerleSwitch>show ntp status<cr>**

Clock is not synchronized, stratum 16, no reference clock

Precision is 2\*\* -18 s

Reference time is 00000000.00000000 (Thu, Feb 7 2036 2:28:16.000)

Clock offset is 0.000000 msec, root delay is 0.000 msec

Root dispersion is 1265.970 msec

System poll interval is 8 s

---

**Related Commands**

*(config-network-policy)*

## show ssh

{ssh}

---

**Syntax** **show ssh**

**Description**

---

{ssh}

**Command Default** None

**Command Modes** PerleSwitch>

**Hardware model** All models

---

**Usage Guidelines**

Show users connected via ssh.

---

**Examples**

This example show which users are connected.

```
PerleSwitch>show ssh<cr>
```

Line	User	Host	Idle	Location
1 vty 0	admin	idle	00:28:26	172.16.113.31
2 vty 1	admin	idle	00:00:03	172.16.113.31

---

**Related Commands**

*ip ssh*

*clear line*

---

**show system**

```
show system {mtu}
```

---

Syntax	show system
Description	

---

{mtu}

Command Default	None
-----------------	------

---

Command Modes	PerleSwitch>
---------------	--------------

---

Hardware model	All modelsAll models
----------------	----------------------

---

**Usage Guidelines**

Shows the system's mtu (max transmission unit) for gigabitethernet ports.

**Examples**

This example shows the setting on the switch for mtu.

```
PerleSwitch>show system mtu<cr>
```

```
System mtu: jumbo
```

---

**Related Commands**

*system*

**show terminal**

```
show terminal
```

---

Syntax	show terminal
Description	

---

Command Default	None
-----------------	------

---

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows the terminal parameters of length, width, history enabled, history size and logging monitor.

---

### Examples

This examples displays the parameter for terminal.

**PerleSwitch>show terminal<cr>**

Terminal length = 24

Terminal width = 79

Terminal history is enabled

Terminal history size = 11

Terminal logging monitor is OFF

---

### Related Commands

*console 0-0*

## show users

**show {users [all]}**

---

<b>Syntax</b>	<b>show users</b>
---------------	-------------------

<b>Description</b>	
--------------------	--

---

**{users [all]}**

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

The show user command shows the active connected users to vty sessions. The all option shows all vty's from 0 -15.

---

## Examples

This examples displays all vty sessions regardless of whether there is an active user connected.

**PerleSwitch>show users all<cr>**

Line	User	Host	Idle	Location
1 vty 0	admin	idle	00:33:59	172.16.113.31
2 vty 1	admin	idle	00:05:36	172.16.113.31
3 vty 2				
4 vty 3				
5 vty 4				
6 vty 5				
7 vty 6				
8 vty 7				
9 vty 8				
10 vty 9				
11 vty 10				
12 vty 11				
13 vty 12				
14 vty 13				
15 vty 14				
16 vty 15				

---

## Related Commands

*Interface line mode*

*console 0-0*

*vtty 0-15*

## show version

**show {version [backup] | [current] | [flash:] | [sdf flash:]}**

---

Syntax	show version
Description	

{version [backup]  
| [current] |  
[flash:] |  
[sdf flash:]}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

## Usage Guidelines

Shows information about versions of software running on the switch.

---

## Examples

### PerleSwitch>show version backup

Name: Managed Industrial Switch  
Version: 0.4.B412  
Date created: Wed Apr 13 15:43:52 EDT 2016  
Source: http://172.16.4.181/public/lyn.img  
Downloaded: Sun Dec 31 20:04:54 testzone 2000  
Size: 37847292 bytes

### PerleSwitch>show version current

Name: Managed Industrial Switch  
Version: 0.4.B425  
Date created: Tue Apr 26 09:26:59 summer-test 2016  
Source: http://172.16.4.181/public/fit-vierullo.img  
Downloaded: Tue Apr 26 09:33:28 summer-test 2016  
Size: 37899984 bytes

### PerleSwitch>show version flash:fit-dkong.img

Name: Managed Industrial Switch  
Version: 0.4.B425  
Date created: Wed May 04 20:09:36 summer-test 2016  
Size: 37900544 bytes

---

## Related Commands

[\*show running-config\*](#)

## show vlan

**show** {vlan}

---

<b>Syntax</b>	<b>show vlan</b>
<b>Description</b>	

---

{vlan}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

## Usage Guidelines

Show vlans.



---

## Examples

This example shows all vlans.

**PerleSwitch>show vlan**

VLAN Name	Status	Port Members(*=non-native vlan)
1 default	active	Gi1/1, Gi1/2, Gi1/3, Gi1/4, Gi1/5
2 office-vlan2	active	
3 VLAN0003	active	
4 VLAN0004	active	
5 VLAN0005	active	
10 VLAN0010	act/lshut	
11 VLAN0011	act/lshut	
12 VLAN0012	act/lshut	
13 VLAN0013	act/lshut	
14 VLAN0014	act/lshut	
15 VLAN0015	act/lshut	
16 VLAN0016	act/lshut	
17 VLAN0017	act/lshut	
18 VLAN0018	act/lshut	
19 VLAN0019	act/lshut	
20 VLAN0020	act/lshut	
1000 VLAN1000	active	

---

## Related Commands

*Vlan config mode*

## ssh

**ssh** **{[-c 3des | aes-128-cbc | aes192-cbc | aes256-cbc]}** | **{[-h hmac-md5-128 | hmac-md5-96 | hmac-sha1-160 | hmac-sha1-96]}** | **{[-l login-name]}** | **{[-p 1-65535]}** | **{-v [1 | 2]}** | **{a.b.c.d or hostname}**

---

Syntax	ssh
Description	

---

**{[-c 3des | aes-128-cbc | aes192-cbc | aes256-cbc]}** |

---

```
{[-h
hmac-md5-128 |
hmac-md5-96 |
hmac-sha1-160 |
hmac-sha1-96]} |
```

---

```
{[-l login-name]}
|
```

---

```
[-p 1-65535]} |
```

---

```
{-v [1 | 2 ]} |
```

---

```
{a.b.c.d or
hostname}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

SSH to a remote host.

---

### Examples

This example will ssh to remote host 172.16.4.91.

```
PerleSwitch>ssh 172.16.4.91<cr>
```

---

### Related Commands

*show ssh*

*telnet*

---

## systat

**systat** [*all*]

---

<b>Syntax</b>	<b>systat</b>
<b>Description</b>	

---

```
[all]
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

---

**Usage Guidelines**

Shows system statuses.

**all** - includes inactive ports

---

**Examples**

This example shows the system status for all active ports.

PerleSwitch#systat<cr>

Line	User	Host	Idle	Location
1 vty	admin	idle	07:00:20	172.16.23.121
1 vty	lyn	idle	01:00:20	172.16.23.121

---

**Related Commands****telnet**

**telnet** {*ip\_address\_host\_name* [/ipv4] | [ /ipv6] | [*port-number*] }

---

<b>Syntax</b>	<b>telnet</b>
<b>Description</b>	

---

{*ip\_address\_host\_name* [/ipv4] | [ /ipv6] | [*port-number*] }

---

<b>Command Default</b>	/ipv4
------------------------	-------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Specify either the ip address of the remote host or the host name. The host name must be specified in the host table.

**/ipv4** - forces the use of ipv4 protocol.

**/ipv6** - forces the use of ipv6 protocol.

**port-number** -connect to remote port number. values are 1-65535

Telnet to a remote host. You can force either IPv4 or IPv6 protocol. You can specify the port number to connect to on the remote host (this port must not be blocked by a firewall and able to accept the connection request). The remote host must have telnet enabled.

---

**Examples**

This example connects with telnet to show how to show all the alerts from the alert table.

```
PerleSwitch>telnet 172.16.4.90 /ipv4<cr>
```

This example connects with telnet to a remote host by host name with port 20 specified as the port to connect to.

```
PerleSwitch>telnet perlehost -p 20
```

---

**Related Commands**

*show ssh*

*ssh*

**terminal**

**terminal** {**history size** 0-256} | {**length** 0-512} | {**width** 0-512}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>terminal</b>
<b>Description</b>	
	{ <b>history size</b> 0-256}
	{ <b>length</b> 0-512}
	{ <b>width</b> 0-512}
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch>
<b>Hardware model</b>	All models

---

**Usage Guideline****Command Options:**

**history** - enables and sets the terminal screen history buffer size.

**length** - sets the length of the terminal screen

**width** - sets the width of the terminal screen

---

**Examples**

This command will set the history buffer size to 50 for the current terminal session. This is not a permanent config parameter and it will not be saved to running config.

```
PerleSwitch>terminal history size 50<cr>
```

---

**Related Commands**

*show terminal*

**traceroute**

**traceroute** {*ipv4\_address/host\_name*}

---

<b>Syntax</b>	<b>traceroute</b>
<b>Description</b>	

---

{*ipv4\_address/host\_name*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Specify a IPv4 address or a resolvable hostname.

Traces the route from the switch to the destination address.

---

**Examples**

This example will trace the route from the switch to a host with ipv4 address of 172.16.4.90.

**PerleSwitch> traceroute 172.16.4.90 <cr>**

traceroute to 172.16.4.90 (172.16.4.90), 30 hops max, 38 byte packets

1 172.16.4.90 (172.16.4.90) 0.967 ms 0.554 ms 0.440 ms

This example will trace the route from the switch to a host with a hostname of LAB1.

**PerleSwitch> traceroute LAB1 <cr>**

---

**Related Commands**

*ping*

*debug*

## 3 Privileged EXEC mode

This chapter contains the CLI commands for Privileged EXEC mode.

### archive

```
archive {[config] | [download-sw [force-reload] /reload] [/no-version-check] |
[upload]
[flash:perle-image-name.img] |
[ftp://username[:password]@location/]directory[/perle-image-name.img] |
[http://[username:password]@[hostname | host-ip]/directory]/
perle-image-name.img |
[https://[username:password]@[hostname | host-ip]/directory]/
perle-image-name.img |
[scp://username[:password]@location]@location/directory[/perle-image-name.
img] |
[ftp://username[:password]@location/]directory/perle-image-name.img}
[sftp://location/directory]/perle-image-name.img flash:image-file} |

[tftp://location/directory]/perle-image-name.img flash:image-file} |
{ftp://username[:password]@location/directory/perle-image-name.img} |
{http://[username:password]@[hostname | host-ip] [directory]
/perle-image-name.img} |
{host-ip [directory] /perle-image-name.img} |
{scp://username@location/directory/perle-image-name.img} |
{sftp://username[:password]@location/directory/perle-image-name.img} |
{tftp://location/directory/perle-image-name.img} |
flash:perle-image-name.img}} |
{ftp://username[:password]@location/directory/perle-image-name.img} |
{http://[username:password]@[hostname | host-ip] [directory]
/perle-image-name.img} |
host-ip [directory] /perle-image-name.img}
{tftp://location/directory/perle-image-name.img} | {upload-sw
flash:image-file} |
{ftp://username[:password]@location/directory/perle-image-name.img} |
{http://[username:password]@[hostname | host-ip] [directory]
/perle-image-name.img}
{tftp://location/directory/perle-image-name.img}
```

---

Syntax Description

**archive**

{config}

(alarm-profile)

---

```

{{download-sw} |
[/force-reload] | [/reload] |
[/no-version-check] |
flash:perle-image
-name.img}} |
{ftp:[[/username[:password]
@location]/directory]/perle-i
mage-name.img} |
{http:[[/username:password
]/@][hostname | host-ip
directory]
/perle-image-name.img}
tftp:[[/location]/directory]/p
erle-image-name.img} |

```

---

```

{{upload} flash:perle-image
-name.img}} |
{ftp:[[/username[:password]
@location]/directory]/perle-i
mage-name.img} |
{http:[[/username:password
]/@][hostname | host-ip
directory]
/perle-image-name.img}
{tftp:[[/location]/directory]/
perle-image-name.img}

```

---

**Command Default**

None

---

**Command Modes**

PerleSwitch#

### Usage Guidelines

**config** - archive the running configuration. This configuration will be saved to a predefined location as specified in the command.

**/force-reload** - unconditionally forces a system reload after successfully downloading the software image.

**/reload** - reloads the system (if no unsaved configuration changes have been made) after a successful upgrade.

**/no-version-check** - download the software without verifying its version compatibility with the image that is running.

Where a username or password is required it can be specified in the router configuration using the "ip scp|ftp|sftp|http" command (IP (for transfer protocol configuration)) to configure the username and password to use instead of specifying it on the archive command

- The syntax for the local flash file system for downloads and uploads:

**flash:image-file**

The syntax for FTP:

**ftp://[username[:password]@location]/directory/perle-image-name.img**

- The syntax for an HTTP server:

**http://[[username:password]@][hostname | host-ip [directory] /perle-image-name.img**

- The syntax for an HTTPS server:

**https://[[username:password]@][hostname | host-ip [directory] perle-image-name.img**

- The syntax for an SCP server:

**scp://[username@location]/directory/perle-image-name.img**

- The syntax for an SFTP server:

**sftp://[username[:password]@location]/directory/perle-image-name.img**

- The syntax for an TFTP server:

**tftp://[location]/directory/perle-image-name.img**



---

**Examples**

This example shows you how to download software from a server with an IP address of 172.16.4.92 using SCP.

```
PerleSwitch#archive config<cr>
```

```
PerleSwitch#show archive <cr>
```

The maximum archive configurations allowed is 10.

There are currently 1 archive configurations saved.

The next archive file will be named flash:-<timestamp>-1

Archive # Name

```
1    flash:-Jan-04-18-33-43-0 <- Most Recent
2
3
4
5
6
7
8
9
10
```

```
PerleSwitch#archive download-sw
```

```
scp://root:perle10@172.16.4.92/tftpboot/fit-perle.img
```

This example shows you how to upload software from a server with an IP address of 172.16.4.92 using tftp.

```
PerleSwitch#archive upload-sw tftp://172.16.4.92/new-image-perle.img
```

---

**Related Commands**

*(alarm-profile)*

*show archive*

**boot**

```
boot {system backup}
```

---

<b>Syntax</b>	<b>boot</b>
---------------	-------------

<b>Description</b>	
--------------------	--

---

```
{system backup}
```

---

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

**Usage Guidelines**

This command will cause the stored backup image to become the current image. A backup image will no longer exist until you download a new image to the switch. You need to reload the switch to run with the new current image.

---

**Examples**

This example shows you how to boot the backup image file.

```
PerleSwitch#boot system backup<cr>
```

```
PerleSwitch#reload<cr>
```

---

**Related Commands**

*show version*

*reload*

**cd**

```
cd {flash: | nvram:}
```

---

<b>Syntax</b>	<b>cd</b>
---------------	-----------

<b>Description</b>	
--------------------	--

---

```
{flash: | nvram:}
```

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

**Usage Guidelines**

The cd (change directory) command is used to change directories within the flash, nvram or sd flash file systems.

---

**Examples**

This example shows you how to make a directory under the flash file system then change directory to that new directory.

```
PerleSwitch#mkdir flash:testdir <cr>
```

```
Create directory name [testdir]? <cr>
```

```
PerleSwitch# cd flash:/testdir <cr>
```

---

**Related Commands**

*dir*  
*copy*  
*dir*  
*delete*  
*pwd*  
*rename*  
*rmdir*  
*mkdir*

**clear aaa**

**clear** {aaa local user fail-attempts all | username *username*} | {lockout all | username *username*}

---

<b>Syntax</b>	<b>clear aaa</b>
<b>Description</b>	

---

{aaa local user  
fail-attempts all |  
username  
*username*}

{lockout all |  
username  
*username*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

**Usage Guidelines**

This command allows you to reset locked out users.

**Examples**

This example will reset user Marie that is currently locked out from the switch.

**PerleSwitch#clear aaa local user lockout username Marie<cr>**

---

**Related Commands**

*aaa authentication*

**clear alert**

**clear** {alert interface [fastethernet slot / port-number] | [gigabitethernet slot / port-number] | [port-channel channel]}

<b>Syntax</b>	<b>clear alert</b>
<b>Description</b>	
<b>alert interface</b> <b>[fastethernet slot / port-number]   [gigabitethernet slot / port-number]   [port-channel channel]</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Usage Guidelines</b>	
Clear all alerts or alerts from the specified interface.	
<b>Examples</b>	
This example show you how to clear alerts from gigabitethernet 1.	
<b>PerleSwitch#clear alert gigbitether 1/1&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>show alert</i>	

## clear arp-cache

**clear {arp-cache a.b.c.d | interface vlan 1-4094}**

<b>Syntax</b>	<b>clear arp-cache</b>
<b>Description</b>	
<b>{arp-cache a.b.c.d   interface vlan 1-4094}</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#

---

**Usage Guidelines**

Specify the vlan interface number to delete the arp entry within the arp table for this dynamic entry.

Clearing the arp table will mark the dynamic arp entries in the table as incomplete. To the switch this is the same as deleted. During this time a new arp request is sent, if it is answered the arp entry will be refresh, else the arp entry will be deleted from the table.

---

**Examples**

This example clears the IP dynamic arp entry for van1.

**PerleSwitch#clear arp-cache interface van1<cr>**

172.16.113.31 11addr 00:13:20:92:29:82 ref 1 used 85181/3/97 probes 4 reached

\*\*\* Round 1, deleting one entry \*\*\*

\*\*\* Flush is complete after 1 round \*\*\*

---

**Related Commands**

*arp*

*show arp*

**clear counters**

**clear** {**counters** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**] | [**port-channel channel**]}

**Syntax** **clear counters**

**Description**

{**counters**  
[**fastethernet slot / port-number**] |  
[**gigabitethernet slot / port-number**]  
| [**port-channel channel**]}

**Command Default** None

**Command Modes** PerleSwitch#

---

**Usage Guidelines**

Clear all dynamic entries in the arp cache on this interface.

---

**Examples**

This example show how to clear counters on g1/1.

**PerleSwitch#clear counters gigabitethernet 1/1<cr>**

Clear "show interface" counters on this interface[confirm]

---

**Related Commands***show arp***clear errdisable****clear** {errdisable interface [fastethernet slot / port-number] | [gigabitethernet slot / port-number] | [port-channel channel] vlan 1-4094}

---

**Syntax**                    **clear errdisable**  
**Description**

---

**{counters**  
**[fastethernet slot /**  
**port-number] |**  
**[gigabitethernet**  
**slot / port-number]**  
**| [port-channel**  
**channel]}**

---

**Command Default**            None

---

**Command Modes**            PerleSwitch#

---

**Usage Guidelines**

Clear error disable from vlans on this interface.

---

**Examples**

This example clears all vlans errors disables on interface gigabitethernet 1/1.

**PerleSwitch#clear errdisable interface g1/1<cr>**

---

**Related Commands***errdisable***clear gmrp****clear** {gmrp counters interface [fastethernet slot / port-number] | [gigabitethernet slot / port-number]}

---

**Syntax**                    **clear gmrp counters**  
**Description**

---

```
{gmrp counters
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot /
port-number]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

### Usage Guidelines

Clears GMRP counters on the specified interface.

### Examples

This example clears all GMRP counters on gigabitethernet 1/1.

```
PerleSwitch#clear gmrp counters interface g1/1<cr>
```

### Related Commands

*show gmrp*

## clear gvrp

```
clear {gvrp counters interface [fastethernet slot /
port-number] |
[gigabitethernet slot /
port-number]}
```

---

<b>Syntax</b>	<b>clear gvrp</b>
---------------	-------------------

<b>Description</b>	
--------------------	--

---

```
{gvrp counters
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot /
port-number]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

### Usage Guidelines

Clears GVRP counters from the specified interface.

---

**Examples**

This example clears GVRP counters from interface gigabitethernet 1/1.

```
PerleSwitch#clear gvrp counters interface gigabitethernet 1/1<cr>
```

---

**Related Commands**

*show gvrp*

## clear ip igmp

```
clear {ip igmp group a.b.c.d}
```

---

<b>Syntax</b>	<b>clear ip igmp</b>
<b>Description</b>	

---

{ip igmp group  
a.b.c.d}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

**Usage Guidelines**

Clears ip IGMP snooping group.

---

**Examples**

This example clears snooping IGMP all groups. associated with ipv4 address 172.16.55.99.

```
PerleSwitch#clear ip igmp snooping group 172.16.55.99<cr>
```

---

**Related Commands**

*ip igmp logging | snooping*

## clear ipv6

```
clear {ipv6 mld | neighbors}
```

---

<b>Syntax</b>	<b>clear ipv6</b>
<b>Description</b>	

---

{ipv6 mld |  
neighbors}{0-16 |  
console 0-0 | vty  
0-15}



---

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

### Usage Guidelines

Clears mld and neighbors IPv6 ND entry cache.

---

### Examples

This example clears the IPv6 ND entry cache.

```
PerleSwitch#clear ipv6 neighbors<cr>
```

---

### Related Commands

[ipv6](#)

## clear line

```
clear {line 0-16 | console 0-0 | vty 0-15}
```

---

<b>Syntax</b>	<b>clear line</b>
---------------	-------------------

<b>Description</b>	
--------------------	--

---

```
{0-16 | console  
0-0 | vty 0-15}
```

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

### Usage Guidelines

The vty session will be disconnected.

---

### Examples

This example clears line 8.

```
PerleSwitch#clear line 8<cr>
```

```
[confirm]
```

```
[OK]
```

```
PerleSwitch# 4d18h: %PINIT-6: Cleared VTY7 session (message on console port)
```

---

### Related Commands

[Interface line mode](#)

[console 0-0](#)

[vty 0-15](#)

## clear lldp

```
clear {lldp counters | tables}
```

<b>Syntax</b>	<b>clear lldp</b>
<b>Description</b>	
	<b>{lldp counters   table}</b>
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Usage Guidelines</b>	
LLDP must be enabled.	
<b>Examples</b>	
This example will clear all lldp tables.	
<b>PerleSwitch#clear lldp tables&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i><a href="#">Interface line mode</a></i>	

## clear logging

**clear {logging}**

<b>Syntax</b>	<b>clear logging</b>
<b>Description</b>	
	<b>{logging}</b>
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Usage Guidelines</b>	
Clears the logging buffer on the switch.	
<b>Examples</b>	
This example clears the logging buffer on the switch.	
<b>PerleSwitch#clear logging &lt;cr&gt;</b>	
Clear logging buffer[confirm]<cr>	
<b>Related Commands</b>	
<i><a href="#">logging</a></i>	
<i><a href="#">(config-if)#logging</a></i>	

## clear mac

```
clear {mac address-table dynamic [address h.h.h] | [interface fastethernet slot / port-number] | [gigabitethernet slot / port-number] | [vlan vlan_interface_number]} | {notification mac-move}
```

---

<b>Syntax</b>	<b>clear mac</b>
<b>Description</b>	

---

```
{mac
address-table
dynamic [address
h.h.h] | [interface
fastethernet slot /
port-number] |
[gigabitethernet
slot / port-number]
| [vlan
vlan_interface_nu
mber]} |
```

```
{notification
mac-move}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

### Usage Guidelines

Clears mac address table.

### Examples

This example clears the dynamic entries from vlan 3 mac address table.

```
PerleSwitch#clear mac address-table dynamic vlan 3<cr>
```

### Related Commands

*show mac address-table*

## clear port-security

```
clear {port-security all | configured | dyanamic | sticky address h.h.h |
interface [fastethernet slot / port-number] | [gigabitethernet slot /
port-number]} |
```

---

<b>Syntax</b>	<b>port-security</b>
<b>Description</b>	

```
{port-security all |
configured |
dynamic | sticky
address h.h.h |
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot /
port-number]}
```

---

**Command Default**           None

---

**Command Modes**           PerleSwitch#

---

### Usage Guidelines

#### Command Options:

**all** - all secure mac addresses

**configured** - configured secure mac addresses

**dynamic** - secure mac address auto-learned by hardware

**sticky** - secure mac address either auto-learned or configured.

---

### Examples

This example clears all auto-learned and configured mac addresses from the mac address table for all interfaces and addresses

```
PerleSwitch#clear port-security sticky<cr>
```

---

### Related Commands

[mac address-table](#)

## clear radius statistics

```
clear {radius statistics}
```

---

**Syntax**                   **clear radius statistics**

**Description**

---

```
{radius statistics}
```

---

**Command Default**           None

---

**Command Modes**           PerleSwitch#

---

### Usage Guidelines

Clears the statistic counters for RADIUS.

---

**Examples**

This example clears all statistics for RADIUS.

```
PerleSwitch#clear radius statistics<cr>
```

---

**Related Commands**

*aaa group*

*PerleSwitch(config-sg-radius)#*

**clear scada modbus**

**clear scada modbus tcp server statistics** {<cr> | ip address}

---

<b>Syntax</b>	<b>clear scada modbus tcp server statistics</b>
<b>Description</b>	

---

<cr>

Clear all Modbus info and statistics.

ip address

Clear statistics for connection from the specified ip address.

---

<b>Command Default</b>	None
------------------------	------

---

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Clear connection specific or all Modbus statistics.

---

**Examples**

Clear the Modbus statistics for session originating from 172.18.2.44.

```
PerleSwitch#clear scada modbus tcp server statistics 172.18.2.44<cr>
```

---

**Related Commands**

*scada modbus*

*show scada modbus*

**clear spanning-tree**

**clear** {spanning-tree counters | detected protocols}

---

<b>Syntax</b>	<b>clear spanning tree</b>
<b>Description</b>	

---

---

```
{spanning-tree
counters | detected
protocols}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

#### Usage Guidelines

Clears spanning tree statistics.

Restarts the protocol migration process.

---

#### Examples

This example will clear the spanning-tree statistics on vlan 2.

```
PerleSwitch#clear spanning-tree counters interface vlan 2<cr>
```

---

#### Related Commands

*spanning-tree*

*show spanning-tree*

## clear tacacs+ statistics

```
clear {tacacs+ statistics}
```

---

<b>Syntax</b>	<b>clear tacacs+ statistics</b>
---------------	---------------------------------

<b>Description</b>
--------------------

---

```
tacacs+ statistics
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

#### Usage Guidelines

Clears tacacs+ statistics.

---

#### Examples

This example clears the statistics for TACACS+.

```
PerleSwitch#clear tacacs+ statistics<cr>
```

---

#### Related Commands

*aaa group*

*PerleSwitch(config-sg-tacacs+)*

## clock

```
clock {set hh:mm:ss 1-31 month 2001-2037}
```

<b>Syntax</b>	<b>clock</b>
<b>Description</b>	
<b>set hh:mm:ss 1-31 month 2001-2037</b>	1-31 days in the month. MONTH is the name of the month January, February, March, April, May, June, July, August, September, October, November, December. YEAR is 2001-2037.
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Usage Guidelines</b>	
Sets internal clock.	
<b>Examples</b>	
This example shows you how to set the date and time	
PerleSwitch#clock PerleSwitch#clock set 10:32:10 5 may 2016<cr>	
<b>Related Commands</b>	
<i>show clock</i>	

## configure

```
configure {confirm} | {memory} | {network ftp:hostname or ip address |
http:hostname or ip address | https:hostname or ip address | scp: hostname or
ip address} | sftp:hostname or ip address | tftp:hostname or ip address} |
{replace flash: | ftp: | http: | https: | scp: | sftp: | tftp:} | {revert now
| timer 1-120 | idle 1-120} | {terminal lock timer 1-120 | idle 1-120 |
revert timer 1-120 | idle 1-120}
```

<b>Syntax</b>	<b>configure</b>
<b>Description</b>	
<b>{confirm}</b>	
<b>{memory}</b>	

---

```

{network
ftp:hostname or ip
address |
http:hostname or ip
address |
https:hostname or
ip address |
scp:hostname or ip
address} |
sftp:<hostname or
ip address |
tftp:hostname or ip
address} |

```

---

```

{replace flash: |
ftp: | http: |
https: | scp: |
sftp: | tftp:}

```

---

```

{revert now |
timer 1-120 | idle
1-120}

```

---

```

{terminal lock
timer 1-120 | idle
1-120 | revert
timer 1-120 | idle
1-120}}

```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#

---

### Usage Guidelines

#### Command Options:

**confirm** - confirm the replacement of running-config with a new config file

**memory** - configure from startup file

**network** - configure from a network host

**replace** - replace the running-config with the file specified. The running-config needs to be copied to the startup-config in order for the changes to become permanent

**revert now** - parameters for reverting this config

**terminal lock** - configure from the terminal



---

**Examples**

This example show you how to configure the switch using your terminal connection.

**PerleSwitch#configure<cr>**

Configuring from terminal, memory, or network [terminal]? <cr>

**PerleSwitch(config)#**

---

**Related Commands**

*show terminal*

*terminal*

**copy**

**copy** {flash:filename | ftp:filename | http: filename | https:filename | nvram: filename | {running-config filename | scp: filename | sftp: filename | startup-config filename | tftp:filename}}

---

<b>Syntax</b>	<b>copy</b>
<b>Description</b>	

---

{flash:filename |  
ftp:filename | http:  
filename |  
https:filename |  
nvram: filename |  
{running-config  
filename | scp:  
filename | sftp:  
filename |  
startup-config  
filename |  
tftp:filename}}

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#

---

**Usage Guidelines**

Copy a file from one location to another.

---

### Examples

This example shows how to copy a file from the flash: directory to a tftp server with an ipv4 address of 172.16.4.90.

```
PerleSwitch#copy flash:running-config-save tftp:<cr>
```

```
Address or name of remote host[ ]?172.16.4.90<cr>
```

```
Destination filename [ ]?backup-running-config<cr>
```

```
4922 bytes copied in 0.013 seconds
```

---

### Related Commands

*dir*

*delete*

*mkdir*

*pwd*

*rename*

*rmdir*

*cd*

*format*

## debug

```
debug {alarmmgr | alertmgr | all | bandwidth-control | clpd | enslmgr |
dmgrd | dot1x-authenticator | dot1x-supplicant | dhcp-client |
dhcp-relay-agent | dsa | garp | gmrp | gvrp | ifmgr | igmp | init | ip |
kernel | lldp | logging | mld | ring | profinet | profinet-dcp | pslmv-driver |
ptp | snmp | spanning-tree | trapmgr | vty}
```

---

**Syntax**                    **debug**

**Description**

---

```
{alarmmgr |
alertmgr | all |
bandwidth-control
| clpd |
dot1x-authenticato
r |
dot1x-supplicant |
enslmgr | dmgrd |
dhcp-client |
dhepr-relay-agent |
dsa | garp |
gmrp | gvrp |
ifmgr | igmp |
init | ip | kernel
| lldp | logging |
mld | ring |
profinet |
profinet-dcp |
pslmv-driver | ptp
| snmp |
spanning-tree |
trapmgr | vty}
```

---

**Command Default**                    None

**Command Modes**                    PerleSwitch#

**Hardware model**                    All models

---

### Usage Guidelines

You can set debug on for a certain feature or function. Setting debug on for all features will seriously impact system performance.

---

**Examples**

This example shows you how to set debug on for alertmgr.

```
PerleSwitch# debug alertmgr <cr>
```

This example shows you how to set debug on for dhcp server.

```
PerleSwitch#debug ip dhcp server <cr>
```

---

**Related Commands**

*undebug*

**delete**

```
delete {flash: | nvram: | sdflash:}
```

---

**Syntax**            **delete****Description**

{**flash:** | **nvram:** |  
**sdflash:**}

---

**Command Default**            None

---

**Command Modes**            PerleSwitch#

---

**Hardware model**            All models

---

**Usage Guidelines**

Deletes a file from flash or nvram.

---

**Examples**

This example deletes file backup-config-yesterday from flash.

```
PerleSwitch#delete flash:backup-config-yesterday<cr>
```

---

**Related Commands**

*cd*

*dir*

*copy*

*dirrename*

*rmdir*

*mkdir*

---

**Note:** The SD card must be inserted for this command to show in the command list.

---

## dir

**dir** { **flash:** | **nvrाम:** | **sdflassh:** }

<b>Syntax</b>	<b>dir</b>
<b>Description</b>	

{**flash:** | **nvrाम:** | **sdflassh:**}

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

<b>Hardware model</b>	All models
-----------------------	------------

### Usage Guidelines

Show the contents of a directory on flash or nvrाम.

### Examples

This example shows the contents of a directory called test.

**PerleSwitch#dir test**<cr>

Directory of flash:/test

```
130318 -rw- 4892 Jan 7 2016 21:21 -05:00 running-config-saved
```

```
3330048 KBytes total (3153920 KBytes free)
```

### Related Commands

*cd*

*copy*

*dirrename*

*rmdir*

*mkdir*

**Note:** The SD card must be inserted for this command to show in the command list.

## dot1x

**dot1x** { **initialize interface** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**] } | { **re-authenticate interface** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**] } | { **test eapol-capable interface** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**] }

<b>Syntax</b>	<b>dot1x</b>
<b>Description</b>	

---

```
{initialize
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot /port-number]}
|
```

---

```
{re-authenticate
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot /port-number]}
|
```

---

```
{test eapol-capable
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot /
port-number]}
|
```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

These are IEEE 802.1X exec commands.

This command can do the following:

- force a single or all interfaces into unauthorized state
  - force re-authentication on a single or all interfaces
  - test 8092.1x capabilities
- 

### Examples

This example will force all interfaces into an unauthorized state.

```
PerleSwitch#dot1x initialize<cr>
```

---

### Related Commands

[\*dot1x\*](#)  
[\*\(config-dot1x-creden\)\*](#)

## format

**format** {**sdf**flash:}

Syntax	<b>format</b>
<b>Description</b>	
{ <b>sdf</b> flash:}	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Use the format command to erase all directories and files from the sd flash card.	
<b>Examples</b>	
This example shows the erasing of the sd flash card.	
PerleSwitch>format sdf <code>flash:</code> <cr>	
<b>Related Commands</b>	
<i>cd</i>	
<i>copy</i>	
<i>dirrename</i>	
<i>rmdir</i>	
<i>mkdir</i>	
<b>Note:</b> The SD card must be inserted for this command to show in the command list.	

### Usage Guidelines

Use the format command to erase all directories and files from the sd flash card.

### Examples

This example shows the erasing of the sd flash card.

```
PerleSwitch>format sdfflash:<cr>
```

### Related Commands

*cd*

*copy*

*dirrename*

*rmdir*

*mkdir*

**Note:** The SD card must be inserted for this command to show in the command list.

## mkdir

**mkdir** {**flash:** | **sdf**flash:}

Syntax	<b>mkdir</b>
<b>Description</b>	
{ <b>flash:</b>   <b>sdf</b> flash:}	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
The make directory (mkdir) command is part of the file management system commands.	

### Usage Guidelines

The make directory (mkdir) command is part of the file management system commands.

---

**Examples**

This example shows you how to make a directory under the file system flash:

```
PerleSwitch#mkdir flash:testing<cr>
```

```
PerleSwitch#dir
```

Directory of flash:

```
130307  drwx   4096 Jan  2 2001 19:58 -05:00 testdir
130306  -rw-   1508 Jan  2 2001 17:46 -05:00 test-config
130308  drwx   4096 Jan  3 2001 18:49 -05:00 testing
```

---

**Related Commands**

*cd*

*copy*

*dirrename*

*rmdir*

*mkdir*

---

**Note:** The SD card must be inserted for this command to show in the command list.

---

**more**

```
more {[ /ascii | /binary] | [flash:] | [nvram:] | [running-config] | [
sdflash:] | [startup-config]}
```

---

<b>Syntax</b>	<b>more</b>
<b>Description</b>	

---

```
{[ /ascii | /binary]
| [flash:] |
[nvram:] |
[running-config] |
[startup-config]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

The more command show you a file contents. You can specify whether to show the contents in ascii or binary format.



---

**Examples**

This example shows you how see the contents of the running config in binary format.

```
PerleSwitch#more /binary mkdir flash:testing<cr>
```

```
PerleSwitch#dir
```

Directory of flash:

```
130307 drwx 4096 Jan 2 2001 19:58 -05:00 testdir
130306 -rw- 1508 Jan 2 2001 17:46 -05:00 test-config
130308 drwx 4096 Jan 3 2001 18:49 -05:00 testing
```

---

**Related Commands**

*cd*

*copy*

*dirrename*

*rmdir*

*mkdir*

---

**Note:** The SD card must be inserted for this command to show in the command list.

---

## ping

**ping** {*ip\_address\_host\_name* [**data**<hex digits>] | [**repeat number-of-times to-ping**] | [**size datagram-size**]}

---

<b>Syntax</b>	<b>ping</b>
<b>Description</b>	

---

{*ip\_address\_host\_name* [**data**<hex digits>] | [**repeat number-of-times to-ping**] | [**size datagram-size**]}

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

#### Command Options:

Host name must be predefined in a host table.  
 Data hex pattern is from 1 to 32 hex characters.  
 Repeat count can be from 1-2147483647  
 Datagram size can be from 36-18024

### Examples

This example shows you how to ping a host with an ip address of 172.16.113.44 repeating the ping request 10 times.

```
PerleSwitch> ping 172.16.113.44 repeat 10 <cr>
```

This example show you how to ping a host with an ip address of 172.16.113.44 with hex data pattern of f1f1f1f1.

```
PerleSwitch> ping perlehost data f1f1f1f1<cr>
```

This example shows you how to ping a host with an ip address of 172.16.113.44 with a data packet size of 40 bytes.

```
PerleSwitch> ping perlehost size 40<cr>
```

### Related Commands

*debug*  
*traceroute*  
*test*

## pwd

### pwd

<b>Syntax</b>	<b>pwd</b>
<b>Description</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Shows your current file system.	
<b>Examples</b>	
This command will show you what file system you are in.	
<b>PerleSwitch#cd nvram:&lt;cr&gt;</b>	
<b>PerleSwitch#pwd&lt;cr&gt;</b>	
nvram:	
<b>Related Commands</b>	
<i>cd</i>	
<i>copy</i>	
<i>dirrename</i>	
<i>rmdir</i>	
<i>mkdir</i>	

## release

**release** {dhcp vlan 1-4094}

<b>Syntax</b>	<b>release</b>
<b>Description</b>	
<b>{dhcp vlan 1-4094}</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Release the ipv4 address from the specified vlan. The ipv4 address will be added back to the DHCP pool.	

---

**Examples**

This example will release the ipv4 address from vlan 2.

```
PerleSwitch#release dhcp vlan 2<cr>
```

---

**Related Commands**

*renew*

*(config-if)#ip*

**reload**

```
reload {[at hh:mm] | [cancel] | [in mmm | hh:mm]}
```

---

<b>Syntax</b>	<b>reload</b>
---------------	---------------

<b>Description</b>	
--------------------	--

---

```
{[at hh:mm] |  
[cancel] | [in  
mmm | hh:mm]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

**at** - specify the time in hours and minutes when to reload the firmware on the switch.

**cancel** - cancel any pending reload commands.

**in** - specify in minutes 1-999 or hours minutes when to reload the firmware on the switch.

---

**Examples**

Reloads the firmware on the switch in 10 hours and 20 mins.

```
PerleSwitch# reload 10:20 <cr>
```

Cancels the previous reload command.

```
PerleSwitch# reload cancel <cr>
```

---

**Related Commands**

*copy*

*show version*

*boot*

**Note:** Before reloading the switch copy running config to startup config to save any changes that you want to save permanently.

## rename

**rename** {**flash:** *destination-filename* | **nvrn:** *destination-filename* | **sdfn:** *destination-filename*}

Syntax	rename
<b>Description</b>	
{ <b>flash:</b> <i>destination-filename</i>   <b>nvrn:</b> <i>destination-filename</i>   <b>sdfn:</b> <i>destination-filename</i> }	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Rename a file on flash, nvrn or sdfn.	
<b>Examples</b>	
This example renames a file on flash from testdir to newdir. <b>PerleSwitch#rename flash:testdir flash:backup&lt;cr&gt;</b> Destination file name[backup]?	
<b>Related Commands</b>	
<i>cd</i>	
<i>copy</i>	
<i>dir</i>	
<i>renamermdir</i>	
<i>mkdir</i>	
<b>Note:</b> The SD card must be inserted for this command to show in the command list.	

## renew

**renew** {**dhcp vlan** *1-4094*}

<b>Syntax</b>	<b>renew</b>
<b>Description</b>	
<b>{dhcp vlan 1-4094}</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Renew the ipv4 address for specified vlan. An ipv4 address will be allocated from the DHCP pool.	
<b>Examples</b>	
This example will renew the DHCP ipv4 address for vlan 2.	
<b>PerleSwitch#renew dhcp vlan 2&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>release</i>	
<i>(config-if)#ip</i>	
<i>(config-if)#ip</i>	

## rmdir

**rmdir {flash: directory-name | sdfsflash: destination-filename}**

<b>Syntax</b>	<b>rmdir</b>
<b>Description</b>	
<b>{flash: directory-name}   sdfsflash: destination- filename}</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Remove a directory on flash or sdfsflash.	

---

**Examples**

This example will remove a directory on flash.

```
PerleSwitch#rmdir flash:test<cr>
```

```
Remove directory name[test]?<cr>
```

---

**Related Commands**

*cd*

*copy*

*dir*

*renamermdir*

*mkdir*

---

**Note:** The SD card must be inserted for this command to show in the command list.

---

**setup****setup**

---

**Syntax**                    **setup**

**Description**

---

{**flash:**  
*directory-name*}

---

**Command Default**

---

**Command Modes**            PerleSwitch#

---

**Hardware model**            All models

---

**Usage Guidelines**

Enter setup mode to enable you to set basic features for the switch such as IP address, hostname and users etc:

## Examples

Configure basic operating parameters for the switch? [yes/no]: yes

You can abort this process at any time by pressing CTRL-C.

Configuring global parameters:

Enter host name [PerleSwitch]: NewSwitchName

The enable secret is used to elevate users to the privileged EXEC and configuration modes.

Enter enable secret [<Use current secret>]:

Configure SNMP Network Management? [yes]: no

Users are already configured for managing the switch.

Add additional user? [no]: no

The following interface will be used for management: Vlan1

Configure IP on this interface? [yes]: no

The following configuration script was created:

```
hostname NewSwitchName
enable secret 5 $1$pQ5Q$dwHsD8ivlklwNzKS5cxhL.
no snmp-server
!
interface vlan 1
shutdown
no ip address
!
```

[0] Exit to the command prompt without saving this config.

[1] Restart setup without saving this config.

[2] Save this configuration and exit.

Enter your selection [2]: 2

Applying script to running configuration...

Configuration applied successfully.

Saving startup configuration...

4210 bytes copied

Configuration saved successfully.

[



---

## Related Commands

### show aaa

**show aaa** {local user lockout}

---

<b>Syntax</b>	<b>show aaa</b>
<b>Description</b>	

---

{local user  
lockout}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

#### Usage Guidelines

This command will show you the current locked out users on the switch.

#### Examples

This example will show you the current locked out users on the switch.

**PerleSwitch#show aaa local user lockout<cr>**

Locked-out users: Lyn

---

## Related Commands

### show alarm

**show** {alarm description port | profile *profile-name* | settings}

---

<b>Syntax</b>	<b>show alarm</b>
<b>Description</b>	

---

{alarm description  
port | profile  
*profile-name* |  
settings}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

The following parameters will be displayed by the show alarm profile command.

- 1 - Link fault
- 2- Port not forwarding
- 3 - Port not operating

---

## Examples

This example shows how to display all alarm profiles including the default alarm profile.

**PerleSwitch#show alarm profile<cr>**

```
defaultPort:
  Interfaces   Gi1/2, Gi1/3, Gi1/4, Gi1/5
  Alarms      not-operating
  Syslog      not-operating
  Notifies    not-operating
  Relay Major
testalr:
  Interfaces   Gi1/1
  Alarms      link-fault not-forwarding not-operating
  Syslog
  Notifies    link-fault not-forwarding not-operating
  Relay Major link-fault not-forwarding not-operating
```

**PerleSwitch#show alarm settings<cr>**

Alarm relay mode: De-energized:

```
Power Supply:
  Alarm      Enabled
  Relay
  Notifies   Disabled
  Syslog     Enabled
SD-Card:
  Alarm      Disabled
  Relay
  Notifies   Disabled
  Syslog     Disabled
Temperature-Primary:
  Alarm      Enabled
  High threshold  95C
  Low threshold  -20C
  Relay      MAJ
  Notifies   Enabled
  Syslog     Enabled
Temperature-Secondary:
  Alarm      Disabled
  High threshold  None
  Low threshold  None
  Relay
  Notifies   Disabled
  Syslog     Disabled
```

---

## Related Commands

*alarm*  
(*alarm-profile*)

## show alert

**show** {**alert interface** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**] | [**port-channel channel**]}

---

<b>Syntax</b>	<b>show alert interface</b>
<b>Description</b>	

---

{**alert interface**  
[**fastethernet slot / port-number**] |  
[**gigabitethernet slot / port-number**]  
| [**port-channel channel**]}

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

You can show all the alert table messages by using the show alert command, or you can show only the alerts for a specified fastEthernet, gigabitethernet or portchannel interface.

### Examples

To show alerts for a specified interface execute the following command.

**PerleSwitch#show alert interface gigabitethernet 1/1<cr>**

Interface: Gi1/1:

Error code: PORT\_SECURE\_VIOLATION

Timestamp: May 4 2016 14:29:53

Count: 14

Description: Access denied to one or more connecting devices on this port.

Recommendation: Maximum allowed devices on this port are already connected, or an unauthorized device attempted to connect on this secure port. Disconnect the device.

### Related Commands

*clear alert*

## show archive

**show** {**archive config rollback timer**}

---

<b>Syntax</b>	<b>show archive</b>
<b>Description</b>	

---

{**archive config  
rollback timer**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows archived configuration files.

---

### Examples

This example will show the contents of the archive.

**PerleSwitch#show archive<cr>**

The maximum archive configurations allowed is 14.

There are currently 9 archive configurations saved.

The next archive file will be named sftp:-<timestamp>-9

Archive # Name

```

1 flash:-May-12-14-14-16-0
2 flash:-May-12-14-17-50-1
3 flash:-May-12-14-19-00-2
4 flash:-May-12-14-19-14-3
5 flash:-May-12-14-20-55-4
6 flash:-May-12-14-24-31-5
7 flash:-May-12-15-05-37-6
8 flash:-May-17-03-37-55-7
9 flash:-May-17-03-38-10-8 <- Most Recent
10
11
12
13
14
```

---

### Related Commands

*(config-archive)*

## show arp

**show** {**arp a.b.c.d** | **vlan**}

---

<b>Syntax</b>	<b>show arp</b>
---------------	-----------------

<b>Description</b>	
--------------------	--

---

{**arp a.b.c.d** | **vlan**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Use this command to show entries in the arp table.

Enter an ipv4 address to display the entry for this ip address in the arp table.

Enter a vlan interface channel to display the entry for this ip address in the arp table

---

### Examples

This example show you how to view the arp table.

**PerleSwitch#show arp<cr>**

?(172.16.113.31) at 00:13:20:92:29:82 [ether] on VI 1

PerleName (172.16.113.77) at 00:13:20:92:29:82 [ether] PERM on VI 1

In this example the first entry shows that the hostname is not known (?) and the entry is not a static or permanent entry. The second entry in the table shows that host 172.16.113.77 has been added manually as a permanent entry in the arp table and the hostname is PerleName.

---

### Related Commands

*clear arp-cache*

*arp*

## show bandwidth-control

**show** {**bandwidth-control**}

---

<b>Syntax</b>	<b>show bandwidth-control</b>
---------------	-------------------------------

<b>Description</b>	
--------------------	--

---

{**bandwidth-control**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

---

**Usage Guidelines**

The show bandwidth control command allows you to see polling interval, interface state, action, direction, type, upper and lower packets per second. This is the time in seconds that the switch will count the ingress frames of the type specified for each port.

---

**Examples**

This example shows the output of the bandwidth-control command.

**PerleSwitch#show bandwidth-control <cr>**

Bandwidth control polling interval: 5 seconds

Packets per second (pps)

```
-----
Interface State      Action Direction Type Upper Lower
Current
-----
-----
Gi1/1 normal shutdown egress all 10000 100 1
Gi1/1 normal shutdown ingress bc 100000 10000 1
```

---

**Related Commands**

*(config-if)#bandwidth-control*

**show clock**

**show {clock}**

---

<b>Syntax</b>	<b>show clock</b>
<b>Description</b>	

---

**{clock}**

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Show clock.

---

**Examples**

**PerleSwitch#show clock<cr>**

Thu May 05 10:32:23 summer-test 2016

---

**Related Commands***clock***show crypto****show** {crypto pki client trustpoint | server trustpoints {*trustpoint-name* | status}}

---

<b>Syntax</b>	<b>show crypto</b>
<b>Description</b>	

---

**{crypto pki client trustpoint | server trustpoints {*trustpoint-name* | status}}**

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Show encryption operations.



---

**Examples**

This example show the status of the switch's trustpoint.

**PerleSwitch#show crypto pki server trustpoint status<cr>**

Server Trustpoint: http180

=====

Certificate:

Data:

Version: 1 (0x0)

Serial Number:

c2:13:a5:c4:21:92:9f:76

Signature Algorithm: sha1WithRSAEncryption

Issuer: C=CA, ST=Ontario, L=Markham, O=Perle Systems Limited, OU=Engineering, CN=dev2k9

Validity

Not Before: Mar 14 15:51:04 2016 GMT

Not After : Dec 9 15:51:04 2018 GMT

Subject: C=CA, ST=Ontario, L=Markham, O=Perle Systems Limited, OU=Engineering, CN=dev2k9

Subject Public Key Info:

Public Key Algorithm: rsaEncryption

Public-Key: (1024 bit)

Modulus:

00:c6:38:88:0f:6e:55:34:41:c2:ae:c8:9f:a3:8c:  
5e:ac:02:58:55:f8:65:8c:9b:3e:79:ae:3d:c8:b4:  
aa:66:57:73:56:c7:f4:a7:d9:de:92:b5:fe:38:1b:  
03:99:16:64:9a:ed:26:00:3e:c1:93:1f:b5:cc:fb:  
28:f9:16:50:0f:53:7a:65:37:d0:93:02:da:c9:05:  
e3:c6:54:32:57:6f:75:a1:fc:19:a2:b7:db:44:78:  
a4:3a:91:19:89:da:db:75:8f:b5:0a:62:23:4c:a7:  
d8:1d:b7:a0:14:c2:f4:7a:f1:31:e9:92:b5:25:77:  
00:54:be:87:a2:97:a4:ac:53

Exponent: 65537 (0x10001)

Signature Algorithm: sha1WithRSAEncryption

98:38:28:71:ff:3e:e8:dd:6d:70:14:24:10:bf:fd:20:45:ae:  
b2:77:b4:9b:10:28:a4:af:11:f3:27:07:26:86:55:d4:c3:c4:  
d9:f3:76:2c:e0:60:6c:cf:06:6c:8c:51:c5:7d:ad:dc:11:9b:  
b8:41:a7:6f:65:37:11:30:51:2d:91:22:e7:2c:71:83:f6:6f:  
3a:68:51:a1:05:0b:44:25:a7:0c:6b:ac:34:1b:e8:a4:59:5d:  
62:44:c9:08:77:9c:26:44:cf:3e:4e:c0:af:a0:62:3a:69:ce:  
ec:74:29:ad:cc:d7:b9:f4:10:89:c6:44:8e:27:85:6f:9b:89:  
51:e8

-----BEGIN CERTIFICATE-----

MIICZzCCAdACCQDCE6XEIZKfdjANBqkqhkiG9w0BAQUFADB4MQswCQYDVQQGEwJD  
QTEQMA4GA1UECBMHT250YXJpbzEQMA4GA.....

---

**Related Commands**

*crypto*

## show debugging

**show** {**debugging**}

---

<b>Syntax</b>	<b>show debugging</b>
---------------	-----------------------

<b>Description</b>	
--------------------	--

---

{**debugging**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows which functions or commands have debug enabled.

---

### Examples

This example shows the output of the debug command.

**PerleSwitch#show debugging<cr>**

BWCONTROL debugging is on

DSA\_DRIVER is on

---

### Related Commands

*debug*

*ping*

*undebug*

## show dhcp lease

**show** {**dhcp lease**}

---

<b>Syntax</b>	<b>show dhcp lease</b>
---------------	------------------------

<b>Description</b>	
--------------------	--

---

{**dhcp lease**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows all dhcp leases with configured options.

---

**Examples**

This example will show all the dhcp leases.

```
PerleSwitch#show dhcp lease<cr>
```

```
interface Vlan1
  dhcp-assigned-address 172.17.121.182
  option subnet mask 255.255.0.0
  option dhcp-lease time 86400 seconds
  option dhcp-server-identifier 172.17.3.13
  renew Mon Jan 01 08:44:00 EST 2001
  rebind Mon Jan 01 19:02:16 EST 2001
  expire Mon Jan 01 22:02:16 EST 2001
```

---

**Related Commands**

[ip dhcp service](#)

**show dot1x**

```
show {dot1x [all] details | statistics}} | {credential credential-profile} |
{interface fastethernet slot / port-number | gigabitethernet slot / port-number
[details] | [statistics]} | {radius statistics [interface fastethernet slot /
port-number | gigabitethernet slot / port-number]}
```

---

Syntax	show dot1x
--------	------------

Description	
-------------	--

---

```
{dot1x | [all]}
[details] |
[statistics]}
```

---

```
{interface
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
[details] |
[statistics]}
```

---

```
{interface
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
[details] |
[statistics]}
```

---

```
{radius statistics
[interface
fastethernet slot /
port-number |
gigabitethernet
slot /
port-number]}
```

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

Shows 802.1x details.

---

### Examples

This example shows dot1x information for gigabitethernet interface 1/1.

```
PerleSwitch#show dot1x interface gigabitethernet 1/1<cr>
```

```
Dot1x Infor fpr GigbitEthernet 1/1
```

```
PAE          = AUTHENTICATOR
```

```
QuietPeriod  = 60
```

```
SuppTimeout  =30
```

```
ReAuthMax    =2
```

```
MaxReq       =2
```

```
TxPeriod     =2
```

---

### Related Commands

*dot1x*

## show eap

**show** {eap profiles | registrations}

---

<b>Syntax</b>	<b>show eap</b>
---------------	-----------------

<b>Description</b>	
--------------------	--

---

{eap profiles   registrations}	
-----------------------------------	--

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows eap profiles and registrations.

---

## Examples

This example shows the profiles for eap

**PerleSwitch#show profile eap<cr>**

EAP Profile: test-eap

=====

PKI-Trustpoint: None

Allowed Phase 1 methods:

-----

MD5

EAP Profile: eaptst

=====

PKI-Trustpoint: None

Allowed Phase 1 methods:

-----

**PerleSwitch#show eap registrations<cr>**

Registered EAP Methods:

=====

Method	Type	Name
4	Auth and Peer	MD5
6	Auth and Peer	GTC
13	Auth and Peer	TLS
21	Auth and Peer	TTLS
25	Auth and Peer	PEAP
26	Auth and Peer	MSCHAPV2

PEAP:

Phase 2 Methods

GTC

MD5

MSCHAPV2

TTLS:

Phase 2 Methods

CHAP

PAP

MSCHAP

MSCHAPV2

EAP-MD5

EAP-GTC

EAP-MSCHAPV2

---

## Related Commands

*eap*

*(config-eap-profile)*

## show eee

**show** {**eee capabilities** **gigabitethernet** *slot / port-number* | **status**}

---

**Syntax** **show eee**

**Description**

---

{**eee capabilities**  
[**gigabitethernet**  
*slot* | **status**}

---

**Command Default** no power efficient ethernet auto

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

### Usage Guidelines

Shows whether EEE is enabled on the interface.

---

### Examples

This example displays EEE on interface g1/1.

**PerleSwitch#show eee capabilities interface g1/1<cr>**

GigabitEthernet 1/1

EEE: yes

---

### Related Commands

*(config-if)#power*

## show env

**show** {**env** | **all** | **power** | **temperature** [**status**]}

---

**Syntax** **show env**

**Description**

---

{**env** | **all** | **power**  
| **temperature**  
[**status**]}

---

**Command Default** None

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

**Usage Guidelines**

Shows environment status.

---

**Examples**

**PerleSwitch#show env all<cr>**

SYSTEM TEMPERATURE is OK  
System Temperature Value: 25 Degree Celsius  
POWER SUPPLY 1 is DC OK  
POWER SUPPLY 2 is DC Not Present

---

**Related Commands**

power-supply

**show errdisable**

**show {errdisable detect | flap-values | recovery}**

---

<b>Syntax</b>	<b>show errdisable</b>
<b>Description</b>	

---

**errdisable detect |  
flap-values |  
recoveryclock}**

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Shows error disable information.



---

**Examples**

This example shows all information for errdisable.

**PerleSwitch#show errdisable detect<cr>**

ErrDisable Reason	Detection	Mode
link-flap	Disabled	port
bpduguard	Enabled	port
security-violation	Enabled	port
bandwidth-exceeded	Enabled	port
psecure-violation	Enabled	port/vlan

**PerleSwitch#show errdisable flap-values<cr>**

ErrDisable Reason	Flaps	Time (sec)
link-flap	5	10

NewSwitchName#show errdisable re  
NewSwitchName#show errdisable recovery

ErrDisable Reason	Timer Status
link-flap	Enabled
bpduguard	Enabled
security-violation	Enabled
bandwidth-exceeded	Enabled
psecure-violation	Enabled

Timer interval: 30 seconds

Interfaces that will be enabled at the next timeout:

**PerleSwitch#show errdisable recovery<cr>**

ErrDisable Reason	Timer Status
link-flap	Enabled
bpduguard	Enabled
security-violation	Enabled
bandwidth-exceeded	Enabled
psecure-violation	Enabled

Timer interval: 30 seconds

Interfaces that will be enabled at the next timeout:

---

**Related Commands**

*errdisable*

## show etherchannel

```
show {etherchannel [x-x] | [detail] | [port] | [port-channel] | [protocol] |
[summary]}
```

---

<b>Syntax</b>	<b>show etherchannel</b>
<b>Description</b>	

---

```
{etherchannel [
x-x] | [detail] |
[port] |
[port-channel] |
[protocol] |
[summary]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows EtherChannel information.

### Examples

This example shows the summary for etherchannel.

#### PerleSwitch#show etherchannel summary

```
Flags: D - down      P - bundled in port-channel
       I - stand-alone s - suspended
       H - Hot-standby (LACP only)
       R - Layer3     S - Layer2
       U - in use    f - failed to allocate aggregator
```

```
M - not in use, minimum links not met
u - unsuitable for bundling
w - waiting to be aggregated
d - default port
```

```
Number of channel-groups in use: 1
```

```
Number of aggregators:      1
```

```
Group Port-channel Protocol Ports
```

```
-----+-----+-----+-----
1   Po1(SU)   LACP
```

---

**Related Commands***(config-if)#switchport***show facility-alarm****show** {**facility-alarm relay major** | **status**}

---

**Syntax**                    **show facility-alarm**  
**Description**

---

**{facility-alarm  
relay major |**

---

**status}**

---

**Command Default**            None**Command Modes**            PerleSwitch#**Hardware model**            All models

---

**Usage Guidelines**

Shows the facility alarms.

---

**Examples****PerleSwitch>show facility-alarm<cr>**

Source	Severity	Description	Relay	Time
PerleSwitch	MAJOR	1 Temperature above max primary thres	MAJ	May
17 2016 02:38:55				

---

**Related Commands***alarm**(alarm-profile)***show garp****show** {**garp timers**}

---

**Syntax**                    **show garp**  
**Description**

---

**{garp timers}**

---

**Command Default**            None**Command Modes**            PerleSwitch#

---

**Usage Guidelines**

Shows the settings for GARP timers.

---

**Examples**

PerleSwitch#show garp timers,cr>

```
Timer   Timer Value (milliseconds)
Join    200
Leave    600
LeaveAll 10000
```

---

**Related Commands**

*garp*

**show gmrp**

**show** {**gmrp interface** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**]} | {**statistics interface** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**]}

---

<b>Syntax</b>	<b>show gmrp</b>
<b>Description</b>	

---

{**gmrp interface**  
[**fastethernet slot / port-number**] |  
[**gigabitethernet slot / port-number**]}

---

{**statistics interface**  
[**fastethernet slot / port-number**] |  
**gigabitethernet slot / port-number**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Show interface and statistics.

---

**Examples**

This example shows GMRP statistics.

**PerleSwitch# show gmrp statistics<cr>**

```

Leave All Received:      0
Join Empty Received:    0
Join In Received:      0
Leave Empty Received:    0
LeaveIn Received:       0
Empty Received:        0
Leave All Transmitted:  0
Join Empty Transmitted: 0
Join In Transmitted:   0
Leave In Transmitted:   0
Leave Empty Transmitted: 0
Empty Transmitted:     0

```

---

**Related Commands**

*gmrp*

**show gvrp**

**show** {**gvrp interface** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**]} | {**statistics** [**fastethernet slot / port-number**] | [**gigabitethernet slot / port-number**]}

---

Syntax	show gvrp
--------	-----------

Description	
-------------	--

---

```

{gvrp interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot /
port-number]} |

```

---

```

{statistics
[fastethernet slot /
port-number] |
[gigabitethernet
slot /
port-number]}

```

---

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Show interface and statistics.

---

**Examples**

This example shows interface gigabitethernet 1/1 with gvrp enabled.

```
PerleSwitch#show gvrp interface g1/1<cr>
```

Interface	GVRP Status	Dynamic Vlan Creation
G1 1/1	Enabled	Enabled

---

**Related Commands**

[gvrp](#)

**show hosts**

**show** {[hosts](#)}

---

<b>Syntax</b>	<b>show hosts</b>
<b>Description</b>	

---

{[hosts](#)}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Show a list of hosts listed in the host table.

---

**Examples**

This example shows the host table.

```
PerleSwitch#show hosts<cr>
```

Default domain name is perledomain

DNS lookup is enabled

Name Servers are not configured

Host table:

PerleName	172.16.113.77
-----------	---------------

RADIUS_SERVER	172.16.55.88
---------------	--------------

TACACS_SERVER	172.16.55.99
---------------	--------------

---

**Related Commands***hostname***show interfaces**

```
show {interfaces fastethernet slot/port-number | fastethernet slot/port-number
| gigabitethernet slot/port-number | port-channel channel | vlan 1-4094} |
[accounting] | [counters] | [description] | [etherchannel] | [flowcontrol] |
[mtu] | [stats] | [status] | [summary] | [switchport]}
```

---

**Syntax**                    **show interfaces****Description**

```
{interfaces
fastethernet slot /
port-number |
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
| port-channel
channel | vlan
1-4094} |
```

---

**[accounting]** |

---

**[counters]** |

---

**[description]** |

---

**[etherchannel]** |

---

**[flowcontrol]** |

---

**[mtu]** |

---

**[stats]** |

---

**[status]** |

---

**[summary]** |

---

**[switchport]}**

---

**Command Default**                    None

---

**Command Modes**                    PerleSwitch#

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows configuration and status for specified interface or all interfaces.

---

### Examples

This example shows you the output from the show interfaces description command.

**PerleSwitch#show interfaces description<cr>**

Interface	Status	Protocol	Description
VI1	up	up	
VI1000	up	down	
Gi1/1	up	up	
Gi1/2	up	down	
Gi1/3	up	down	
Gi1/4	up	down	
Gi1/5	up	down	
Po1	down	down	portchannel1

This example shows the summary for all interfaces.

**PerleSwitch#show interface summary<cr>**

\*: interface is up

IQD: pkts dropped from input queue

OQD: pkts dropped from output queue

RXBS: rx rate (bits/sec)      RXPS: rx rate (pkts/sec)

TXBS: tx rate (bits/sec)      TXPS: tx rate (pkts/sec)

Interface	IQD	OQD	RXBS	RXPS	TXBS	TXPS
-----						
* Vlan1	0	0	14704.00	10.00	5840.00	5.00
Vlan2	0	0	0.00	0.00	0.00	0.00
Vlan1000	0	0	0.00	0.00	0.00	0.00
* GigabitEthernet1/1	3747	0	16240.00	13.00	6104.00	5.00
GigabitEthernet1/2	0	0	0.00	0.00	0.00	0.00
GigabitEthernet1/3	0	0	0.00	0.00	0.00	0.00
GigabitEthernet1/4	0	0	0.00	0.00	0.00	0.00
GigabitEthernet1/5	0	0	0.00	0.00	0.00	0.00
Port-channel1	0	0	nan	nan	nan	nan

---

### Related Commands

See [Interface configuration](#) to configure switchports.

See [Interface Port Channels](#) to configure port channels.

See [Vlan config mode](#) to configure vlans.

See [Interface line mode](#) to configure console and vty.



## show ip access-list

```
show {ip access-list [1-99] | [1300-1999] | [access-list-name]}
```

Syntax	<b>show ip access-lists</b>
Description	

```
{ip access-list 1-99
| 1300-1999 |
access-list-name}
```

Command Default	None
-----------------	------

Command Modes	PerleSwitch#
---------------	--------------

Hardware model	All models
----------------	------------

### Usage Guidelines

Shows configured access lists on the switch.

### Examples

This example show all access lists on the switch.

```
PerleSwitch#show ip access-lists 50<cr>
```

```
Standard IP access list 50
```

```
10 deny any log
```

### Related Commands

[ip access-list](#)

## show ip arp

```
show {ip arp a.b.c.d | vlan 1-4094}
```

Syntax	<b>show ip</b>
Description	

```
{ip arp a.b.c.d |
vlan 1-4094}
```

Command Default	None
-----------------	------

Command Modes	PerleSwitch#
---------------	--------------

Hardware model	All models
----------------	------------

### Usage Guidelines

Shows arp entries by ip address or vlan.

---

**Examples**

This example will show the arp entry for vlan 1.

```
PerleSwitch#show arp vlan 1<cr>
```

```
PerleName (172.16.113.77) at 00:13:20:92:29:82 ether,PERM on V11
```

---

**Related Commands**

*arp*

**show ip default-gateway**

```
show ip {default-gateway}
```

---

<b>Syntax</b>	<b>show ip default-gateway</b>
<b>Description</b>	

---

**default-gateway**

---

<b>Command Default</b>	None
------------------------	------

---

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Shows the default gateway configured on the switch.

---

**Examples**

This example shows the default gateway for this switch.

```
PerleSwitch#show ip default-gateway<cr>
```

```
172.16.88.99
```

---

**Related Commands**

*ip default-gateway*

**show ip dhcp**

```
show {ip dhcp}
```

---

<b>Syntax</b>	<b>show ip dhcp</b>
<b>Description</b>	

---

**{ip dhcp}**

---

<b>Command Default</b>	None
------------------------	------

---

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Shows configured options for DHCP.

**Examples**

This example will show you the DHCP pool.

**PerleSwitch#show ip shcp pool<cr>**

Pool ip-pool :

```
Total addresses      : 1
Leased addresses     : 1
Excluded addresses   : 1
IP Address           : 172.16.44.33
```

Pool pool-1 :

Pool dhcp-pool :

```
Total addresses      : 254
Leased addresses     : 0
Excluded addresses   : 0
IP Address Range     : 172.17.55.1 - 172.17.55.254
```

---

**Related Commands***ip dhcp***show ip igmp**

```
show ip {igmp snooping detail | groups [count | dynamic count | user count
| [vlan vlan_interface_number | mrouter vlan 1-4094 | querier detail | vlan
1-4094] | vlan 1-4094 detail}
```

---

**Syntax** **show ip igmp snooping****Description**

```
{igmp snooping
detail | groups
[count | dynamic
count | user
count | [vlan
vlan_interface_
number | mrouter
vlan 1-4094 |
querier detail |
vlan 1-4094] |
vlan 1-4094 detail}
```

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

**Usage Guidelines****Command Options:**

Shows all global details for IGMP snooping configuration and all VLANS.

Count shows total number of multicast groups.

Dynamic count shows VLAN, Group, Type, Version and Port list

VLAN interface number.

**Examples**

This example shows snooping details for all configured vlans.

**PerleSwitch>show ip igmp snooping detail<cr>**

Global IGMP Snooping configuration:

```
-----  
IGMP snooping           : Enabled  
Report suppression      : Enabled  
TCN solicit query      : Disabled  
TCN flood query count   : 3  
Robustness variable     : 2  
Last member query count : 2  
Last member query interval : 1000
```

Vlan 0:

```
-----  
IGMP snooping           : Enabled  
IGMPv2 immediate leave  : Disabled
```

Vlan 1:

```
-----  
IGMP snooping           : Enabled  
IGMPv2 immediate leave  : Disabled
```

Vlan 2:

```
-----  
IGMP snooping           : Enabled  
IGMPv2 immediate leave  : Disabled
```

Vlan 3:

```
-----  
IGMP snooping           : Enabled  
IGMPv2 immediate leave  : Disabled
```

Vlan 4:

```
-----  
IGMP snooping           : Enabled  
IGMPv2 immediate leave  : Disabled
```

Vlan 5:

```
-----  
IGMP snooping           : Enabled  
IGMPv2 immediate leave  : Disabled
```

Vlan 1000:

```
-----  
IGMP snooping           : Enabled  
IGMPv2 immediate leave  : Disabled
```

---

**Related Commands***clear ip igmp***show ip service****address-conflict-detection status**

Syntax	<b>address-conflict-detection status</b>
Description	

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

<b>Hardware model</b>	All models
-----------------------	------------

**Usage Guidelines**

Shows whether the feature is enabled or disabled.

If enabled, it will indicate if an IP conflict exists and if it does, will provide information about the conflict.

**Examples****PerleSwitch#show ip service address-conflict-detection status**

IP address conflict detection is enabled.  
No conflict detected.

**PerleSwitch#show ip service address-conflict-detection status**

IP address conflict detection is enabled.  
IP address conflict detected!

VLAN: 1

IP address: 172.18.22.1

MAC address: D485.6417.7926

Port: GigabitEthernet 1/5

Time: April 27, 2018 14:24:21

**Related Commands***ip service**show facility-alarm*

---

## show ip ssh

**show** {**ip ssh**}

Syntax	show ip ssh
Description	

{**ip ssh**}

**Command Default** None

**Command Modes** PerleSwitch#

**Hardware model** All models

### Usage Guidelines

Shows information on ssh parameters.

### Examples

This example shows the values for ssh.

**PerleSwitch>show ip ssh**

SSH version: 1.99

Authentication timeout: 120 seconds

Authentication retries: 3

SSH public key:

ssh-rsa

```
AAAAB3NzaC1yc2EAAAADAQABAAQCAQDXSoVYch1Elp1AO2z/Px17m3w
fuXBI/ZxTqvS7SQCJxWSLNZGphXN5VE9SGsp9D5wLAhIFrZKNc44T+O79A1
N3oCPhKnuxq24j444ybxOnF8Ttxttrib8fpfDH8pNstYIIX4QPvUUeTPaEc4QkJ+X
TI+hArI4PK1VYCKsijKn6sucP0nqNlcQsGN5C0ST/SwreR/U4azwmaA+24+k/v1N
yBFFXecWp5gFvx8/7vsJMousiOmbvtjxQyUZJKkkuudWvNxkrMs0QmcUsj7nz5
ODGwD2K55LVocKOzWqOQQN7R9w5LMF4Lyc7DIz5j81BUQpHpAPdIdyTj7J
UFlrnOF3NgLLmaVbqbUstrG3x5AzOQLW+AcpwPwnnt/BCIjaj1MAOH8NFCbB
AepKaY+BizlfJLtCDE0yZ3XO7c6kcv/qN07acC5edTCRyzDGqJ/1ronjtQYppPDO
5YaxQ4UfPbedC3OghJJvwSegq45bLuhYhIO+kLgPNe+jVKWXeckfjiePL2EYX0q
SdJQ+CWvy+qQS12+0HkuzKnEnT+t9XKqqvIPIWtxIo7vxfhqBP+Y+I5CzHxqOP
4nbMvUnIDN3blakRAp7wiTSeU7MbGi/c8qdjgSnRpIwW0Vcu4CHf6dvP8+wjf4L
sJPpyzW33+UakZLJST/ratP1OrdWn1mWwSkxi+kWCQ==
```

### Related Commands

[\*telnet\*](#)

## show ipv6

**show ipv6** {**interface** [**vlan** *vlan\_interface\_number*]} | {**mld snooping address** [**count**] | [**detail**] | [**mrouter vlan** *1-4094* **querier detail**] | [**vlan** *1-4094*]} | {**neighbors** **vlan** *1-4094* | *hostname/x:x:x::x*}

<b>Syntax</b>	<b>show ipv6</b>
<b>Description</b>	
	<pre>{interface [vlan vlan_interface_number]}   {mld snooping address [count]   [detail]   [mrouter vlan 1-4094 querier detail]   [vlan 1-4094]}   {[neighbors vlan 1-4094   hostname/x:x:x:: x]}</pre>
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	Shows details for IPv6.



---

## Examples

This example shows the details for IPv6 mld snooping.

**PerleSwitch#show ipv6 mld snooping detail<cr>**

Global MLD Snooping configuration:

```

-----
MLD snooping          : Disabled
Listener message suppression : Disabled
TCN solicit query    : Disabled
TCN flood query count : 2
Robustness variable  : 2
Last listener query count : 2
Last listener query interval : 1000

```

Vlan 1:

```

-----
MLD snooping          : Enabled
MLD immediate leave   : Disabled
Topology change       : No

```

Vlan 2:

```

-----
MLD snooping          : Enabled
MLD immediate leave   : Disabled
Topology change       : No

```

Vlan 5:

```

-----
MLD snooping          : Enabled
MLD immediate leave   : Disabled
Topology change       : No

```

---

## Related Commands

[ipv6](#)

## show lacp

**show** {[lacp 1-2](#) | [counters](#) | [internal](#) | [neighbor](#) | [sys-id](#)}

---

Syntax	show lacp
Description	

---

```

{lacp 1-2 |
counters | internal
| neighbor |
sys-id}

```

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

**Usage Guidelines**

**Command Options:**

- 1-2** - port channel interfaces
- counters** - traffic information
- internal** - internal information
- neighbor** - neighbor information
- sys-id** - LACP system id

**Examples**

**This example shows LACP neighbors.**

**PerleSwitch#show lacp neighbor<cr>**

Flags: S - Device is requesting Slow LACPDUs  
 F - Device is requesting Fast LACPDUs  
 A - Device is in Active mode      P - Device is in Passive mode

Channel-Group 1 neighbors

Partner's information:

Port	LACP port	Priority	Dev ID	Admin key	Oper Key	Port Number	Port State
------	-----------	----------	--------	-----------	----------	-------------	------------

**Related Commands**

*lacp*

**show line**

**show line 0-0**

<b>Syntax</b>	<b>show line</b>
<b>Description</b>	

**line 0-0**

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

**Usage Guidelines**

Shows configuration for line.

---

**Examples**

**PerleSwitch> show line console 0 <cr>**

Baud rate (TX/RX) is 9600/9600. parity none, 1 stop bit, 8 data bits

This example shows you how to clear the alert table for a specified interface.

**PerleSwitch# show line <cr>**

con0: Active

vty0: Active

vty1: Active

vty2: Active

vty3: Active

vty4: Inactive

vty5: Active

vty6: Inactive

vty7: Active

vty8: Active

vty9: Active

vty10: Inactive

vty11: Inactive

vty12: Inactive

vty13: Inactive

vty14: Inactive

vty15: Inactive

---

**Related Commands**

*terminal*

**show lldp**

**show lldp** {[*interface fastethernet slot / port-number*] | [*gigabitethernet slot/ port-number*] | [*neighbors*] | [*traffic summary*] | [*mrouter vlan vlan\_interface\_number*]}

---

**Syntax**                    **show lldp****Description**

```
{[interface  
fastethernet slot /  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [neighbors] |  
[traffic summary]  
|| [mrouter vlan  
vlan_interface_nu  
mber]}
```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

The show lldp command is used as a network management tool to. Displays global information, such as frequency of transmissions, the hold time for packets being sent, and the delay time before LLDP initializes on an interface..

---

## Examples

This example shows the lldp traffic summary for

**PerleSwitch# show lldp traffic summary<cr>**

LLDP Global statistics:

-----  
Summary of stats:

Frames Transmitted: 222000  
Frames Received: 3000020  
Frames Discarded: 0  
TLVs Unrecognized: 0  
MSAP Ageouts: 2  
MSAP Inserts: 1  
MSAP Deletes: 0

-----  
This example shows interface gigabitEthernet 1/1 lldp information

**show lldp interface gigabitEthernet 1/1<cr>**

GigabitEthernet1/1:

Tx: enabled

Rx: enabled

Maximum Neighbors: 10

TLVs Advertised:

port-description, system-name, system-description,  
system-capabilities, management-address

port-vlan, vlan-name

mac-phy-cfg, power-management, link-aggregate, max-frame-size

This example shows all lldp traffic.

**PerleSwitch>show lldp traffic<cr>**

-----  
LLDP statistics:

-----  
Interface: Gi1/1  
Frames Transmitted: 8  
Frames Received: 45  
Frames Discarded: 0  
TLVs Unrecognized: 62  
MSAP Ageouts: 0  
MSAP Inserts: 5  
MSAP Deletes: 0

---

## Related Commands

## show location

```
show location {civic-location [identifier identifier-string] | interface
[fastethernet slot / port-number] | [gigabitethernet slot / port-number] ||
civic-location [static]} | {[elin-location identifier identifier-string interface
[fastethernet slot / port-number] | [gigabitethernet slot / port-number] |
[static]}
```

---

Syntax	<b>show location</b>
Description	

---

```
{civic-location
[identifier
identifier-string] |
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot / port-number]
| civic-location
[static]} |
```

---

```
{[elin-location
identifier
identifier-string
interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot / port-number]
| [static]}
```

---

Command Default	None
Command Modes	PerleSwitch#
Hardware model	All models

---

### Usage Guidelines

Show location civic and elin information.

---

**Examples****PerleSwitch>show location civic-location static<cr>**

Civic location information

-----  
Identifier : civic-tst  
Country :-----  
Identifier : civic1  
Country :-----  
Identifier : civictest  
Country :-----  
Identifier : testcivic  
Country :  
City : toronto  
Additional location info : mr-peters  
Building : maincampus

---

**Related Commands***location***show logging****show {logging}**

---

<b>Syntax</b>	<b>show logging</b>
<b>Description</b>	

---

**{logging}**

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Shows logging messages.

---

## Examples

This example show some logging messages you may see on the switch.

**PerleSwitch#show logging<cr>**

Syslog logging: enabled (7391 messages processed, 0 messages rate-limited, 6854 overruns)

Console logging: level debugging, 284 messges logged

Monitor logging: level debugging, 0 messges logged

Logging to:

Buffer logging: level debugging, 284 messges logged

File logging: file flash:/new/,  
max size 4096, min size 2048,  
level notifications, 24 messges logged

Trap logging: level informational

Logging to 172.16.55.88 (udp port 514, link up),  
284 messges lines logged

Logging to 172.16.55.88 (tcp port 601, link down),  
284 messges lines logged  
0 messges lines failed

Log Buffer (4096 bytes):

00:01:06: %ALARMGR-5: ENVMON\_PWR\_OK: POWER SUPPLY 1 is OK

00:01:06: %ALARMGR-3: ENVMON\_PWR\_FAIL: POWER SUPPLY 2 is Not Present

00:01:07: %ALARMGR-5: ENVMON\_TEMPERATURE\_OK: Internal temperature sensor has reached normal operating conditions

00:01:08: %PINIT-6: Cannot perform Boot Host DHCP process. All Vlans are manually configured for addresses.

00:01:10: %PINIT-3: Error Couldn't connect to server Connection refused on vlan1000

00:01:10: %NTPD-3: Unable to listen for broadcasts, no broadcast interfaces available

00:01:17: %PINIT-6: IP Address of Vlan 1 assigned by Configuration (172.16.113.77/16)

00:01:17: %PINIT-6: IP Address of Vlan 1000 assigned by Configuration (169.254.0.1/29)

00:08:35: %IFMGR-5: LINK\_UPDOWN: Line protocol on Interface GigabitEthernet1/3, changed state to up

00:08:35: %IFMGR-5: LINK\_UPDOWN: Line protocol on Interface Vlan1, changed state to up

---

## Related Commands

*clear logging*

*logging*



## show mab interface

```
show mab interface {interface [all] | [fastethernet slot / port-number] |
[gigabitethernet slot / port-number] | radius statistics [interface fastethernet
slot / port-number] | [gigabitethernet slot / port-number]}
```

---

Syntax	<b>show mab interface</b>
Description	

---

```
{interface [all] |
[fastethernet slot /
port-number] |
[gigabitethernet
slot / port-number]
| radius statistics
[interface
fastethernet slot /
port-number] |
[gigabitethernet
slot /
port-number]}
```

---

Command Default	None
Command Modes	PerleSwitch#
Hardware model	All models

---

### Usage Guidelines

Show MAB (Mac Authentication Bypass) for the interfaces or RADIUS.

### Examples

This example shows the MAB for interface g1/1.

```
PerleSwitch#show mab interface g1/1<cr>
```

### Related Commands

---

## show mac address-table

```
show {mac address-table [address h.h.h] interface [fastethernet slot /
port-number] | [gigabitethernet slot / port-number] | [port-channel channel]}
notifications mac-move | [vlan vlan_interface_number]} | {[aging-time]} |
{[config-static address h.h.h] | [interface [gigabitethernet slot / port-number]
| [fastethernet slot / port-number] | [portchannel port-channel] | [vlan
vlan_interface_number]} | {[dynamic address h.h.h] interface [gigabitethernet
slot / port-number] | [fastethernet slot / port-number] | [portchannel
```

*port-channel*] | [vlan *vlan\_interface\_number*]} | {[ interface [gigabitethernet *slot/port-number*] | [fastethernet *slot/port-number*] | [portchannel *port-channel*]} | {learning [vlan *vlan\_interface\_number*] | [fastethernet *slot/port-number*] | [gigabitethernet *slot/port-number*] | [port-channel *channel*]} | {[move update]} | {[multicast vlan *vlan\_interface\_number*]} | {[notification]} | {[quick-disconnect interface [fastethernet *slot/port-number*]] | [gigabitethernet *slot/port-number*] | [port-channel *channel*]} | {[secure address *h.h.h* interface [fastethernet *slot/port-number*] | [gigabitethernet *slot/port-number*] | [port-channel *channel*] vlan *vlan\_interface\_number*]} | {[static address *h.h.h* interface [fastethernet *slot/port-number*] | [gigabitethernet *slot/port-number*] | [port-channel *channel*] vlan *vlan\_interface\_number*]} | {[vlan *vlan\_interface\_number*]} }

---

Syntax **show mac address table**

Description

---

{mac  
address-table  
[address *h.h.h*]  
interface  
[fastethernet *slot/port-number*] |  
[gigabitethernet  
*slot/port-number*]  
| [port-channel  
*channel*]}  
notifications  
mac-move | [vlan  
*vlan\_interface\_number*]} |

---

{[aging-time]} |

---

{[config-static  
address *h.h.h*] |  
[interface  
[gigabitethernet  
*slot/port-number*]  
| [fastethernet  
*slot/port-number*]  
| [portchannel  
*port-channel*] |  
[vlan  
*vlan\_interface\_number*]} |

---

```
{[dynamic address  
h.h.h] interface  
[gigabitethernet  
slot/port-number]  
| [fastethernet  
slot/port-number]  
| [portchannel  
port-channel] |  
[vlan  
vlan_interface_nu  
mber]] |
```

---

```
[interface  
gigabitethernet  
slot/port-number]  
| [fastethernet  
slot/port-number]  
| [portchannel  
port-channel]] |
```

---

```
{learning [vlan  
vlan_interface_nu  
mber] |  
[fastethernet slot/  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [port-channel  
channel]] |
```

---

```
{[move update]] |
```

---

```
{[notification]] |
```

---

```
{[quick-disconnect  
interface  
[fastethernet slot/  
port-number] |  
[gigabitethernet  
slot/port-number]  
| [port-channel  
channel]] |
```

---

```

{{secure address
h.h.h interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot/port-number]
| [port-channel
channel] | [vlan
vlan_interface_
number]} |

```

---

```

{{static address
h.h.h interface
[fastethernet slot /
port-number] |
[gigabitethernet
slot/port-number]
| [port-channel
channel] vlan
vlan_interface_
number}} |

```

---

```

{{vlan
vlan_interface_nu
mber}}

```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

#### Usage Guidelines

Shows the mac address table.

---

## Examples

**PerleSwitch#show mac address-table move update <cr>**

Default/Current settings: Rcv Off/Off, Xmt Off/Off  
 Rcv packet count : 0  
 Rcv last src-mac-address : 0000:0000:0000  
 Rcv last switch-ID : 0000:0000:0000  
 Xmt packet count : 0

**PerleSwitch#show mac address-table interface gigabitEthernet 1/1<cr>**

Mac Address Table

```
-----
Vlan  Mac Address  Type  Ports
----  -
1  0100.5e00.0182  STATIC  Gi1/1 Gi1/2 Gi1/3 Gi1/4 Gi1/5
1  0100.5e00.0183  STATIC  Gi1/1 Gi1/2 Gi1/3 Gi1/4 Gi1/5
1  0100.5e00.0184  STATIC  Gi1/1 Gi1/2 Gi1/3 Gi1/4 Gi1/5
Total Mac Addresses for this criterion: 3
```

**PerleSwitch#show mac address-table learning vlan 1<cr>**

```
Interface  Learning Status
-----  -
Vlan 0001  Enabled
```

**PerleSwitch#show mac address-table address 0100.5e00.0181<cr>**

Mac Address Table

```
-----
Vlan  Mac Address  Type  Ports
----  -
1  0100.5e00.0181  STATIC  CPU
Total Mac Addresses for this criterion: 1
```

---

## Related Commands

*clear mac*

## show mls

**show** {mls qos [interface fastethernet slot / port-number] | [gigabitethernet slot / port-number]} | {maps}

---

**Syntax**                    **show mls**  
**Description**

---

```
{mls qos [interface  
fastethernet slot /  
port-number] |  
[gigabitethernet  
slot /  
port-number]} |
```

---

```
{maps}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

#### Command Options:

**qos interface** - displays configured values for the interfaces.

**maps** - displays QoS mapping information

---

## Examples

This example show mls configuration for all interfaces.

**PerleSwitch#show mls interface<cr>**

```
GigabitEthernet1/1
trust state: CoS
trust mode: CoS
trust enabled flag: ena
CoS override: dis
default CoS: 0
```

```
GigabitEthernet1/2
trust state: DSCP
trust mode: DSCP
trust enabled flag: ena
CoS override: ena
default CoS: 0
```

```
GigabitEthernet1/3
trust state: CoS
trust mode: CoS
trust enabled flag: ena
CoS override: dis
default CoS: 7
```

```
GigabitEthernet1/4
trust state: CoS
trust mode: CoS
trust enabled flag: ena
CoS override: dis
default CoS: 7
```

```
GigabitEthernet1/5
trust state: CoS
trust mode: CoS
trust enabled flag: ena
CoS override: dis
default CoS: 0
```

---

## Related Commands

*fair-queue*

*mls*

## show monitor

### show monitor

---

<b>Syntax</b>	<b>show monitor</b>
<b>Description</b>	

---

**monitor**

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

#### Usage Guidelines

Shows source and destination of ports that are being mirrored.

---

#### Examples

This example shows the ports that are being mirrored.

**PerleSwitch#show monitor<cr>**

Session 1

Destination

Source

Port :Gi1/1

---

#### Related Commands

*monitor*



## show mrp

**show mrp** {ports | ring}

---

**Syntax** **show mrp**

**Description**

---

**mrp** {ports | ring}

---

**Command Default** None

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

### Usage Guidelines

Shows Port name and state of the ring.

---

### Examples

This example shows the status for RING-ID: 1

**PerleSwitch#show mrp ports<cr>**

```
Portname    Status
n/a         n/a
n/a         n/a
```

This example shows information for MRP ring 1

**PerleSwitch#show mrp ring<cr>**

MRP ring 1

```
Profile   : 200 ms
Mode      : Manager
Priority   : 32768
VLAN ID   : 1
Domain Name : ids-name
Domain ID  : ffffffff-ffff-ffff-ffff-ffffffffffff
```

```
Topology Change Request Interval : 10ms
Topology Change Repeat Count     : 3
Short Test Frame Interval        : 10ms
Default Test Frame Interval      : 20ms
Test Monitoring Interval Count    : 3
Test Monitoring Extended Interval Count : N/A
```

---

## Related Commands

### show network-policy

**show** {**network-policy profile** *1-4294967295*}

---

<b>Syntax</b>	<b>show network-policy</b>
<b>Description</b>	

---

{**network-policy profile**  
*1-4294967295*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Shows configured network policies.

---

### Examples

This example shows network policy profiles.

**PerleSwitch> show network-policy profile<cr>**

```
Network Policy Profile 1
  voice vlan 50 cos 2 dscp 50
  voice-signaling vlan dot1p
Interface:
  Gi1/2
Network Policy Profile 2
  voice vlan dot1p
  voice-signaling vlan untagged
Interface:
  none
Network Policy Profile 3
  voice vlan dot1p cos 1
Interface:
  Gi1/1
```

---

## Related Commands

## show ntp

**show** {ntp associations | status}

<b>Syntax</b>	<b>show ntp</b>
<b>Description</b>	

{associations | status}

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

<b>Hardware model</b>	All models
-----------------------	------------

### Usage Guidelines

Shows ntp associations and status.

### Examples

**PerleSwitch#show ntp associations<cr>**

```

remote      refid      st t when poll reach  delay  offset jitter
=====
172.16.55.77 .INIT.     16 u - 1024  0  0.000  0.000  0.000
172.16.113.55 .INIT.     16 s - 32   0  0.000  0.000  0.000

```

**PerleSwitch#show ntp status**

Clock is not synchronized, stratum 16, no reference clock

Precision is 2\*\*-18 s

Reference time is 00000000.00000000 (Thu, Feb 7 2036 2:28:16.000)

Clock offset is 0.000000 msec, root delay is 0.000 msec

Root dispersion is 1265.970 msec

System poll interval is 8 s

### Related Commands

[\(config-network-policy\)](#)

## show p-ring

**show** {p-ring}

<b>Syntax</b>	<b>show p-ring</b>
<b>Description</b>	

{p-ring}

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Show status for p-ring.	
<b>Examples</b>	
<b>This example shows the status of the p-ring.</b>	
<b>PerleSwitch#show p-ring&lt;cr&gt;</b>	
Mode = Manager	
Ring Port 1 Gi1/1	
Ring Port 2 Gi1/2	
Current Ring State = Open	
Ring Port 1 State = Forwarding	
Ring Port 2 State = Blocked	
<b>Related Commands</b>	

## show port-security

**show port-security** {*gigabitethernet slot / port-number*} | *fastethernet slot / port-number* | *port-channel channel address vlan interface\_number* | *vlan interface\_number*}

<b>Syntax</b>	<b>show port-security</b>
<b>Description</b>	
<p>{<i>gigabitethernet slot / port-number</i>}   <i>fastethernet slot / port-number</i>   <i>port-channel channel address vlan interface_number</i>   <i>vlan interface_number</i>}</p>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

**Usage Guidelines** Shows all port security status or status by interface.

---

### Examples

This example shows port security status on the switch.

**PerleSwitch#show port-security<cr>**

```
-----
Secure Port  MaxSecureAddr  CurrentAddr  SecurityViolation  Security Action
          1                0             0                   0                shutdown
Total Addresses in System : 0
Max Addresses limit in System : 8192
```

---

### Related Commands

## show processes

**show {processes}**

---

**Syntax** **show processes**

**Description**

**{processes}**

---

**Command Default** None

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

### Usage Guidelines

Show processes running on the switch.

---

**Examples**

This command shows the processes running on the switch.

**PerleSwitch#show processes<cr>**

PID	USER	VSZ	STAT	COMMAND
1	root	1708	S	init [5]
2	root	0	SW	[kthreadd]
3	root	0	SW	[ksoftirqd/0]
5	root	0	SW<	[kworker/0:0H]
6	root	0	SW	[kworker/u:0]
7	root	0	SW<	[kworker/u:0H]
8	root	0	SW	[watchdog/0]
9	root	0	SW<	[khelper]
10	root	0	SW	[kdevtmpfs]
11	root	0	SW<	[netns]
12	root	0	SW	[kworker/u:1]
210	root	0	SW	[bdi-default]
211	root	0	SW<	[kintegrityd]
213	root	0	SW<	[kblockd]
296	root	0	SW	[khubd]
308	root	0	SW	[irq/86-44e0b000]
328	root	0	SW	[irq/87-4802a000]
426	root	0	SW<	[MC]
427	root	0	SW<	[rpciod]
436	root	0	SW	[khungtaskd]
441	root	0	SW	[kswapd0]

---

**Related Commands**

## show profinet

**show profinet** {sessions | status | alarms | mrp ring}

---

Syntax	show profinet
Description	
<b>sessions</b>	Information on active Profinet sessions
<b>status</b>	Information on the general status of Profinet
<b>alarms</b>	Information on global and port specific alarms
<b>mrp ring</b>	Information on Profinet MRP. IDS supports one mrp ring.
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

This command provides information on the Profinet feature. It includes general protocol status information, Profinet session specific information, Profinet alarm information as well as information on MRP ring when being managed via the Profinet protocol.

---

**Examples**

To display the Profinet alarm information.

PerleSwitch#show profinet alarms&lt;cr&gt;

Monitoring of Profinet Switch Alarms

RPS alarm: Off

Primary Temperature Alarm: Off

Secondary Temperature Alarm: Off

Major Relay Alarm: On

SDCard Alarm: On

Monitoring of Profinet Port Alarms

Port	Link Fault	Not Forwarding	Not Operating
Gi1/1	Off	On	Off
Gi1/2	Off	Off	Off
Gi1/3	Off	Off	Off
Gi1/4	Off	Off	Off
Gi1/5	Off	Off	Off
Gi1/6	On	Off	Off
Gi1/7	Off	Off	Off
Gi1/8	Off	Off	Off
Gi1/9	Off	Off	Off

---

**Related Commands***profinet***show ptp**

```
show {ptp clock} | {foreign-master-record} | {parent} | {port} |
{fastethernet slot / port-number | gigabitethernet slot / port-number
time-properties}
```

---

Syntax	<b>show ptp</b>
Description	

---

**{ptp clock}** |**{foreign-master-re  
cord}** |**{parent}** |**{port}** |



---

```
{fastethernet slot /
port-number |
gigabitethernet
slot/port-number
time-properties}
```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

Shows options for PTP.

### Examples

This example shows the ptp clock for PTPv2.

```
PerleSwitch#show ptp clock<cr>
```

```
PTP Version 2: Mode: boundary peer-to-peer
```

```
=====
```

#### Default Data Set

```
-----
```

```
twoStepFlag      :1
slaveOnly        :0
numberPorts      :5
priority1        :128
clockClass       :248
clockAccuracy    :0xfe
offsetScaledLogVariance:0xffff
priority2        :128
clockIdentity    :68c90b.ffe.c158d8
domainNumber     :0
```

#### Current Data Set

```
-----
```

```
stepsRemoved    :0
offsetFromMaster:0.0
meanPathDelay   :0.0
```

---

### Related Commands

[\(config-ptp-v1\)](#)

[\(config-ptp-v2\)](#)

## show radius

```
show {radius statistics details}
```

---

<b>Syntax</b>	<b>show radius</b>
<b>Description</b>	
<b>{radius statistics details}</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

**Usage Guidelines**  
Show RADIUS statistics and details.

---

**Examples**  
This example shows the statistics for your TACACS server.  
**PerleSwitch#show radius statistics<cr>**  
All:

	Auth.	Acct.
Requests :	10	10
Responses:	5	5
Access Rejects:	0	0

---

**Related Commands**  
*clear radius statistics*  
*show radius*

## show reload

**show {reload}**

---

<b>Syntax</b>	<b>show reload</b>
<b>Description</b>	
<b>{reload}</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

**Usage Guidelines**  
Shows you whether there are any reloads scheduled.

---

**Examples**

This command shows you the scheduled reloads for the switch.

**PerleSwitch#show reload<cr>**

Reload scheduled for 22:30 summer-test Wed June 01 2016 ( in 4 hours and 20 minutes) on console.

---

**Related Commands**

*reload*

*clock*

**show running-config**

**show** {**running-config** [**all**]}

---

<b>Syntax</b>	<b>show running-config</b>
---------------	----------------------------

<b>Description</b>	
--------------------	--

---

<b>{running-config [all]}</b>	
-----------------------------------	--

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Shows the current configuration running on the switch. To make this configuration permanent you must copy this configuration to the startup configuration.

### Examples

This example show running-config.

**PerleSwitch#show running config<cr>**

```
Building running-config . . .
!
!
version 0.4.B530
!
! "sdm prefer ..." must appear before any other configuration commands.
sdm prefer dual-ipv4-and-ipv6 default
!
!
service timestamps log uptime
!
hostname test
enable secret 5 $1$vJYr$FaK8jDwVKeqI99OI3oGUe0
!
boot host dhcp
!
logging file flash:lynlog
no logging console
!
username test
username testlockout secret 5 $1$z7ba$hMff8c0yPbhG3e5F6IMSQ.
username test2 secret 5 $1$xn3M$UmeG0oh8ZrCQCAhD0zBAR0
.....more
```

### Related Commands

*[show startup-config](#)*

## show scada modbus

**tcp server** {<cr> | **connections**}

---

<b>Syntax</b>	<b>modbus tcp server</b>
<b>Description</b>	

---

<b>&lt;cr&gt;</b>	Display generic Modbus info and statistics.
<b>connections</b>	Display information on all Modbus connections.

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Displays information on the Modbus Server feature.

---

**Examples**

A sample output of the Modbus server information command.

**PerleSwitch#showscada modbus tcp server<cr>**

The Modbus TCP server is enabled:

Listening on TCP port 502, 1 maximum simultaneous connection.

Client connection totals:

Current connections: 0

Total accepted connections: 0

Connection errors: 0

Closed connections: 0

Message totals:

Received commands: 0

Sent responses: 0

Sent exceptions: 0

A sample output of the Modbus server connection command.

**PerleSwitch#show scada modbus tcp server connections<cr>**

The Modbus TCP server is enabled:

Listening on TCP port 502, 1 maximum simultaneous connection.

There are 0 client connections to the Modbus TCP server.

---

**Related Commands**

*scada modbus*

*clear scada modbus*

**show sdm**

**show {sdm prefer}**

---

Syntax	show sdm
Description	

---

**{sdm prefer}**

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Displays whether the switch is running IPv4 or IPv6 or both protocols on this switch.

---

**Examples**

**This example shows the current template for sdm.**

**PerleSwitch#show sdm prefer<cr>**

The current template is 'dual-ipv4-and-ipv6 default' template

---

**Related Command**

*sdm*

**show snmp**

**show** {**snmp** [**community**] | [**contact**] | [**context**] | [**engineid**] | [**group**] | [**host**] | [**location**] | [**user**] | [**view**]}

---

<b>Syntax</b>	<b>show snmp</b>
---------------	------------------

**Description**

{**snmp**  
[**community**] |  
[**contact**] |  
[**context**] |  
[**engineid**] |  
[**group**] | [**host**] |  
[**location**] | [**user**]  
| [**view**]}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Shows configured options for SNMP.

---

**Examples**

This example show the configured options for SNMP.

**PerleSwitch#show snmp<cr>**

Contact: Office

Location:warehouse

SNMP agent enabled.

---

## Related Commands

### show spanning-tree

**show** {**spanning-tree** [**active**] | [**bridge**] | [**detail**] | **fastethernet** *slot / port-number* | **gigabitethernet** *slot / port-number* | **mst** *mst-instance-list configuration* | **detail** | **interface** | **root** | **vlan** *vlan\_interface\_number/range*}

---

<b>Syntax</b>	<b>show spanning-tree</b>
<b>Description</b>	

---

```
{spanning-tree
[active] |
[bridge] | [detail]
| fastethernet slot /
port-number |
gigabitethernet
slot / port-number
| mst
mst-instance-list
configuration |
detail | interface |
root | vlan
vlan_interface_number/range}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

#### Usage Guidelines

Shows spanning tree details.

---

**Examples**

This example shows active spanning trees.

**PerleSwitch#show spanning-tree ctive<cr>**

VLAN 1

Spanning tree enabled protocol rstp

Root ID Priority 32768

Address 80C1.6ED6.6C90

Cost 2000000

Port 1 (GigabitEthernet1/3)

Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32768

Address 68C9.0BC1.58D8

Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Aging Time 200000 sec

Interface Role Sts Cost Prio.Nbr Type

-----

Gi1/1 Root forw 2000000 128.1 auto

---

**Related Commands**

[\*spanning-tree\*](#)

**show ssh**

**{ssh}**

---

**Syntax** **show ssh****Description**

**{ssh}**

---

**Command Default** None

---

**Command Modes** PerleSwitch>

---

**Hardware model** All models

---

**Usage Guidelines**

Show users connected via ssh.

---

**Examples**

This example show which users are connected.

**PerleSwitch>show ssh<cr>**

Line	User	Host	Idle	Location
1 vty 0	admin	idle	00:28:26	172.16.113.31
2 vty 1	admin	idle	00:00:03	172.16.113.31



---

**Related Commands***ip ssh**clear line***show startup-config****show** {startup-config}

---

**Syntax** **show startup-config****Description****{startup-config}**

---

**Command Default** None

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

**Usage Guidelines**

This will be the configuration that the switch uses when it boots up.

---

**Examples**

This example show startup config.

**PerleSwitch#show startup config<cr>**

```

!
!
version 0.4.B530
!
! "sdm prefer ..." must appear before any other configuration commands.
sdm prefer dual-ipv4-and-ipv6 default
!
!
service timestamps log uptime
!
hostname test
enable secret 5 $1$vJYr$FaK8jDwVKeqI99OI3oGUe0
!
boot host dhcp
!
logging file flash:lynlog
no logging console
!
username test
username testlockout secret 5 $1$z7ba$hMff8c0yPbhG3e5F6IMSQ.
username test2 secret 5 $1$xn3M$UmeG0oh8ZrCQCAhD0zBAR0
username lyn
username nopassword
username perle1 privilege 15 secret 5 $1$VMP9$k9RU81B0T25lgZQcaho3w1
.....more

```

---

**Related Commands****show storm-control**

**show** {storm-control}

---

**Syntax** **show storm-control****Description****{storm-control}**

---

**Command Default** None

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

**Usage Guidelines**

Shows storm control on all interfaces.

---

**Examples**

**This example shows storm control on all interfaces.**

**PerleSwitch#show storm-control<cr>**

Interface	Port State	Ingress Limit	Egress Limit
Gi1/1	Forwarding	Disabled	50 %
Gi1/2	Blocking	Disabled	Disabled
Gi1/3	Forwarding	Disabled	Disabled
Gi1/4	Blocking	Disabled	Disabled
Gi1/5	Forwarding	Disabled	Disabled

---

**Related Commands**

*(config-if)#storm-control*

**show sysinfo**

**show** {sysinfo}

---

**Syntax** **show sysinfo****Description****{sysinfo}**

---

**Command Default** None

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

**Usage Guidelines**

Shows system information.

---

## Examples

This example shows you the output from the sysinfo command.

**PerleSwitch#show sysinfo<cr>**

```

----- show sysinfo -----

Last Alarm ..... No Alarm

System Description..... Perle Managed Switch
System Name..... test
System Location.....
System Contact.....

System Up Time..... 1 hour 28 minutes 29 seconds
System Date and Time (local time zone)..... 2016-06-01 17:50:58
System IP Address..... 172.16.113.77
Boot Software Release..... V1.01B
Boot Software Build Date..... Nov 24 2015 - 11:58:07

Software Feature Set .....All models
Running Software Release..... 0.4.B530
Running Software Build Date..... Wed Jun 01 15:20:59
summer-test 2016

Current Software Release..... 0.4.B530
Current Software Build Date..... Wed Jun 01 15:20:59
summer-test 2016

Backup Software Release..... 0.4.B530
Backup Software Build Date..... Tue May 31 12:58:21
summer-test 2016

Hardware Revision..... 1.00
Model Name..... IDS-305G-CMD2
Part Number..... 07012950
Serial Number..... 123412341234
Base MAC Address..... 68:c9:0b:c1:58:d8

Startup-Configuration state..... Not in Sync with
Running-configuration

Power Supply P1, State..... Good
Power Supply P2, State..... Absent
more .....
```

---

**Related Commands***show processes***show system****show system** {mtu}

---

**Syntax** **show system****Description****{mtu}**

---

**Command Default** None

---

**Command Modes** PerleSystem>

---

**Hardware model** All models

---

**Usage Guidelines**

---

**Examples**

This example shows the setting on the switch for mtu.

**PerleSwitch>show system mtu<cr>**

System mtu: jumbo

---

**Related Commands***system***show tacacs+****show** {tacacs+ statistics details}

---

**Syntax** **show tacacs+****Description****{statistics details}**

---

**Command Default** None

---

**Command Modes** PerleSwitch#

---

**Hardware model** All models

---

**Usage Guidelines**

Shows statistics for your TACACS server.

---

**Examples**

This example shows the statistics for your TACACS server.

**PerleSwitch#show tacacs+ statistics<cr>**

All:

	Auth.	Acct.
Requests :	10	10
Responses:	5	5
Access Rejects:	0	0

---

**Related Commands**

*clear tacacs+ statistics*

*show tacacs+*

*aaa group*

**show task-status**

**show {task-status}**

---

**Syntax**            **show task-status****Description**

**{task-status}**

---

**Command Default**            None

---

**Command Modes**            PerleSwitch#

---

**Hardware model**            All models

---

**Usage Guidelines**

Shows internal tasks for the switch.

---

**Examples**

This example show the internal tasks for the switch.

**PerleSwitch#show task-status<cr>**

```
[H[JMem: 149832K used, 361196K free, 0K shrd, 10784K buff, 41692K cached
CPU: 0% usr 9% sys 0% nic 90% idle 0% io 0% irq 0% sirq
Load average: 0.10 0.15 0.14 1/145 2331
[7m PID PPID USER STAT VSZ %VSZ CPU %CPU COMMAND[0m
 3 2 root SW 0 0% 0 9% [ksoftirqd/0]
1802 1343 apache_w S N 224m 45% 0 0% /usr/apache/bin/httpd -X
1359 1343 root S N 72232 14% 0 0% clpd
2151 1343 root S N 71376 14% 0 0% rsyslogd -n -x -Q
1343 1 root S N 56692 11% 0 0% /usr/bin/perleinit
1788 1343 root S N 44608 9% 0 0% rsyslogd0 -n -x -Q
-i/var/run/rsys
1807 1343 root S N 42816 8% 0 0% ifmgr 0
1796 1343 root S N 42812 8% 0 0% alarmmgr 0
1799 1343 root S N 34840 7% 0 0% snmpd -f udp:161 udp6:161
1360 1343 root S N 29616 6% 0 0% config_db
1826 1343 root S N 26368 5% 0 0% portctl 0 nopasswd 4
1795 1343 root R N 26284 5% 0 0% trapmgr 0
1801 1343 root S N 26224 5% 0 0% p_ring_mgr 0
1797 1343 root S N 26224 5% 0 0% alertmgr 0
1760 1343 root S N 25832 5% 0 0% dhcpd -q -4 -f -cf
/etc/dhcpd.conf
1805 1343 root S N 9868 2% 0 0% dmgrd
--More--
```

---

**Related Commands****show tech-support**

**show {tech-support}**

Syntax	<b>show tech-support</b>
Description	

**{tech-support}**

**Command Default** None

**Command Modes** PerleSwitch#

**Hardware model** All models

---

**Usage Guidelines**

This would be the file you need to send to technical support if you need help.

## Examples

This example show you how to gather information for technical support.

**PerleSwitch#show tech-support<cr>**

----- show clock -----

Wed Jun 01 17:50:57 summer-test 2016

----- show sysinfo -----

Last Alarm ..... No Alarm

System Description..... Perle Managed Switch

System Name..... test

System Location.....

System Contact.....

System Up Time..... 1 hour 28 minutes 29 seconds

System Date and Time (local time zone)..... 2016-06-01 17:50:58

System IP Address..... 172.16.113.77

Boot Software Release..... V1.01B

Boot Software Build Date..... Nov 24 2015 - 11:58:07

Software Feature Set .....All models

Running Software Release..... 0.4.B530

Running Software Build Date..... Wed Jun 01 15:20:59  
summer-test 2016

Current Software Release..... 0.4.B530

Current Software Build Date..... Wed Jun 01 15:20:59  
summer-test 2016

Backup Software Release..... 0.4.B530

Backup Software Build Date..... Tue May 31 12:58:21  
summer-test 2016

Hardware Revision..... 1.00

Model Name..... IDS-305G-CMD2

Part Number..... 07012950

Serial Number..... 123412341234

Base MAC Address..... 68:c9:0b:c1:58:d8

Startup-Configuration state..... Not in Sync with  
Running-configuration

Power Supply P1, State..... Good

Power Supply P2, State..... Absent

more .....



---

**Related Commands**

*debug*  
*show processes*  
*show task-status*  
*systat*  
*ping*  
*traceroute*  
*test*

**show terminal****show terminal**

---

<b>Syntax</b>	<b>show terminal</b>
<b>Description</b>	

---

**terminal**

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

**Usage Guidelines**

Shows the terminal parameters of length, width, history enabled, history size and logging monitor.

---

**Examples**

This examples displays the parameter for terminal.

**PerleSwitch>show terminal<cr>**

Terminal length = 24  
Terminal width = 79  
Terminal history is enabled  
Terminal history size = 11  
Terminal logging monitor is OFF

---

**Related Commands**

*console 0-0*

## show users

**show** {users [all]}

---

<b>Syntax</b>	<b>show users</b>
<b>Description</b>	

---

{users [all]}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

The show user command shows the active connected users to vty sessions. The all option shows all vty's from 0 -15.

### Examples

This examples displays all vty sessions regardless of whether there is an active user connected.

**PerleSwitch>show users all<cr>**

Line	User	Host	Idle	Location
1 vty 0	admin	idle	00:33:59	172.16.113.31
2 vty 1	admin	idle	00:05:36	172.16.113.31
3 vty 2				
4 vty 3				
5 vty 4				
6 vty 5				
7 vty 6				
8 vty 7				
9 vty 8				
10 vty 9				
11 vty 10				
12 vty 11				
13 vty 12				
14 vty 13				
15 vty 14				
16 vty 15				

---

### Related Commands

*Interface line mode*

*console 0-0*

*vtty 0-15*

## show version

**show** {**version** [**backup**] | [**current**] | [**flash:**] | [**sdf**flash:]}

Syntax	show version
Description	

{ <b>version</b> [ <b>backup</b> ]   [ <b>current</b> ]   [ <b>flash:</b> ]   [ <b>sdf</b> flash:]}	
--	--

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch>
----------------------	--------------

<b>Hardware model</b>	All models
-----------------------	------------

### Usage Guidelines

Shows information about versions of software running on the switch.

### Examples

#### PerleSwitch#show version backup

```
Name:      Managed Industrial Switch
Version:   0.4.B412
Date created: Wed Apr 13 15:43:52 EDT 2016
Source:    http://172.16.4.181/public/lyn.img
Downloaded: Sun Dec 31 20:04:54 testzone 2000
Size:      37847292 bytes
```

#### PerleSwitch#show version current

```
Name:      Managed Industrial Switch
Version:   0.4.B425
Date created: Tue Apr 26 09:26:59 summer-test 2016
Source:    http://172.16.4.181/public/fit-vierullo.img
Downloaded: Tue Apr 26 09:33:28 summer-test 2016
Size:      37899984 bytes
```

#### PerleSwitch#show version flash:fit-dkong.img

```
Name:      Managed Industrial Switch
Version:   0.4.B425
Date created: Wed May 04 20:09:36 summer-test 2016
Size:      37900544 bytes
```

### Related Commands

*show running-config*

## show vlan

### show vlan

---

<b>Syntax</b>	<b>show vlan</b>
<b>Description</b>	

---

#### vlan

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch>
<b>Hardware model</b>	All models

---

#### Usage Guidelines

#### Examples

This example shows all vlans.

**PerleSwitch>show vlan**

VLAN Name	Status	Port Members(*=non-native vlan)
-----	-----	-----
1 default	active	Gi1/1, Gi1/2, Gi1/3, Gi1/4, Gi1/5
2 office-vlan2	active	
3 VLAN0003	active	
4 VLAN0004	active	
5 VLAN0005	active	
10 VLAN0010	act/lshut	
11 VLAN0011	act/lshut	
12 VLAN0012	act/lshut	
13 VLAN0013	act/lshut	
14 VLAN0014	act/lshut	
15 VLAN0015	act/lshut	
16 VLAN0016	act/lshut	
17 VLAN0017	act/lshut	
18 VLAN0018	act/lshut	
19 VLAN0019	act/lshut	
20 VLAN0020	act/lshut	
1000 VLAN1000	active	

---

#### Related Commands

*Vlan config mode*

## ssh

**ssh** `{[-c 3des | aes-128-cbc | aes192-cbc | aes256-cbc]}` | `{[-h hmac-md5-128 | hmac-md5-96 | hmac-sha1-160 | hmac-sha1-96]}` | `{[-l login-name]}` | `{[-p 1-65535]}` | `{-v [1 | 2]}` | `{a.b.c.d or hostname}`

---

<b>Syntax</b>	<b>ssh</b>
<b>Description</b>	

---

`{[-c 3des | aes-128-cbc | aes192-cbc | aes256-cbc]}` |

`{[-h hmac-md5-128 | hmac-md5-96 | hmac-sha1-160 | hmac-sha1-96]}`

`{[-l login-name]}` |

`{[-p 1-65535]}` |

`{-v [1 | 2]}`

`{a.b.c.d or hostname}`

---

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

SSH to a remote host.

### Examples

This example will ssh to remote host 172.16.4.91.

```
PerleSwitch(config)#ssh 172.16.4.91<cr>
```

### Related Commands

[\*telnet\*](#)

## systat

**systat** `all`

<b>Syntax</b>	<b>systat</b>			
<b>Description</b>				
	<b>[all]</b>			
<b>Command Default</b>	None			
<b>Command Modes</b>	PerleSwitch#			
<b>Hardware model</b>	All models			
<b>Usage Guidelines</b>				
Shows system statuses.				
<b>all</b> - includes inactive ports				
<b>Examples</b>				
This example shows the system status for all active ports.				
PerleSwitch#systat<cr>				
Line	User	Host	Idle	Location
1 vty	admin	idle	07:00:20	172.16.23.121
1 vty	lyn	idle	01:00:20	172.16.23.121
<b>Related Commands</b>				

## telnet

**telnet** {*a.b.c.d or hostname* [/ipv4 | /ipv6 | 1-65535]}

<b>Syntax</b>	<b>telnet</b>
<b>Description</b>	
	<b>[/ipv4   /ipv6   1-65535]}</b>
<b>Command Default</b>	ipv4
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

---

**Usage Guidelines**

Telnet to remote host.

IPv4 - IPv6 address or hostname.

/ipv4 - forces the connection to use the ipv4 protocol.

/ipv6 - forces the connection to use the ipv6 protocol.

1-65535 - the TCP port you want to connection to on the remote host.

---

**Examples**

This example Telnets to a remote host with an ipv4 address of 172.16.5.77.

```
PerleSwitch# telnet 172.16.5.77<cr>
```

---

**Related Commands**

[ssh](#)

**terminal**

**terminal** {**history size** *history-buffer-size*} | {**length 0-512**} | {**width 0-512**}

Use the no form of this command to negate a command or set its defaults.

---

Syntax	<b>terminal</b>
--------	-----------------

Description	
-------------	--

---

{**history size**  
*history-buffer-size*}

|

---

{**length 0-512**} |

---

{**width 0-512**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch#
----------------------	--------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

history - enables and sets the terminal screen history buffer size.

length - sets the length of the terminal screen

width - sets the width of the terminal screen

---

**Examples**

This command will set the history buffer size to 50 for the current terminal session. This is not a permanent config parameter and it will not be saved to running config.

**PerleSwitch#terminal history size 50<cr>**

---

**Related Commands****test**

**test** {*cable-diagnostic interface gigabitethernet slot / port-number*}

---

**Syntax**                    **test**

**Description**

---

{*cable-diagnostic  
interface  
gigabitethernet  
slot / port-number*}

---

**Command Default**            None

---

**Command Modes**            PerleSwitch#

---

**Hardware model**            All models

---

**Usage Guidelines**

Use this command to test gigabitethernet interfaces.



---

## Examples

This example show you how to test cable gigabitethernet 1/1.

**PerleSwitch#test interface g 1/1<cr>**

Starting VCT test on Gi1/1  
VCT test on Gi1/1 in progress....  
VCT test on Gi1/1 completed

Pair 0  
Result                   short  
Amplitude of Reflection   208 mVolts  
Approximate Distance to short 0 meters  
Polarity                   Negative

Pair 1  
Result                   short  
Amplitude of Reflection   152 mVolts  
Approximate Distance to short 3 meters  
Polarity                   Negative

Pair 2  
Result                   open  
Amplitude of Reflection   856 mVolts  
Approximate Distance to open 0 meters  
Polarity                   Positive

Pair 3  
Result                   open  
Amplitude of Reflection   864 mVolts  
Approximate Distance to open 1 meters  
Polarity                   Positive

---

## Related Commands

*ping*

*debug*

*traceroute*

## traceroute

**traceroute** *{ip\_address\_host\_name}*

Use the no form of this command to disable test.

---

<b>Syntax</b>	<b>traceroute</b>
<b>Description</b>	

---

*{ip\_address\_host\_name}*

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch#
<b>Hardware model</b>	All models

---

### Usage Guidelines

Traces the route from the switch to the destination address. Specify an ipv4 address or a resolvable host name.

---

### Examples

This example will trace the route from the switch to a host with ipv4 address of 172.16.4.90.

```
PerleSwitch> traceroute 172.16.4.90 <cr>
```

This example will trace the route from the switch to a host with a hostname of LAB1.

```
PerleSwitch> traceroute LAB1 <cr>
```

---

### Related Commands

*ping*

## undebug

**undebug** {alarmmgr | alertmgr | all | bandwidth-control | clpd | cnslmgr | dmgrd | dot1x-authenticator | dot1x-supPLICant | dhcp-client | dhcp-relay-agent | dsa | garp | gmrp | gvrp | ifmgr | igmp | init | ip | kernel | lldp | logging | mld | ring | profinet | profinet-dcp | pslmv-driver | ptp | snmp | spanning-tree | trapmgr | vty}

---

<b>Syntax</b>	<b>undebug</b>
<b>Description</b>	

---

```

{alarmmgr |
alertmgr | all |
bandwidth-control
| clpd |
dot1x-authenticato
r |
dot1x-supplicant |
enslmgr | dmgrd |
dhcp-client |
dhepr-relay-agent |
dsa | garp |
gmrp | gvrp |
ifmgr | igmp |
init | ip | kernel
| lldp | logging |
mld | ring |
profinet |
profinet-dcp |
pslmv-driver | ptp
| snmp |
spanning-tree |
trapmgr | vty}

```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

---

### Usage Guidelines

Turns off debug for the specified feature or select all to disable all debug features.

### Examples

This example shows you how to set debug on for alertmgr.

```
PerleSwitch# debug alertmgr <cr>
```

This example shows you how to set debug on for dhcp server.

```
PerleSwitch#debug ip dhcp server <cr>
```

### Related Commands

*show debugging*  
*debug*

# 4 Global Configuration Mode

This chapter defines all the CLI commands in Global Configuration Mode.

## aaa accounting

```
aaa {accounting dot1x default start-stop group group-name | radius | tacacs+}  
| {accounting exec named accounting list | default none | start-stop |  
broadcast | group | radius | tacacs+ | stop-only broadcast | group |  
radius | tacacs+} | {accounting system default none | start-stop default none  
| broadcast | group | radius | tacacs+}
```

Use the no form of this command to negate a command or set its defaults.

Syntax	aaa accounting
Description	
	<pre>aaa {accounting dot1x default start-stop group <i>group-name</i>   radius   tacacs+}    {accounting exec <i>named accounting list</i>   default none   start-stop   broadcast   group   radius   tacacs+   stop-only broadcast   group   radius   tacacs+}    {accounting system default none   start-stop default none   broadcast   group   radius   tacacs+}</pre>
Command Default	aaa accounting is disabled.
Command Modes	PerleSwitch(config)#

---

**Usage Guidelines**

Use this command to assign servers to receive the start-stop accounting messages. Sends a start accounting message at the beginning of a process and a stop accounting message at the end of the process.

**account dot1x** -to enable the 802.1x authentication sessions use this command. Specify the group to be used for accounting services.

**accounting exec** - configures the aaa accounting configuration parameters for SSH and Telnet access.

**accounting system**- set this command to perform accounting for all system-level events not associated with users such as reloads.

Accounting methods:

- a predefined group
- RADIUS servers (all defined RADIUS servers)
- TACACS+ (all defined TACACS+ servers)

Accounting list is maximum of 31 characters.

---

**Examples**

This example configures aaa accounting to use all previous defined RADIUS servers to receive stop and start accounting messages.

**PerleSwitch(config)#aaa accounting dot1x default start-stop group radius<cr>**

---

**Related Commands**

*aaa authorization*

*aaa authentication*

*aaa group*

*PerleSwitch(config-sg-radius)#*

*PerleSwitch(config-sg-tacacs+)*

*aaa local*

*aaa group*

**Note:** This command requires access to a RADIUS server. The RADIUS server must be configured to accept and log start/stop messages from the AAA client.

**aaa authentication**

**aaa** {**authentication attempts login 1-25**} | {**dot1x default group group-name | radius**} | {**login group-name | default | local | none | [radius] | tacacs+**} | {**console**} | {**vtty**}

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**                   aaa authentication

**Description**

---

```
{authentication
attempts login
1-25}
```

---

```
{dot1x default
group group-name
| radius}
```

---

```
{login
group-name |
default | local |
none | [radius] |
tacacs+}
```

---

```
{console} |
```

---

```
{vty}
```

---

<b>Command Default</b>	aaa authentication attempts login 3 no aaa local authentication attempts max-fail
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

### Usage Guidelines

authentication attempts -specify the number of times that a user can attempt to login before some action is taken.

Console, Telnet, SSH:

- When retry limit is reached, the session is restarted and the signals are dropped on the port
- Default is 3

**dot1x** - use the default group name or specify RADIUS for authentication.

---

### Examples

This example sets login attempts to 10 tries.

```
PerleSwitch(config)#aaa authentication attempts login 10<cr>
```

---

### Related Commands

*aaa accounting*

*aaa authorization*

## aaa authorization

```
aaa {authorization console | exec default group group-name | if-authenticated
| local | none | radius | tacacs+} | {console} | {vty}
```

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**                    **aaa**  
**Description**

---

{**authorization**  
**exec console** | **exec**  
**default group**  
*group-name* |  
**radius** | **tacacs+** |  
**if-authenticated** |  
**local** | **none**] |  
**radius** | **tacacs+**}

---

{**console**} |

---

{**vty**}

---

**Command Default**

---

**Command Modes**                    PerleSwitch(config)#

---

**Hardware model**                    All models

---

### Usage Guidelines

This value is based on the configured setting *PerleSwitch(config-sg-radius)#* and *PerleSwitch(config-sg-tacacs+)*. Privileged users cannot be locked out.

This feature applies to the following modes.

- Console
  - Telnet
  - SSH
  - Web
- 

### Examples

This example allows the user to start a CLI session (command shell).

**PerleSwitch(config)#aaa authorization exec default group tacacs+<cr>**

---

### Related Commands

*aaa accounting*

*aaa authentication*

*aaa authorization*

*aaa group*

*PerleSwitch(config-sg-radius)#*

*PerleSwitch(config-sg-tacacs+)*

## aaa group

**aaa** {group server radius *radius-name* | tacacs+ *tacacs-name*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>aaa group server</b>
<b>Description</b>	

---

```
{group server
radius
radius-name |
tacacs+
tacacs-name}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

The server group lists the IP addresses of the selected server hosts.

### Related Commands

This example defines the aaa server group with a group name.

```
PerleSwitch(config)# aaa group server radius rad1<cr>
```

```
PerleSwitch(config-sg-radius)#server name rad1<cr>
```

```
PerleSwitch(config-sg-radius)#
```

```
server
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>server</b>
<b>Description</b>	

---



---

<b>Command Default</b>	No default.
------------------------	-------------

---

<b>Command Modes</b>	PerleSwitch(config-sg-radius)#
----------------------	--------------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Sets the RADIUS server name and associates it with the group. The no version will remove the server from the group.



---

**Examples**

This example adds the RADIUS server name to rad1 to the radius server group.

```
PerleSwitch(config-sg-radius)#server name rad1<cr>
```

---

**Related Commands**

*aaa group*

PerleSwitch(config-sg-tacacs+)

**{server}**

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>server</b>
<b>Description</b>	

---

---

<b>Command Default</b>	No default.
------------------------	-------------

---

---

<b>Command Modes</b>	PerleSwitch(config-sg-tacacs)#
----------------------	--------------------------------

---

---

<b>Hardware model</b>	All models
-----------------------	------------

---

---

**Usage Guidelines**

Sets the TACACS+ server name and associates it with the group. The no version will remove the server from the group.

---

**Examples**

This example adds the TACACS+ server tac1 to the TACACS+ server group.

```
PerleSwitch(config-sg-tacacs)#server name tac1<cr>
```

---

**Related Commands**

*aaa group*

## aaa local

**aaa {local authentication attempts max-fail 1-65535}**

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>aaa</b>
<b>Description</b>	

---

---

```
{local
authentication
attempts max-fail
1-65535}
```

---

**Command Default**           no authentication attempts max-fail

---

**Command Modes**           PerleSwitch(config)#

---

**Hardware model**           All models

---

### Usage Guidelines

This is a global parameter and when enabled means that strong passwords are required on the switch.

Strong password protection rules are as follows:

- at least 8 characters long
- meet at least three out of four of these requirements
  - upper case letter
  - lower case letter
  - numeric character
  - special character
- cannot repeat the same character more than 3 times consecutively
- cannot be the same as the username

If strong password is not enabled, then passwords can be up to 25 in length

up to 25 characters in length

can be blank

All passwords are stored in our internal database using a “secret” and a md5 algorithm.

---

### Examples

This example set local authentication attempts to 3. After 3 failed attempts the user will be locked out by the switch.

```
PerleSwitch(config)#local authentication attempts max-fail 3<cr>
```

---

### Related Commands

*clear aaa*

## aaa password

```
aaa {password restriction}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>aaa</b>
<b>Description</b>	
<b>{password restriction}</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#

---

### Usage Guidelines

This is a global parameter and when enabled means that strong passwords are required on the switch.

Strong password protection rules are as follows:

at least 8 characters long

meet at least three out of four of these requirements

- upper case letter
- lower case letter
- numeric character
- special character

cannot repeat the same character more than 3 times consecutively

cannot be the same as the username

If strong password is not enabled, then passwords can be up to 25 in length

up to 25 characters in length

can be blank

All passwords are stored in our internal database using a “secret” and a md5 algorithm.

---

### Examples

This example will set restrict password checking on the switch.

```
PerleSwitch(config)#aaa password restriction<cr>
```

---

### Related Commands

*aaa local*

*aaa authentication*

*aaa authorization*

*username*

*clear aaa*

*show aaa*

*show users*

## alarm

```
alarm {facility power-supply rps disable | notifies | [relay major] | syslog}
{temperature primary high -150 - 300 | low -200 -250 | notifies | relay major
| syslog | secondary high -150 - 300 | low -200 -250 | notifies | relay major |
syslog} | {profile alarm-profile-name} | {relay-mode energized}
```

Use the no form of this command to negate a command or set its defaults.

Syntax	alarm
Description	
{facility	
power-supply rps	
disable   notifies	
[relay major]	
syslog}	
{temperature	
primary high -150	
- 300   low -200	
-250   notifies	
relay major]	
syslog   secondary	
high -150 - 300	
low -200 -250	
notifies   relay	
major   syslog}	
{profile	
<i>alarm-profile-name</i>	
}	
{relay-mode	
energized}	

---

**Command Default**

no alarm facility power-supply disabled  
no alarm facility power-supply notifies  
alarm facility power-supply syslog  
no alarm facility power-supply relay major  
no alarm facility sd-card enable  
no alarm facility sd-card notifies  
no alarm facility sd-card syslog  
no alarm facility sd-card relay major  
alarm facility temperature primary notifies  
alarm facility temperature primary syslog  
alarm facility temperature primary relay major  
alarm facility temperature primary high 95  
alarm facility temperature primary low -20  
no alarm facility temperature secondary notifies  
no alarm facility temperature secondary syslog  
no alarm facility temperature secondary relay major  
no alarm facility temperature secondary high 300  
no alarm facility temperature secondary low -200  
no alarm relay-mode de-energized

---

**Command Modes** PerleSwitch(config)#

---

**Hardware model** All models

---

### Usage Guidelines

This command defines what state the relay will be placed in when an alarm condition exists. In default mode, the relay is set to not energized (normally closed) condition. When the switch is in running mode and determines that no alarm condition exists, the relay will energized the switch (thereby "opening the contact"). When the relay is engaged the ALR LED will be blinking red.

---

### Examples

This example will set the relay-mode to energized.

```
PerleSwitch(config)#alarm relay-mode energized<cr>
```

---

### Related Command

*show alarm*

---

The default alarm profile (defaultPort) cannot be deleted.

## archive

### (alarm-profile)

```
{alarm [link-fault] | [not-forwarding] | [not-operating]} | {notifies
[link-fault] | [not-forwarding] | [not-operating]} | {relay-major [link-fault]
| [not-forwarding] | [not-operating]} | {syslog [link-fault] |
[not-forwarding] | [not-operating]}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>alarm</b>
<b>Description</b>	
	<pre>{alarm [link-fault]   [not-forwarding]   [not-operating]}  </pre>
	<pre>{notifies [link-fault]   [not-forwarding]   [not-operating]}  </pre>
	<pre>{relay-major [link-fault]   [not-forwarding]   [not-operating]}  </pre>
	<pre>{syslog [link-fault]   [not-forwarding]   [not-operating]}</pre>
<b>Command Default</b>	alarm profile default port alarm not-operating syslog not operating notifies not operating
<b>Command Modes</b>	PerleSwitch(alarm-profile)#
<b>Hardware model</b>	All models

#### Usage Guidelines

The alarm profile command is used to create a profile to monitor for certain port conditions (link-status, not-forwarding and not operating) on an interface and perform actions should these conditions occur. If snmp is enabled a snmp trap message will be sent to the snmp server receiving traps and/or a syslog message will be set to the pre-defined syslog server or the relay-major (relay) will be energized or de-energized depending on the initial state (ie toggled) of the relay.

---

**Examples**

This example shows how to monitor the port for a link-status condition and sent a syslog message to the syslog server.

```
PerleSwitch(alarm-profile)#syslog link-fault<cr>
```

---

**Related Commands**

*show alarm*

*logging*

**(config-archive)**

```
{maximum 1-14} | {path flash: | ftp: | http: | https: | scp: | sftp: |  
tftp:} | {time-period 0-525600} | {write memory}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-archive)#</b>
---------------	--------------------------

<b>Description</b>	
--------------------	--

---

```
{maximum 1-14} |
```

---

```
{path flash: | ftp:  
| http: | https: |  
scp: | sftp: |  
tftp:} |
```

---

```
{time-period  
0-525600} |
```

---

```
{write memory}
```

---

<b>Command Default</b>	no path maximum 10 no time-period no write-memory
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config-archive)#
----------------------	------------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Path must exist. Default path is the same as the no form of the command.  
 Number of archives copies of the configurations to be keep in the archive list.  
 Archive list can contain between 1-14 configurations if saved on sdflash or nvram.  
 This is the full path to where the archive configuration files will be kept.

```
flash:perle-image-name.img |
ftp://[username[:password]@location]/directory/perle-image-name.img
http://[username:password]@[hostname | host-ip [directory]
/perle-image-name.img |
https://[username:password]@[hostname | host-ip [directory]
/perle-image-name.img |
scp:[username@location]/directory/perle-image-name.img |
sftp://[username[:password]@location]/directory/perle-image-name.img |
tftp://[location]/directory/perle-image-name.img |
```

Time period is the time in minutes to automatically save the running configuration to a archive file.

Write memory enables the saving of the configuration to an archive file every time you copy running-config to start-up config

---

### Examples

This example shows you how to set up a archive path to be used with the write-memory command.

```
PerleSwitch(config-archive)#path flash:<cr>
PerleSwitch(config-archive)#exit<cr>
PerleSwitch(config)#exit
PerleSwitch#copy running-config startup-config
Destination filename[startup-config]?<cr>
```

```
5643 bytes copied
Copy in progress...
5643 bytes copied
```

If no file name is supplied by you, then your running config will be named with the current date and time. See below.

```
PerleSwitch#dir flash:
```

Directory of flash:

```
130322 -rw- 5643 May 12 2016 14:17 -04:00 -May-12-14-17-50-1
130321 -rw- 5643 May 12 2016 14:14 -04:00 -May-12-14-14-16-0
```

---

### Related Commands

*show archive*  
*archive*  
*dir*



## arp

**arp** {**a.b.c.d h.h.h vlan** *vlan\_interface\_number*} | {**timeout** *1-34560*}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>arp</b>
<b>Description</b>	
	{ <b>a.b.c.d h.h.h vlan</b> <i>vlan_interface_number</i> }
	{ <b>timeout</b> <i>1-34560</i> }
<b>Command Default</b>	timeout 240 minutes
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

### Usage Guidelines

By adding known permanent static ip addresses to the arp table, this frees up the arp table from constantly managing these static entries. Static entries remain in the arp table forever and are never timed out.

Enter the ip address, followed by the 48 bit hardware address then the vlan interface channel to add this entry as a permanent static entry to the arp table.

The timeout value in minutes that a dynamic arp entry in the table will remain, if the arp entry is not used in that time specified by the timeout, it will be deleted from the arp table.

### Examples

This example shows how to add a static ip address to the arp table.

```
PerleSwitch(config)#arp 172.16.113.77 0013.2092.2982 vlan 1<cr>
```

This example shows how to delete a static ip address from the arp table.

```
PerleSwitch (config)# no arp 172.16.113.77<cr>
```

### Related Commands

## bandwidth-control

**bandwidth-control** {**polling-interval** *seconds 1-120*}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>bandwidth-control</b>
<b>Description</b>	
	<b>{polling-interval seconds 1-120}</b>
<b>Command Default</b>	1 second
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
This global setting will apply to ingress frames of the type you specified in for the bandwidth control parameters. Specify a value in seconds that is appropriate for your network. Polling interval is the time in seconds that the switch will count the ingress frames of the type specified for each port.	
<b>Examples</b>	
This example set the bandwidth control polling interval to 50 seconds. <b>PerleSwitch(config)# bandwidth-control polling-interval 50 &lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>show bandwidth-control</i>	

## banner

**banner** **{[delimiter-character-banner-text-delimiter-character] | [login] | [motd] | [prompt-timeout]}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>banner</b>
<b>Description</b>	
	<b>{[delimiter-character-banner-text-delimiter-character]   [login]   [motd]   [prompt-timeout]}</b>
<b>Command Default</b>	no banner login no banner motd no banner prompt-timeout

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

**delimiter character** - indicates the start and end of the message and is not a character that you use in the message. Do not use " or % as a delimiting character. White space characters will not work.

**banner text** -the text is alphanumeric, case sensitive, and can contain special characters. It cannot contain the delimiter character you have chosen. The text has a maximum length of 80 characters and a maximum of 40 lines.

The banner has special macros that can be inserted into the banner. They are \$(hostname) which is the hostname you configured on the switch and \$(domain) which is the domain name you configured on the switch.

**login** - set login banner

**motd** - set message of the day (motd)

**prompt-timeout** -login authentication timeout

---

### Examples

This example sets the domain name to be used in the banner, then set a banner of Good morning and Welcome to your domain. Domain will be replaced with the domain name of MYTEST-DOMAIN.

```
PerleSwitch(config)# ip domain-name MYTEST-DOMAIN<cr>
```

```
PerleSwitch(config)#banner hGood morning and Welcome to your h
$(domain)<cr>
```

---

### Related Commands

## boot

```
boot {host dhcp | retry timeout 60-65535}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>boot</b>
<b>Description</b>	

---

```
{host dhcp | retry
timeout 60-65535}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

host dhcp - if no startup config exist the switch will try to retrieve a startup config file from a tftp server defined by the DHCP server. When this boot process is run, one of the van interfaces cannot have DHCP enable to run. When this process is run the switch will ask for DHCP options (12-Host Name), (66-TFTP Server Name), (67-Boot file name) and (125-image helper filename). If the switch receive s retry timeout in seconds - retries for configuration download.

---

**Examples**

This example show to boot a startup config from a dhcp server.

```
PerleSwitch(config)#boot host dhcp<cr>
```

---

**Related Commands****clock**

**clock** {**summer-time** *name-of-timezone* **date** *1-31* *month-to-start* *hh:mm* *time-to-start* *1-31* *month-to-end* *1-31* *date-to-end* *time-to-stop* *hh:mm* *1-1440-in-minutes* | **recurring** *1-4* *week* *first* *week-of-the-month* *last* *week-of-the-month*} | {**timezone** *name-of-time-zone* *-23 - 23* *-hours-offset-from-utc* *0-59* *-minutes-offset-from-utc*}

Use the no form of this command to negate a command or set its defaults.

---

Syntax	clock
Description	

---

```
{summer-time
name-of-timezone
date 1-31
month-to-start
hh:mm
time-to-start 1-31
month-to-end 1-31
date-to-end
time-to-stop
hh:mm
1-1440-in-minutes
| recurring 1-4
week first
week-of-the-month
last
week-of-the-month
}
```

```
{timezone
name-of-time-zone
-23 - 23
-hours-offset-from-utc 0-59
-minutes-offset-from-utc}
```

**Command Default**

```
clock timezone EST 5
clock summer-time EDT recurring 2 Sun Mar 2:00 1
Sun Nov 2:00 60
```

**Command Modes**

```
PerleSwitch(config)#
```

**Hardware model**

```
All models
```

**Usage Guidelines**

**Name of the summer time zone followed by start/end dates** -numeric value for the day of the month to start summer timezone 1-31, name of the month to start January, February, March, April, May, June, July, August, September, October, November, December., time to start in hours (24) and minutes, numeric value for the day of the month to end summer timezone 1-31, name of the month to end January, February, March, April, May, June, July, August, September, October, November, December, time to end in hours(24), offset in minutes <1-1440>

**Name of the timezone** - Hours/minutes offset are going to be hours/minutes offset from utc (universal time clock).

**Examples**

This example sets the clock to a specified time.

```
PerleSwitch(config)#clock set 3:44:45 12 May 2016<cr>
```

**Related Commands**

[show clock](#)

**crypto**

```
crypto {key export rsa terminal | url http: | https: | sftp: | tftp:} |
{generate rsa modulus 768-4096} | {import client rsa [pem terminal password
passphrase] | [pem terminal url http: | https: | sftp: | tftp:] | [pkcs12
terminal password passphrase] | [pkcs2 [url http: | https: | sftp: | tftp:]} |
{import ssh-host rsa terminal | [rsa pkcs12 | pem url http: | https: | sftp: |
tftp:]} | {zerioze} | {pki import server trustpoint-label [pem terminal
password passphrase] | [pkcs12 terminal password passphrase] | [url http:
| https: | sftp: | tftp:]} }
```

Use the no form of this command to negate a command or set its defaults.

Syntax	crypto
Description	
{key export rsa terminal   url http:   https:   sftp:   tftp:}	
{generate rsa modulus 768-4096}	
{import client rsa [pem terminal password <i>passphrase</i> ]   [pem terminal url http:   https:   sftp:   tftp:]   [pkcs12 terminal password <i>passphrase</i> ]   [pkcs2 [ url http:   https:   sftp:   tftp:]]	
{import ssh-host rsa terminal   [rsa pkcs12   pem url http:   https:   sftp:   tftp:]}	
{zerioze}	
{pki import server <i>trustpoint-label</i> [pem terminal password <i>passphrase</i> ]   [pkcs12 terminal password <i>passphrase</i> ]   [url http:   https:   sftp:   tftp:]}	

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Crypto operations.	

### Examples

This example will import an ssh key via the terminal.

**PerleSwitch(config)#crypto key import ssh terminal<cr>**

Enter PEM-formatted RSA private key

End with 'quit 'on a blank line by itself

```
ssh-rsa
```

```
AAAAB3NzaC1yc2EAAAADAQABAAQCAQDXSoVYch1Elp1AO2z/Px17m3w
fuXBI/ZxTqvS7SQcJxWSLNZGphXN5VE9SGsp9D5wLAhIFrZKNc44T+O79A1
N3oCPhKnuxq24j444ybxOnF8Ttxtrib8fpfDH8pNstYIIX4QPvUUeTPaEc4QkJ+X
TI+hArI4PK1VYcksijKn6sucP0nqNlcQsGN5C0ST/SwreR/U4azwmaA+24+k/v1N
yBFFXecWp5gFvx8/7vsJMousiOmbvtjxQyUZJKkuudWvNxkrMs0QmcUsj7nz5
ODGwD2K55LVocKOzWqOQQN7R9w5LMF4Lyc7DIz5j81BUQpHpAPdIdyTj7J
UFlrnOF3NgLLmaVbqbUsrG3x5AzOQLW+AcpwPwnnt/BCIjaj1MAOH8NFCbB
AepKaY+BizlfJLtCDE0yZ3XO7c6kcv/qN07acC5edTCRyzDGqJ/1ronjtQYppPDO
5YaxQ4UfPbedC3OghJJvwSegq45bLuhYhIO+kLgPNe+jVKWXcckfjiePL2EYX0q
SdJQ+CWvy+qQS12+0HkuzKnEnT+t9XKqqvIPIWtxIo7vxfhqBP+Y+I5CzHxqOP
4nbMvUnIDN3blakRAp7wiTSeU7MbGi/c8qdjgSnRpIwW0Vcu4CHf6dvP8+wjf4L
sJPpyzW33+UakZLJST/ratP1OrdWn1mWsKxi+kWCQ==
```

Successfully imported SSH private key

### Related Commands

*show crypto*

## dot1x

**dot1x** {*credential credential-profile-name*} | {*guest-vlan supplicant*} |  
 {*logging*} | {*system-auth-control*} | {*test timeout 1-65535*}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>dot1x</b>
<b>Description</b>	

---

```
{credential
credential-profile-n
ame} |
```

---

```
{guest-vlan
supplicant} |
```

---

```
{logging} |
```

---

```
{system-auth-
control} |
```

---

```
{test timeout
1-65535}
```

---



---

#### Command Default

```
no dot1x system-auth-control
no dot1x guest-vlan-supplicant
dot1x test timeout 10
```

---

#### Command Modes

```
PerleSwitch(config)#
```

---

#### Hardware model

```
All models
```

---

#### Usage Guidelines

##### Command Options:

```
credential - configure 802.1x credential profiles
guest-vlan - configure guest vlan or 802.1x supplicant behavior
logging - set logging parameters
system-auth-control - enable or disable SysAuthControl
test - configure 802.1x test related parameters.
```

---

#### Examples

This example will enable system auth control on the switch.

```
PerleSwitch(config)#dot1x system-auth-control<cr>
```

---

#### Related Commands

```
(config-if)#dot1x
```

## (config-dot1x-creden)

```
{password | username}
```

Use the no form of this command to negate a command or set its defaults.

---

#### Syntax

```
(config-dot1x-creden)
```

#### Description



---

```
{password |
username}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config-dot1x-creden)#
----------------------	-----------------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

#### Command Options:

**Password:** set the authentication password

0 - Specifies that an UNENCRYPTED password will follow.

7 Specifies an ENCRYPTED password will follow

LINE - the UNENCRYPTED (cleartxt) password.

**username** - set the authentication userid

---

### Examples

This example will set the password for Jerry to newuser.

```
PerleSwitch(config)#dot1x credential dot1x-user<cr>
```

```
PerleSwitch(config-dot1x-creden)#password newuser<cr>
```

---

### Related Commands

[dot1x](#)

## eap

```
eap {profile profile-name}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>eap</b>
---------------	------------

<b>Description</b>	
--------------------	--

---

```
{profile
profile-name}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

This is the password to be used to enable privilege mode.

---

**Examples**

This example shows how to set a password for enable mode.

```
PerleSwitch(config)#eap profile eaptest<cr>
```

---

**Related Commands**

*username*

**(config-eap-profile)**

```
eap {method gtc md5 | method mschapv2 | peap [gtc | md5 | mschapv2] |  
tls | ttls chap | eap-gtc | eap-md5 | eap-mschapv2 | mschap | mschapv2 |  
pap} | {pki-trustpoint default pki-trustpoint}
```

Use the no form of this command to negate enable secret.

---

**Syntax** **eap****Description**

---

```
{method gtc md5  
| method  
mschapv2 | peap  
[gtc | md5 |  
mschapv2] | tls |  
ttls chap | eap-gtc  
| eap-md5 |  
eap-mschapv2 |  
mschap |  
mschapv2 | pap}
```

---

```
{pki-trustpoint  
default  
pki-trustpoint}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

This is the password to be used to enable privilege mode.

---

**Examples**

This example shows how to set a password for enable mode.

```
PerleSwitch(config)#enable secret testsecret<cr>
```

---

**Related Commands***username***enable****enable** {secret 0 | 5 | cleartext}

Use the no form of this command to negate enable secret.

---

**Syntax** **enable**  
**Description****{secret 0 | 5 |  
cleartext}**

---

**Command Default** None

---

**Command Modes** PerleSwitch(config)#

---

**Hardware model** All models

---

**Usage Guidelines**

This is the password to be used to enable privilege mode.

---

**Examples**

This example shows how to set a password for enable mode.

**PerleSwitch(config)#enable secret testsecret<cr>**

---

**Related Commands***username***errdisable****errdisable** {detect cause all | bpdguard shutdown vlan | link-flap |  
security-violation shutdown vlan} | {flap-setting cause link-flaps  
max-link-flaps 1-100 time 1-20} | {recovery cause all | bandwidth |  
bpdguard | link-flap | psecure-violation | security-violation}

Use the no form of this command to negate a command or set its defaults.

---

**Syntax** **errdisable**  
**Description**

```
{detect cause all |
 bpdguard
 shutdown vlan |
 link-flap |
 security-violation
 shutdown vlan} |
```

```
{flap-setting cause
 link-flaps
 max-link-flaps
 1-100 time 1-20} |
```

```
{recovery cause all
 | bandwidth |
 bpdguard |
 link-flap |
 psecure-violation
 |
 security-violation}
```

---

**Command Default**

Recovery timer interval 300  
link-flap enabled  
bpdguard enabled (no disable)  
security-violation enabled (no disable)  
bandwidth-exceeded enabled (no disable)  
psecure-violation (no disable)

---

**Command Modes**

None

---

**Hardware model**

All models

---

**Usage Guidelines**

**Command Options**

**detect** - error disable detection

**flap-setting** - error disable flap detection setting

**recovery** - disable recovery

## Examples

In this example I have enabled errdisable psecure-violation on gigabitEthernet port 1/1. I have set my gigabitEthernet 1/1 switchport to a maximum port security of 1 (no more than one session can connect).

```
PerleSwitch(config)#interface g1/1<cr>
```

```
PerleSwitch(config)#switchport port-security maximum 1<cr>
```

```
PerleSwitch(config)#switchport port-security violation shutdown<cr>
```

```
PerleSwitch#show errdisable detect <cr>
```

ErrDisable Reason	Detection	Mode
link-flap	Disabled	port
bpduguard	Disabled	port
psecure-violation	Enabled	port/vlan
security-violation	Disabled	port
bandwidth-exceeded	Disabled	port

If I telnet into my switch multiple times, I will see the errdisable leds flash on the port I have violated (both green and yellow flashing together). When I show port-security I will see port violation and the port is in a errdisable shutdown state.

```
PerleSwitch#show port-security<cr>
```

```
-----
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security Action
          1                0            0                shutdown
Total Addresses in System   : 0
Max Addresses limit in System : 8192
```

```
PerleSwitch#show port-violation<cr>
```

```
00:12:00: %IFMGR-5: LINK_UPDOWN: Line protocol on Interface Vlan1, changed state to
down
00:12:02: %IFMGR-5: LINK_UPDOWN: Line protocol on Interface GigabitEthernet1/1,
changed state to up
00:12:02: %IFMGR-5: LINK_UPDOWN: Line protocol on Interface Vlan1, changed state to
up
00:12:02: %IFMGR-2: PSECURE_VIOLATION: Security violation occurred, caused by
MAC address 4c00.82bb.f504 on port Gi1/1.
00:12:02: %IFMGR-4: ERR_DISABLE: psecure-violation error detected on Gi1/1. Putting
in err-disable state
00:12:03: %IFMGR-5: LINK_UPDOWN: Line protocol on Interface GigabitEthernet1/1,
changed state to down
00:12:03: %IFMGR-5: LINK_UPDOWN: Line protocol on Interface Vlan1, changed state to
d
00:11:17: %IFMGR-5: LINK_UPDOWN: Line protocol on Interface Vlan1, changed state
To recover a port in errdisable shutdown state either perform a errdisable or
alternatively you can do a shutdown and no shutdown on the interface
```

---

**Related Commands**

*show errdisable*  
*(config-if)#service*

**fair-queue****fair-queue**

Use the no form of this command to set fair-queue to strict.

Syntax	<b>fair-queue</b>
Description	
Command Default	Weighted Fair Queuing (WFQ)
Command Modes	PerleSwitch(config)#
Hardware model	All models

**Usage Guidelines**

**(WFQ)** - Packets are sent from all queues but the higher priority queues get more packets per pass. This ensures that lower priority queues still get serviced even when packets are waiting to transmit in higher priority queues.

**Strict** - All packets on a higher queue priority will egress before a lower priority queue is serviced.

**Examples**

This example set the switch to strict queuing.

```
PerleSwitch(config)#no fair-queue
```

**Related Commands**

*mls*

**garp**

```
garp {timer join 100-1000 | leave 300-6000 | leaveall 2000-60000}
```

Use the no form of this command to negate a command or set its defaults.

Syntax	<b>garp</b>
Description	
<b>{timer join</b> <b>100-1000   leave</b> <b>300-6000   leaveall</b> <b>2000-60000}</b>	

---

<b>Command Default</b>	garp timer join 200 garp timer leave 600 garp timer leaveall 10000
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Set GARP parameters:

#### TIMERS

**join** - this timer defines the maximum length of time an interface can wait before sending a JOIN message.

**leave** - this timer defines the number of milliseconds an interface must wait after receiving a leave message before it removes the associated attribute from this interface.

**leaveall** - this timer defines the period of time interested devices must sent a join message if they are still interested in a specific attribute.

---

### Examples

This example will set the leaveall timer to 5000.

```
PerleSwitch(config)#garp timer leaveall 5000<cr>
```

---

### Related Commands

[gmrp](#)

[gvrp](#)

[show garp](#)

## gmrp

**gmrp** {**logging**}

Use the no form of this command to set hostname back to default.

---

<b>Syntax</b>	<b>gmrp</b>
<b>Description</b>	

---

{**logging**}

---

<b>Command Default</b>	no gmrp logging
------------------------	-----------------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Turn logging on for GMRP.

---

**Examples**

This example set GMRP logging to on.

```
PerleSwitch(config)#gmrp logging<cr>
```

---

**Related Commands**

*clear gmrp*

*show gmrp*

## gvrp

**gvrp** {**dynamic-vlan-creation** | **logging**}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>gvrp</b>
<b>Description</b>	

---

{**dynamic-vlan-creation** | **logging**}

---

<b>Command Default</b>	no gvrp no gfrp dynamic-vlan-creation
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

dynamic-vlan-creation - when an interface attempts to join a vlan that does not exist, setting dynamic vlan creation on will allow the switch to automatically create the vlan.

---

**Examples**

This example sets GVRP logging to on.

```
PerleSwitch(config)#gvrp logging<cr>
```

---

**Related Commands**

*clear gvrp*

*show gvrp*

## hostname

**hostname** {*name-of-server*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>hostname</b>
<b>Description</b>	



---

*{name-of-server}*

---

**Command Default**

PerleSwitch

---

**Command Modes**

PerleSwitch(config)#

---

**Hardware model**

All models

---

**Usage Guidelines**

Set the hostname on the switch.

---

**Examples**

This example will set the hostname to TestHost.

**PerleSwitch(config)#hostname TestHost<cr>**

---

**Related Commands**

## ip access-list

**ip access-list** {**log-update threshold** *0-2147483647*} | {**logging interval** *0-2147483647*} | {**resequence** [*1-99* | *1300-1999 1-2147483647 1-2147483647*]}  
 {**standard** [*1-99* | *1300-1999 access-list-name*]

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**

**ip access-list**

**Description**

---

{**log-update threshold**  
*0-2147483647*} |

---

{**logging interval**  
*0-2147483647*} |

---

{**resequence** [*1-99*  
 | *1300-1999*  
*1-2147483647*  
*1-2147483647*]}  
 |

---

{**standard** [*1-99* |  
*1300-1999*  
*access-list-name*]}  
 |

---

**Command Default**

ip access-list logging interval 0

ip access-list log-update threshold 0

---

<b>Command Modes</b>	PerleSwitch(config)#ip
----------------------	------------------------

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Use logging control access list to provide insight into transverse traffic on your network. ACL logging can be network performance intensive which could negatively impact your network. Configuration must be made to balance traffic visibility and the impact on your network performance.

**log-update threshold** - The log-update threshold can be used to configured how often syslog messages are generated and sent after an initial packet match.

**logging interval** - in milliseconds between sent log messages.

**resequence** - resequence of standard IP access list (start value, end value).

**standard-** ip access list number (standard 1-99) (expanded 1300-1999).

---

### Examples

This example creates a standard access list.

```
PerleSwitch(config)#ip access standard 50<cr>
```

```
PerleSwitch(config-std-nac1)#
```

---

### Related Commands

[\(config-std-nac1\)](#)

## (config-std-nac1)

```
{1-2147483647} | {deny hostname/ipv4-address wildcard-bits log | any
hostname/ipv4-address log | host hostname/ipv4-address log} | {permit
hostname/ipv4-address wildcard-bits log | any hostname/ipv4-address log | host
hostname/ipv4-address log} | {remark remark_comment}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-std-nac1)</b>
---------------	--------------------------

<b>Description</b>	
--------------------	--

---

```
{1-2147483647} |
```

---

```
{deny
hostname/ipv4-add
ress wildcard-bits
log | any
hostname/ipv4-add
ress log | host
hostname/ipv4-add
ress log} |
```

```
{permit
hostname/ipv4-add
ress wildcard-bits
log | any
hostname/ipv4-add
ress log | host
hostname/ipv4-add
ress log} |
```

```
{remark
remark_comment}
```

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-std-nac1)#
<b>Hardware model</b>	All models

#### Usage Guidelines

This command will allow you to customize what packets you want to deny or permit to this access-list.

#### Examples

This example will deny packets from the specified host address 172.16.55.44.  
**PerleSwitch(config-std-nac1)#deny host 172.16.55.44<cr>**

#### Related Commands

*show ip access-list*  
*ip access-list*

## ip default-gateway

```
{a.b.c.d}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>ip default-gateway</b>
<b>Description</b>	

```
{a.b.c.d}
```

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#ip
<b>Hardware model</b>	All models

#### Usage Guidelines

Specify a default gateway for this network in xxx.xxx.xxx.xxx format.

---

**Examples**

This example will specific a default gateway for the switch.

```
PerleSwitch#ip default-gateway 172.16.1.1<cr>
```

---

**Related Commands**

*show ip default-gateway*

## ip dhcp

```
ip dhcp {class class-name} | {excluded-addresses start-pool-address  
end-pool-address} | {ping packets 1-10 | timeout 100-100000} | {pool  
pool-name} | {relay information option remote-id vlan 1-4094 | ascii  
remote-id-string | hex remote-id-string | host-name | option-insert | policy  
drop | keep | replace | trust-all} | {subscriber-id interface-name} | {use  
subscriber-id client-id}
```

Use the no form of this command to negate a command or set its defaults.

---

Syntax	<b>ip dhcp</b>
--------	----------------

Description	
-------------	--

---

{ <i>class class-name</i> }	

---

{ <i>excluded-address</i> <i>es</i> <i>start-pool-address</i> <i>end-pool-address</i> }	

---

{ <i>ping packets 1-10</i>   <i>timeout</i> <i>100-100000</i> }	

---

<i>pool pool-name</i> }	

```

{relay information
option remote-id
vlan 1-4094 | ascii
remote-id-string |
hex
remote-id-string |
host-name |
option-insert |
policy drop |
keep | replace |
trust-all} |

```

```

{subscriber-id
interface-name} |

```

```

{use subscriber-id
client-id}

```

**Command Default**

```

ip dhcp ping packets 2
ip dhcp ping timeout 500

```

**Command Modes**

```

PerleSwitch(config)#ip

```

**Hardware model**

```

All models

```

**Usage Guidelines****Command Options:**

**class** see [\(config-dhcp-class\)](#) for more parameters

**excluded-address** - exclude addresses in the DHCP pool starting at IPv4 address, ending at IPv4 address

**ping packets/timeout** -Before the DHCP server will assign an address to a client computer the switch will ping the client computer using the values specified by the packets and timeout (miliseconds) parameters. To disable the ping packets specify the value of packets to 0.

**pool name** - configure DHCP address pools

**relay** - DHCP relay agent parameters

**subscriber-id** - global subscriber-id configuration

**use** - configure use of certain parameters during allocation

**Examples**

This example will exclude addresses 172.16.55.77 to 172.16.55.79 from the DHCP pool.

```

PerleSwitch(config)#ip dhcp exclude-address 172.16.55.77 172.16.55.79<cr>

```

---

**Related Commands**

*ip dhcp*  
*(config-dhcp-class-relayinfo)*

**(config-dhcp-class)**

**{relay agent information}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>ip dhcp class</b>
<b>Description</b>	
<b>relay agent information</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-dhcp_class)#
<b>Hardware model</b>	All models

**Usage Guidelines**

Enters submenu (config-dhcp-class-relayinfo).

**Examples**

This example will take you to submenu mode (config-dhcp-class-relayinfo).

```
PerleSwitch(config-dhcp-class)#relay agent information<cr>
```

```
PerleSwitch(config-dhcp-class-relayinfo)#
```

**Related Commands**

*ip dhcp*  
*ip dhcp pool*  
*(dhcp-config)*  
*(config-dhcp-class-relayinfo)*

**(config-dhcp-class-relayinfo)**

**{relay-information hex hex-string mask hex-string}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>dhcp class-relayinfo</b>
<b>Description</b>	

---

```
{relay-information  
hex hex-string  
mask hex-string}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config-dhcp_class-relayinfo)#
----------------------	---

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Specify the hex value of the entire relay information agent information option.

---

### Examples

This example sets relay information on the switch.

```
PerleSwitch(config-dhcp-class-relayinfo)#relay-information hex f1f1 mask  
10<cr>
```

---

### Related Commands

*ip dhcp*

*ip dhcp pool*

*(dhcp-config)*

## ip dhcp pool

```
ip dhcp pool {pool-name}
```

---

<b>Syntax</b>	<b>ip dhcp pool</b>
<b>Description</b>	

---

```
{pool-name}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(dhcp-config)#
----------------------	---------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

Create an DHCP pool.

---

### Examples

This example will create a DHCP pool called pool-test.

```
PerleSwitch(dhcp-config)#ip dhcp pool pool-test<cr>
```

---

**Related Commands**

*ip dhcp*  
*ip dhcp pool*  
*(dhcp-config)*  
*(config-dhcp-class-relayinfo)*

**(dhcp-config)**

```
{address client-id ascii ascii-string | hex dotted-hexadecimal-string |
hardware-address dotted-hexadecimal-string} | {bootfile bootfile-name} | {class
class-name} | {client-identifier ascii ascii-string | hex hexidecimal-string } |
{client-name client-name} | {default-router router-name/address} |
{dns-server dns-server-name/address} | {domain-name domain-name} |
{hardware-address dotted-decimal-string} | {host client-ip network-mask} |
{lease 0-365 | infinite} | {netbios-name-server netbios-server-name/address} |
{netbios-node-type 0-ff | b-node | h-node | m-node | p-node} | {network
network-ip network-mask} | {next-server next-server-ip-name/address} |
{option 1-254 ascii nvt-ascii-string | hex hexidecimal-string} | ip
server-name/ip-address} | {relay source network-number/network-mask}
```

Use the no form of this command to set hostname back to default.

---

Syntax	<b>ip dhcp pool</b>
Description	

---

```
{address client-id
ascii ascii-string |
hex
dotted-hexadecimal
-string |
hardware-address
dotted-hexadecimal
-string} |
```

---

```
{bootfile
bootfile-name} |
```

---

```
{class class-name}
|
```

---

```
{client-identifier
ascii ascii-string |
hex
hexidecimal-string
} |
```



---

{**client-name**  
*client-name*} |

---

{**default-router**  
*router-name*} |

---

{**dns-server**  
*dns-server-name/a*  
*address*} |

---

{**domain-name**  
*domain-name*} |

---

{**hardware-address**  
**s**  
*dotted-decimal-string*} |

---

{**host** *client-ip*  
*network-mask*} |

---

{**lease** **0-365** |  
**infinite**} |

---

{**netbios-name-server** *netbios-server-name/address*} |

---

{**netbios-node-type**  
**0-ff** | **b-node** |  
**h-node** | **m-node** |  
**p-node**} |

---

{**network**  
*network-ip*  
*network-mask*} |

---

{**next-server**  
*next-server-ip-name/address*}

---

{**option** **1-254** **ascii**  
*nvt-ascii-string* |  
**hex**  
*hexidecimal-string*  
| **ip**  
*server-name/ip-address*} |

---

```
{relay source
network-number/n
etwork-mask}
```

---

```
Command Default      None
```

---

```
Command Modes      PerleSwitch(dhcp-config)#
```

---

```
Hardware model      All models
```

---

### Usage Guidelines

#### Command Options:

**address** - configure a reserved address  
**bootfile** - boot file name  
**class** - specify a DHCP class  
**client-identifier** - client-identified by client-id option  
**client name** - client host name  
**default router** - default routers  
**dns server** - DNS servers  
**domain name** - domain name  
**hardware address** - client hardware address  
**host** - client ip address and mask  
**lease** - address lease time  
**netbios name server** - NetBIOS (WINS) name servers  
**netbois node type** - NETBOIS node type  
**network** - network number and mask  
**next server** - next server in boot process  
**option** - raw DHCP options  
**relay source** - DHCP relay agent parameters

---

### Examples

This example sets lease time to 30 days.  
**PerleSwitch(dhcp-config)#lease 30<cr>**

---

### Related Commands

```
ip dhcp  

ip dhcp pool  

(config-dhcp-class-relayinfo)
```

## ip domain

```
ip {domain-lookup}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>ip domain</b>
<b>Description</b>	
	<b>{domain-lookup}</b>
<b>Command Default</b>	ip domain lookup
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Enables or disables DNS lookup. (Domain Name System hostname translation)	
<b>Examples</b>	
This will disable ip domain name resolution.	
<b>PerleSwitch#no ip domain lookup&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>ip name-server</i>	

## ip domain-name

**ip** {**domain-name** *domain-name*}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>ip domain name</b>
<b>Description</b>	
	<b>{domain-name</b> <i>domain-name</i> }
<b>Command Default</b>	no ip domain name
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Specify a default domain name.	
<b>Examples</b>	
This example will specify a default domain name of TestUnit.	
<b>PerleSwitch(config)#ip domain-name TestUnit&lt;cr&gt;</b>	

---

**Related Commands**

*(dhcp-config)*  
*ip name-server*

**ip forwarding-protocol**

**ip** {**forward-protocol** **udp** *udp-port-number*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip forward-protocol udp</b>
<b>Description</b>	

---

{**forward-protocol**  
**udp**  
*udp-port-number*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

This command controls forwarding of physical and directed IP broadcasts,

**Examples**

This example show how to forward IP broadcasts to udp port 500.

```
PerleSwitch(config)#ip forward-protocol udp 500<cr>
```

---

**Related Commands****ip ftp**

**ip** {**ftp passive**} | {**password** | *unencrypted* | *encrypted* | *cleartext*} |  
{**username** *user-name*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip ftp</b>
<b>Description</b>	

---

{**ftp passive** |

---

```
{password |
unencrypted |
encrypted |
cleartext}
```

---

```
{username
user-name}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

### Usage Guidelines

#### Command Options:

**passive** - connect using passive mode

**paasword:**

0 - Specifies that an UNENCRYPTED password will follow.

7 Specifies an ENCRYPTED password will follow

LINE - the UNENCRYPTED (cleartxt) password.

**username** - specify a username to use for ftp connections.

---

### Examples

This example will specify a username of Tom for ftp connections.

```
PerleSwitch(config)#ip username Tom<cr>
```

---

### Related Commands

[ip http](#)

[ip scp](#)

[ip stfp](#)

[ip ssh](#)

## ip host

```
ip {host host-name host-ip-address}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>ip host</b>
<b>Description</b>	

---

```
{host host-name
host-ip-address}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

**Usage Guidelines**

Adds a host to the host table.

---

**Examples**

Add an ip host called office-host with an id address of 172.16.99.100 to the ip host table.

```
PerleSwitch(config)#ip#host office-host 172.16.99.100<cr>
```

---

**Related Commands**

*show hosts*

**ip http**

```
ip http {access-class 1-99} | {client password | unencrypted | encrypted | cleartext | proxy-server server-name | secure-trustpoint trustpoint-name | username username | verify server} | {server} | {secure-server} | {session-idle-timeout 1-1440}
```

Use the no form of this command to negate a command or set its defaults.

---

**Syntax** **ip http****Description**

---

{**access-class**  
*1-99*}

---

{**client password** |  
*unencrypted* |  
*encrypted* |  
*cleartext* |  
**proxy-server**  
*server-name* |  
**secure-trustpoint**  
*trustpoint-name* |  
**username**  
*username* | **verify**  
**server**}

---

{**server**}

---

{**secure-server**}

---

{**session-idle-timeout**  
*1-1440*}

---

**Command Default**

ip http server

ip http secure-server

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

**Usage Guidelines****Command Options:**

**access-class** - restrict http server by access class.  
**client password** - http client configuration commands  
**secure-server** - enable http secure server  
**server** - enable http server  
**session-idle-timeout** - sets the http server session idle timeout

---

**Examples**

This example will set the password for http clients.

```
PerleSwitch(config)#ip http password testuser<cr>
```

---

**Related Commands**

*ip http*  
*ip scp*  
*ip stfp*  
*ip ssh*

**ip igmp logging | snooping**

```
ip {igmp logging} | {snooping last-member-query-count 1-7 |
last-member-query-interval | querier [address] | [max -response-time] |
[query-interval] | [tcn] | [timer] | [version] | report-suppression |
robustness-variable 1-3 | tcn flood query count 1-10 | query solicit | vlan
vlan_interface_number [immediate-leave | [mrouter interface fastethernet slot
/port-number | gigabitethernet slot /port-number | port-channel channel |
querier | static }
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip igmp logging   snooping</b>
<b>Description</b>	

---

```
{igmp logging}
```

```
{snooping
last-member-quer
y-count 1-7 |
last-member-quer
y-interval |
querier [address]
| [max
-response-time] |
[query-interval] |
[tcn] | [timer] |
[version] |
report-suppression
|
robustness-variabl
e 1-3 | tcn flood
query count 1-10 |
query solicit |
vlan
vlan_interface_nu
mber
[immediate-leave
| [mrouter
interface
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
| port-channel
channel | querier
| static }
```



---

<b>Command Default</b>	<pre> ip igmp snooping last-member-query-count 2 ip igmp snooping last-member-query-interval ip igmp snooping querier address 0.0.0.0 ip igmp snooping querier max-response-time 5 ip igmp snooping querier query-interval 60 ip igmp snooping querier tcn query count 2 ip igmp snooping querier tcn query interval 10 ip igmp snooping querier timer expiry 120 ip igmp snooping querier version 2 no ip igmp snooping report-suppression ip igmp snooping robustness-variable 2 ip igmp snooping tcn flood query count 2 no igmp snooping tcn query solicit ip igmp snooping vlan1 no ip igmp snooping vlan 1 immediate-leave no igmp snooping vlan 1 querier no igmp snooping querier no ip igm snooping </pre>
------------------------	---

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

### Usage Guidelines

IGMP snooping allows a switch to snoop or capture information from IGMP packets transmitted between hosts and the switch. The switch will then determine whether to add or delete multicast addresses from its address table, thereby enabling or disabling multicast traffic from flowing to individual host ports.

### Examples

These examples enable and disable igmp logging.

```
PerleSwitch(config)# ip igmp logging<cr>
```

```
PerleSwitch(config)# no ip igmp logging cr> (shuts igmp logging off)
```

---

### Related Commands

*clear ip igmp*

*clear gmrp*

## ip name-server

```
ip {name-server a.b.c.d | x::x::x::x}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip name-server</b>
<b>Description</b>	

---

```
{name-server
a.b.c.d |
x::x:x::x}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

### Usage Guidelines

IPv4 address format *a.b.c.d* (maximum of 6)

IPv6 address format *x::x:x::x* (maximum of 6)

---

### Examples

This example shows you how to add three domain name servers.

```
PerleSwitch(config)# ip name-server 172.16.33.44 172.16.44.22 172.16.33.11
<cr>
```

---

### Related Commands

*hostname*

*(dhcp-config)*

## ip radius

```
ip {radius source-interface vlan 1-4094}
```

Use the no form of this command to negate the source-interface for RADIUS.

---

<b>Syntax</b>	<b>ip</b>
<b>Description</b>	

---

```
{radius
source-interface
vlan 1-4094}
```

---

<b>Command Default</b>	ip radius source-interface vlan 1
------------------------	-----------------------------------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

### Usage Guidelines

Specify interface for source address in RADIUS packets.

---

### Examples

This example specifies vlan 2 for source address for RADIUS packets.

```
PerleSwitch(config)#ip radius source-interface vlan 2<cr>
```

---

**Related Commands**

*aaa group*  
*PerleSwitch(config-sg-radius)#*  
*aaa accounting*  
*aaa authentication*  
*aaa authorization*

**ip scp**

**ip** {**scp password** [*unencrypted* | *encrypted* | *cleartext*] | **username** *user-name*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip scp</b>
<b>Description</b>	

---

{**scp password**  
[*unencrypted* |  
*encrypted* |  
*cleartext*] |  
**username**  
*user-name*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

**Usage Guidelines****Command Options:**

**password** - specify a password for connection to a remote host using scp.

**username** - specify a username for connecton to a remote host using scp.

---

**Examples**

This example sets a scp username and password to connect to a scp host.

```
PerleSwitch(config)#ip scp username lyn<cr>
```

```
PerleSwitch(config)#ip scp password perle<cr>
```

---

**Related Commands**

*ip http*  
*ip scp*  
*ip stfp*  
*ip ssh*

**ip service**

**address-conflict-detection**

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>address-conflict-detection</b>
<b>Description</b>	

---

<b>Command Default</b>	Function is disabled.
------------------------	-----------------------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

#### Usage Guidelines

Enables or disables the logic which checks if an IP address which is being assigned to a management VLAN on the switch is not currently in use on the network.

#### Examples

This will disable duplicate IP address checking.

```
PerleSwitch#no ip service address-conflict-detection <cr>
```

---

#### Related Commands

*show ip service*

*show facility-alarm*

## ip stfp

**ip** {**sftp password** *unencrypted* | *encrypted* | *cleartext* | **username** *user-name*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip stfp</b>
<b>Description</b>	

---

```
{sftp password
unencrypted |
encrypted |
cleartext |
username
user-name}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

**Usage Guidelines****Command Options:**

**password** - specify a password for connection to a remote host using stfp.

**username** - specify a username for connecton to a remote host using stfp.

---

**Examples**

This example sets a stfp username and password to connect to a stfp host.

```
PerleSwitch(config)#ip stfp username lyn<cr>
```

```
PerleSwitch(config)#ip stfp password perle<cr>
```

---

**Related Commands**

[ip http](#)

[ip scp](#)

[ip stfp](#)

[ip ssh](#)

## ip ssh

```
ip {ssh authentication-retries 0-5} | {pubkey-chain} | {server} |  
{stricthostkeychecking} | {timeout 1-120} | {version 1-2}
```

Use the no form of this command to negate a command or set it to its defaults.

Enable

---

**Syntax** `ip ssh`

**Description**

---

```
{ssh  
authentication-  
retries 0-5} |  
{pubkey-chain} |  
{server} |  
{stricthostkeychec  
king} | {timeout  
1-120} | {version  
1-2}
```

---

<b>Command Default</b>	ip ssh server ip ssh timeout 120 no ip ssh stricthostchecking ip ssh authentication-retries 3
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

**Usage Guidelines**

Enables SSH server within the switch to allow ssh client connections.

Configuration of ssh parameters.

---

**Examples**

This example sets the ip ssh timeout interval to 60 seconds.

```
PerleSwitch(config)#ip ssh timeout 60<cr>
```

---

**Related Commands**

*ip http*

*ip scp*

*ip stfp*

*ip ssh*

*ip telnet*

**ip subnet-zero**

**ip** {**subnet-zero**}

Use the no form of this command to negate a command or set its defaults.

Syntax	<b>ip subnet-zero</b>
Description	
Command Default	None
Command Modes	PerleSwitch(config)#

**Usage Guidelines**

Allow "subnet zero" subnets. Use all the zero and ones subnets.

**Examples**

This example will allow subnets with subnets of all 0's or 1's.

```
PerleSwitch(config)#ip subnet-zero<cr>
```

---

**Related Commands****ip tacacs**

**ip** {**tacacs source-interface** **vlan** *vlan\_interface\_number*}

Use the no form of this command to negate a command or set its defaults.

Syntax	<b>ip tacacs</b>
Description	

```
{tacacs
source-interface
vlan
vlan_interface_number}
```

<b>Command Default</b>	ip tacacs source-interface vlan 1
------------------------	-----------------------------------

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

### Usage Guidelines

Specify the source interface for TACACS packets.

### Examples

This example sets the source interface for TACACS to vlan 2

```
PerleSwitch(config)#ip tacacs source-interface vlan 2<cr>
```

### Related Commands

## ip telnet

```
ip {telnet server}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>ip telnet</b>
<b>Description</b>	

```
{telnet server}
```

<b>Command Default</b>	ip telnet server
------------------------	------------------

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

### Usage Guidelines

Enable or disable the server.

### Examples

This example turns telnet server off.

```
PerleSwitch(config)#no ip telnet server<cr>
```

### Related Commands

[ip ssh](#)

## ipv6

**ipv6 {host | mld | neighbor | radius source interface vlan 1-4094 | tacacs source interface vlan 1-4094}**

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip v6 host</b>
<b>Description</b>	

---

**{host | mld | neighbor | radius source interface vlan 1-4094 | tacacs source interface vlan 1-4094}**

---

### Command Default

```

ipv6 mld snooping last-listener-query-count 2
ipv6 mld snooping last-listener-query-interval 1000
no ipv6 mld snooping listener-message-suppression
ipv6 mld snooping querier max-response-time 5
ipv6 mld snooping querier query-interval 60
ipv6 mld snooping querier tcn query count 2
ipv6 mld snooping querier tcn query interval 10
ipv6 mld snooping querier timer expiry 120
ipv6 mld snooping robustness-variable 2
ipv6 mld snooping tcn flood query count 2
no ipv6 mld snooping tcn query solicit
ipv6 mld snooping vlan 1
no ipv6 mld snooping vlan 1 immediate-leave
no ipv6 mld snooping vlan 1 querier
no ipv6 mld snooping querier
no ipv6 mld snooping
ipv6 radius source-interface vlan 1
ipv6 tacacs source-interface vlan 1

```

---

### Command Modes

PerleSwitch(config)#

---

### Usage Guidelines

**host** - configure static IPv6 hosts

**mld** - enable local MLD snooping for vlans

**neighbors** - add permanent neighbor entries

**radius** - configurations options for source interface

**tacacs** - configurations options for source interface



---

**Examples**

This example will add a static IPv6 host to the host table.

```
PerleSwitch(config)#ipv6 host testhost 123:123:123:123::123<cr>
```

```
PerleSwitch# show hosts<cr>
```

Host table :

```
testhost    123:123:123:123::123
```

---

**Related Commands**

*ip host*

## lACP

**lACP** {**system-priority** *0-65535*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>lACP</b>
---------------	-------------

<b>Description</b>	
--------------------	--

---

{**system-priority**  
*0-65535*}

---

<b>Command Default</b>	lACP system-priority 65535
------------------------	----------------------------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

**Usage Guidelines**

The lACP command determines which switch in an LACP link controls port priorities. The switch with the lowest LACP priority number determines which switch is in control.

---

**Examples**

This example set this switch to system priority 200.

```
PerleSwitch(config)#lACP system-priority 200<cr>
```

---

**Related Commands**

*lACP*

*show lACP*

## lldp

**lldp** {**hold-mult** *2-10*} | {**logging**} | {**notification-interval** *5-3600*} | {**reinit**  
*-1-10*} | {**run**} | {**timer** *5-32768*} | {**tlv-select** **link-aggregate** | **mac-phy-cfg**  
| **management-address** | **max-frame-size** | **port-description** **port-vlan** |  
**system-capabilities** | **system-description** | **system-name** | **vlan-name**} |  
{**tx-delay** *1-8192*}

Use the no form of this command to negate a command or set its defaults.

Syntax	lldp
<b>Description</b>	
{hold-mult 2-10}	
{logging}	
{notification-inter val 5-3600}	
{reinit -1-10}	
{run}	
{timer 5-32768}	
{tlv-select link-aggregate   mac-phy-cfg   management-address   max-frame-size   port-description port-vlan   system-capabilities   system-description   system-name   vlan-name   profinet-ports   profinet-alias   profinet-mrp }	
{tx-delay 1-8192}	
<b>Command Default</b>	lldp run lldp hold-mult 4 lldp tx-delay 2 lldp reinit 2 no lldp logging lldp timer 30
<b>Command Modes</b>	PerleSwitch(config)#

---

**Usage Guidelines**

**hold-mult** -LDP transmit hold multiplier.

**logging** - enable/disable LLDP neighbor discovery logging.

**notification interval** -specify the minimum time (in secs) between successive LLDP SNMP notifications.

**reinit** - specify the delay (in secs) for the LLDP to initialize.

**run** - enable/disable lldp

**timer -rate** at which LLDP packets are sent in seconds.

**tlv-select** - selection of LLDP TLVs the ports are to transmit to their neighbors.

**tx-delay** - delay (in) sec between successive LLDP frame transmissions.

---

**Examples**

This example sets the tx-delay to 10 seconds.

```
PerleSwitch(config)#lldp tx-delay 10<cr>
```

---

**Related Commands**

*show lldp*

## location

**location** {**civic-location identifier** *civic identifier string*} | {**elin-location** *elin-number identifier elin-identifier string*}

Use the no form of this command to negate a command or set its defaults.

---

Syntax	<b>location</b>
Description	

---

{**civic-location**  
**identifier** *civic*  
*identifier string*}

---

{**elin-location**  
*elin-number*  
**identifier**  
*elin-identifier*  
*string*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

---

**Usage Guidelines.**

Select either civic location or elin location to select submenu to configure.location parameters.

---

**Examples**

This example sets location to civic with identifier of civic-name-1.

```
PerleSwitch(config)location civic-location identifier civic-name-1<cr>
```

```
PerleSwitch(config-civic)#
```

---

**Related Commands**

*(config-civic)*

*show location*

**(config-civic)**

```
{[location additional-location-information additonal-civic-info] | [building
building-infor] | [city city-name] | [country two-letter-iso-country-code] |
[county county-name] | [division city-division-name] | [floor floor-number] |
[landmark landmark-information] | [anguage language] | [leading-street-dir
direction-of-leading-street] | [name resident-name] | [neighborhood
neighborhood-information] | [number street-number] | [postal-code
postal-code] | [room room-information] | [script script] | [state state-name]
| [street-group] | [street-number-suffix] | [trailing-street-suffix] |
[type-of-place type-of-place] | [unit unit]} | {location elin-location
elin-number identifier elin-id-string}
```

Use the no form of this command to negate a command or set its defaults.

---

Syntax	<b>location</b>
Description	

```

{[location
additional-location
-information
additonal-civic-info
] | [building
building-infor] |
[city city-name] |
[country
two-letter-iso-count
ry-code] | [county
county-name] |
[division
city-division-name]
| [floor
floor-number] |
[landmark
landmark-informat
ion] | [anguage
language] |
[leading-street-dir
direction-of-leadin
g-street] | [name
resident-name] |
[neighborhood
neighborhood-info
rmation] |
[number
street-number] |
[postal-code
postal-code] |
[room
room-information]
| [script script] |
[state state-name]
| [street-group] |
[street-number-suf
fix] |
[trailing-street-suf
fix] |
[type-of-place
type-of-place] |
[unit unit]} |

```

**{location**  
**elin-location**  
*elin-number*  
**identifier**  
*elin-id-string*}

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

### Usage Guidelines

Sets additional information for location.

<https://www.unc.edu/~rowlett/units/codes/country.htm>

Maximum length of this field is 256. Character count will show you the remaining character count. The CA must be filled in or it will be padded with 2 blank characters.

### Examples

This example set additional parameters for building and city.

```
PerleSwitch(config-civic)#building maincampus<cr>
```

```
PerleSwitch(config-civic)#city toronto<cr>
```

### Related Commands

[\(config-civic\)](#)

[show location](#)

## logging

```
logging {ip_address host_name} | {alarm-severity [major | minor]} |
{buffered [level 0-7 | 4096-32768] | [alert] | [critical] | [debugging] |
emergencies] | [errors] | [informational] | [notifications] | [warnings]} |
{console [severity-level 0-7] | [alert] | [critical] | [debugging] | [emergencies] |
[errors] | [informational] | [notifications] | [warnings]} | {delimiter tcp} |
{facility auth | cron | daemon | kern | local0 | local1 | local2 | local3 |
local4 | local5 | local6 | local7 | lpr | mail | news | sys10 | sys11 |
sys12 | sys13 | sys14 | sys9 | syslog | user | ucp} | {file flash: filename
[0-7] | [4096-32768] | [alert] | [critical] | [debugging] | [emergencies] |
[errors] | [informational] | [notifications] | [warnings]} | {host
ip_address host_name [transport tcp port 1-65535 | udp port 1-65535]} |
{monitor [0-7] | [4096-32768] | [alert] | [critical] | [debugging] |
[emergencies] | [errors] | [informational] | [notifications] | [warnings]} |
{on} | {origin-id | [hostname] | [ip] | [ipv6] | [string]} | {rate-limit
1-10000 [except [0-7] | [4096-32768] | [alert] | [critical] | [debugging] |
[emergencies] | [errors] | [informational] | [notifications] | [warnings]}
{source interface vlan 1-4094} | {trap [0-7] | [4096-32768] | [alert] |
```

[critical] | [debugging] | [emergencies] | [errors] | [informational] | [notifications] | [warnings]}

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**                    **logging**  
**Description**

---

{*ip\_address\_host\_name*} |

---

{*alarm-severity*  
[**major** | **minor** ]}  
|

---

{**buffered** [*level*  
0-7] |  
[4096-32768]} |

---

{**console**  
[*severity-level 0-7*]  
| [**alert**] |  
[**critical**] |  
[**debugging**] |  
[**emergencies**] |  
[**errors**] |  
[**informational**] |  
[**notifications**] |  
[**warnings**]}

---

{**delimiter tcp**}

---

{**facility auth** |  
**cron** | **daemon** |  
**kern** | **local0** |  
**local1** | **local2** |  
**local3** | **local4** |  
**local5** | **local6** |  
**local7** | **lpr** |  
**mail** | **news** |  
**sys10** | **sys11** |  
**sys12** | **sys13** |  
**sys14** | **sys9** |  
**syslog** | **user** |  
**ucp**} |

---

```
{file flash:  
filename [0-7] |  
[4096-32768] |  
[alert] | [critical]  
| [debugging] |  
[emergencies] |  
[errors] |  
[informational] |  
[notifications] |  
[warnings]}
```

---

```
{host  
ip_address_host_n  
ame [transport tcp  
port 1-65535 |  
udp port  
1-65535]}
```

---

```
{monitor [0-7] |  
[4096-32768] |  
[alert] | [critical]  
| [debugging] |  
[emergencies] |  
[errors] |  
[informational] |  
[notifications] |  
[warnings]} |
```

---

```
{on} |
```

---

```
{origin-id |  
[hostname] [ ip] |  
[ipv6] | [string]}
```

---

```
{rate-limit  
1-10000 [except  
[0-7] |  
[4096-32768] |  
[alert] | [critical]  
| [debugging] |  
[emergencies] |  
[errors] |  
[informational] |  
[notifications] |  
[warnings]} |
```



---

```
{source interface
vlan 1-4094} |
```

---

```
{trap [ 0-7] |
[4096-32768] |
[alert] | [critical]
| [debugging] |
[emergencies] |
[errors] |
[informational] |
[notifications] |
[warnings]}
```

---

**Command Default**

```
logging buffered 4096 debugging
logging console debugging
logging monitor debugging
```

---

**Command Modes**

```
PerleSwitch(config)#
```

---

**Hardware model**

```
All models
```

---

**Usage Guidelines**

Enable logging setting.

---

**Examples**

This example will enable logging to the host 172.16.55.88.

```
PerleSwitch(config)#logging 172.16.55.88<cr>
```

---

**Related Commands**

*show logging*

## login

```
login {[on-failures [every 1-65535] | [log every 1-65535] | [trap every
1-65535]} | {on-success [every 1-65535] | [log every 1-65535] | [trap every
1-65535]}
```

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**

```
login
```

**Description**

```
{[on-failures
[every 1-65535] |
[log every
1-65535] |
```

```
{on-success [every
1-65535] | [log
every 1-65535] |
[trap every
1-65535]}
```

---

**Command Default**

---

**Command Modes**

PerleSwitch(config)#

---

**Hardware model**

All models

---

### Usage Guidelines

**on-failures** - failure logins

**on-success** - successful logins

**every/log/trap** - number of times login success needs to happen before the event is recorded.

---

### Examples

This example will log all successes logins to syslog.

```
PerleSwitch(config)#login on-success log<cr>
```

---

### Related Commands

*show logging*

## mac address-table

```
mac {address-table aging time 0 | 15-3825} | {learning fastethernet slot /
port-number | gigabitethernet slot / port-number | port-channel channel vlan
1-4094} | {address-table move update receive | transmit} | {notification
mac-move [syslog] | [threshold 1-1000] | [trap]} | {quick-disconnect
fastethernet slot / port-number | gigabitethernet slot / port-number
port-channel channel} | {[static address 48 bit mac address vlan 1-4094 drop |
interface fastethernet slot / port-number | gigabitethernet slot / port-number |
port-channel channel] | [ip hostname or ip address vlan 1-4094 drop | interface
fastethernet slot / port-number | gigabitethernet slot / port-number |
port-channel channel] | [ipv6 x:x:x::x vlan 1-4094 drop | interface
fastethernet slot / port-number | gigabitethernet slot / port-number |
port-channel channel]}
```

---

**Syntax**

**mac address-table**

**Description**

---

```
{address-table  
aging time 0 |  
15-3825} |
```

---

```
{learning  
fastethernet slot /  
port-number |  
gigabitethernet  
slot / port-number  
| port-channel  
channel vlan  
1-4094} |
```

---

```
{address-table  
move update  
receive |  
transmit} |
```

---

```
{notification  
mac-move [syslog]  
| [threshold  
1-1000] | [trap]} |
```

---

```
{quick-disconnect  
fastethernet slot /  
port-number |  
gigabitethernet  
slot / port-number  
port-channel  
channel}
```

```
{[static address 48
bit mac address
vlan 1-4094 drop |
interface
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
| port-channel
channel] | [ip
hostname or ip
addressvlan 1-4094
drop | interface
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
| port-channel
channel] | [ipv6
x:x:x:x::x vlan
1-4094 drop |
interface
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
| port-channel
channel]}}
```

---

**Command Default**

---

**Command Modes**

PerleSwitch(config)#

---

**Hardware model**

All models

---

**Usage Guidelines**

---

**Examples**

---

**Related Commands**
**mls**

**mls** {**qos output-queue** [**cos-map 0-7 queue 0-3/7**] | [**dscp-map 0-63 queue 0-3/7**]}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>mls</b>
<b>Description</b>	

<b>{qos output-queue</b> <b>[cos-map 0-7</b> <b>queue 0-3/7]  </b> <b>[dscp-map 0-63</b> <b>queue 0-3/7]}</b>	Range of output queues depends on specific switch. Some have 4 output queues and some have 8.
---	---

---

<b>Command Default</b>	no mls qos trust mls qos cos 0 no mls qos cos override
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Enables the quality of service (QoS) globally on the switch. This setting will override any mls configuration done at the interface level

---

**Examples**

This example will set QoS trust on interface g1/2 for dscp.

```
PerleSwitch(config)#interface g1/2<cr>
PerleSwitch(config-if)mls qos trust dscp<cr>
PerleSwitch(config-if)exit<cr>
PerleSwitch(config)exit<cr>
PerleSwitch#show mls qos interface g1/2<cr>
```

```
GigabitEthernet1/2
trust state: DSCP
trust mode: DSCP
trust enabled flag: enable
CoS override: enable
default CoS: 0
```

---

**Related Commands***show mls**fair-queue***monitor**

**monitor** {*session 1-1* **source** *fastethernet slot / port-number* | **gigabitethernet slot / port-number** [*^> | , | - | both | rx | tx* ]} | {**destination interface** *fastethernet slot / port-number* | **gigabitethernet slot / port-number**}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>monitor</b>
<b>Description</b>	

---

{*session 1-1* **source** *fastethernet slot / port-number* | **gigabitethernet slot / port-number** [*^> | , | - | both | rx | tx* ]}

{**destination interface** *fastethernet slot / port-number* | **gigabitethernet slot / port-number**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

This command is used to mirror traffic received on a source port/s and send that traffic to a destination port..

**session** - select session

**destination** - select a destination port for the data to be steamed to (only one destination port)

**source** - one or many source ports to mirror the traffic

---

**Examples**

This example show you how to monitor session 1 interface gigabitethernet 1/1 and mirror the data received and output it to a destination port.

**PerleSwitch(config)#monitor session 1 destination interface<cr>**

---

### **Related Commands**

*logging*

*show monitor*

*debug*

*tracert*

*ping*

## mrp

**mrp** {ring <1-1 >}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>mrp</b>
<b>Description</b>	
<b>mrp</b> {ring <1-1 >}	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

### Usage Guidelines

Enter MRP submenu and set the default ring protocol for DIP switches to MRP.

Under the MRP submenu, the user can set various parameters associated with the MRP feature.

If Profinet MRP is enabled, the ability to manually configure and manage MRP is disabled. It can only be managed via the Profinet protocol.

### Examples

This example show you how to enter mrp submenu mode.

```
PerleSwitch(config)#mrp ring 1<cr>
```

### Related Commands

## (config-mrp)#mode

**mode** {auto | client | manager}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>mode</b>
<b>Description</b>	
<b>mode</b> {auto   client   manager}	
<b>Command Default</b>	mode auto
<b>Command Modes</b>	PerleSwitch(config-mrp)#
<b>Hardware model</b>	All models



---

### Usage Guidelines

Sets the mode of the switch on the ring.

Auto - Will dynamically determine the role of the node to be either master or client. In this mode, all the nodes on the ring will arbitrate who the manager node will be. The winner will become the "manager" and all other nodes (which are set to "auto") will assume the role of "client". If the ring includes a node which does not support the "auto" mode, but also includes other nodes which do support this mode, the node which doesn't support "auto" must be set to "client". Alternatively, the user can manually set one node to "master" and all of the rest of the nodes to "client" since a ring can only support one manager node.

If the node elected to be the "manager" stops working (i.e. stops sending beacon frames on the ring), the switches on the ring will elect a new node to act as the manager.

When arbitrating for which node will be the master, the lowest priority value will win. If there is a tie with regards to priority value, the lowest MAC address will win.

Master - Fixes the role of the node as ring master.

Client - Fixes the role of the node as ring client.

---

### Examples

This example show you how to set the mode to manager.

First enter MRP config submenu.

```
PerleSwitch(config)#mrp ring 1<cr>
```

Next set the mode.

```
PerleSwitch(config-mrp)#mode manager<cr>
```

---

### Related Commands

*mrp*

*show mrp*

### (config-mrp-auto)

```
{autoconfig} | {domain-id <uuid-string>} | {domain-name<name-string>} |  
{priority <0-65535>} | {profile 10 | 200 | 30 | 500} | {vlan-id<1-4000>}
```

Use the no form of this command to negate a command or set its defaults.

---

Syntax	(config-mrp-auto)
--------	-------------------

Description	
-------------	--

---

{ <b>autoconfig</b> }	
-----------------------	--

<b>{domain-id</b> <b>&lt;uuid-string&gt; }</b>	36 character, hexadecimal Default: ffffffff-ffff-ffff-ffffffffffff
<b>{domain-name</b> <b>&lt;name-string&gt; }</b>	Default: IDS MRP Ring
<b>{priority}</b> <b>&lt;0-65535&gt;  </b>	Used when arbitrating for manager. Default: 32768
<b>{profile 10   200  </b> <b>30   500}  </b>	Default: 200 ms
<b>{vlan-id</b> <b>&lt;1-4000&gt; }</b>	Default: 1
<b>Command Default</b>	
<b>Command Modes</b>	PerleSwitch(config-mrp-manager)#
<b>Hardware model</b>	All models

### Usage Guidelines

This command will configure the MRP parameters which will be used if the node is in "auto manager" mode.

The following parameters can be set;

**autoconfig** - running autoconfig will automatically detect and configure your switches on this ring.

**domain-id** of the ring. The uuid string must be a string of 32 hexadecimal digits in five groups separated by hyphens. (see example below). The ID is used to easily identify the ring when displaying the status.

**domain-name** - this is the domain name for this ring. Up to 32 characters long.

**priority** - the manager priority for multiple managers is not supported , so this parameter is not currently used.

**profile** - the profile sets the maximum convergence time in ms after a fault has been detected on the ring.

**vlan-id** - the ring will run on the configured vlan id <1-4000>

---

**Examples**

Enter the mrp configuration mode

```
(config)#mrp ring 1<cr>
```

Set the mode to "auto"

```
(config-mrp)#mode auto
```

Set the domain-id 641d931f-f1aa-50e5-b625-537564531f1f

```
PerleSwitch(config-mrp-auto)# domain-id  
641d931f-f1aa-50e5-b625-537564531f1f <cr>
```

Set the domain name to ids-production.

```
PerleSwitch(config-mrp-auto)#domain-name ids-production<cr>
```

Set the profile maximum recovery time to 200 milliseconds.

```
PerleSwitch(config-mrp-auto)#profile 200 <cr>
```

Set the vlan id to 10

```
PerleSwitch(config-mrp-auto)#vlan-id 10 <cr>
```

---

**Related Commands**

*mrp*

*(config-mrp)#mode*

**(config-mrp-client)**

```
{domain-id <uuid-string>} | {domain-name<name-string>} | {profile 10 |  
200 | 30 | 500} | {vlan-id<1-4000>}
```

Use the no form of this command to negate a command or set its defaults.

---

**Syntax (config-mrp-client)****Description**

---

{ <b>domain-id</b> <uuid-string>}	36 character, hexadecimal Default: ffffffff-ffff-ffff-ffffffffffff
--------------------------------------	---

---

{ <b>domain-name</b> <name-string>}	Default: IDS MRP Ring
--	-----------------------

---

{ <b>profile 10   200   30   500</b> }	Default: 200 ms
--	-----------------

---

{ <b>vlan-id</b> <1-4000>}	Default: 1
-------------------------------	------------

---

**Command Default****Command Modes**

PerleSwitch(config-mrp-client)#

**Hardware model**

All models

---

---

### Usage Guidelines

This command will configure the MRP parameters which will be used if the node is in "mrp client" mode.

The following parameters can be set;

**domain-id** of the ring. The uuid string must be a string of 32 hexadecimal digits in five groups separated by hyphens. (see example below). The ID is used to easily identify the ring when displaying the status.

**domain-name** - this is the domain name for this ring. Up to 32 characters long.

**profile** - the profile sets the maximum convergence time in ms after a fault has been detected on the ring.

**vlan-id** - the ring will run on the configured vlan id <1-4000>

---

### Examples

Enter the mrp configuration mode

```
(config)#mrp ring 1<cr>
```

Set the mode to "client"

```
(config-mrp)#mode client
```

Set the domain-id 641d931f-f1aa-50e5-b625-537564531f1f

```
PerleSwitch(config-mrp-client)# domain-id  
641d931f-f1aa-50e5-b625-537564531f1f <cr>
```

Set the domain name to ids-production.

```
PerleSwitch(config-mrp-client)#domain-name ids-production<cr>
```

Set the profile maximum recovery time to 200 milliseconds.

```
PerleSwitch(config-mrp-client)#profile 200 <cr>
```

Set the vlan id to 10

```
PerleSwitch(config-mrp-client)#vlan-id 10 <cr>
```

---

### Related Commands

*mrp*

*(config-mrp)#mode*

### (config-mrp-manager)

```
{autoconfig} | {domain-id <uuid-string>} | {domain-name<name-string>} |  
{priority <0-65535>} | {profile 10 | 200 | 30 | 500} | {vlan-id<1-4000>}
```

Use the no form of this command to negate a command or set its defaults.

---

Syntax	(config-mrp-manager)
Description	

<b>{autoconfig}</b>	
<b>{domain-id</b> <b>&lt;uuid-string&gt; }</b>	36 character, hexadecimal Default: ffffffff-ffff-ffff-ffffffffffff
<b>{domain-name</b> <b>&lt;name-string&gt; }</b>	Default: IDS MRP Ring
<b>{priority}</b> <b>&lt;0-65535&gt;  </b>	Default: 32768
<b>{profile 10   200  </b> <b>30   500}  </b>	Default: 200 ms
<b>{vlan-id</b> <b>&lt;1-4000&gt; }</b>	Default: 1
<b>Command Default</b>	
<b>Command Modes</b>	PerleSwitch(config-mrp-manager)#
<b>Hardware model</b>	All models

### Usage Guidelines

This command will configure the MRP parameters which will be used if the node is in "mrp manager" mode.

The following parameters can be set;

**autoconfig** - running autoconfig will automatically detect and configure your switches on this ring.

**domain-id** of the ring. The uuid string must be a string of 32 hexadecimal digits in five groups separated by hyphens. (see example below). The ID is used to easily identify the ring when displaying the status.

**domain-name** - this is the domain name for this ring. Up to 32 characters long.

**priority** - the manager priority for multiple managers is not supported , so this parameter is not currently used.

**profile** - the profile sets the maximum convergence time in ms after a fault has been detected on the ring.

**vlan-id** - the ring will run on the configured vlan id <1-4000>

---

**Examples**

Enter the mrp configuration mode

```
(config)#mrp ring 1<cr>
```

Set the mode to "manager"

```
(config-mrp)#mode manager
```

Set the domain-id 641d931f-f1aa-50e5-b625-537564531f1f

```
PerleSwitch(config-mrp-manager)# domain-id
```

```
641d931f-f1aa-50e5-b625-537564531f1f <cr>
```

Set the domain name to ids-production.

```
PerleSwitch(config-mrp-manager)#domain-name ids-production<cr>
```

Set the profile maximum recovery time to 200 milliseconds.

```
PerleSwitch(config-mrp-manager)#profile 200 <cr>
```

Set the vlan id to 10

```
PerleSwitch(config-mrp-manager)#vlan-id 10 <cr>
```

---

**Related Commands**

*mrp*

*(config-mrp)#mode*

## network-policy

```
network-policy {profile 1-4294967295}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>network-policy</b>
<b>Description</b>	

---

{profile  
1-4294967295}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

If the profile exists you will be in configuration mode for that network-policy profile, if not the profile will be created for you.

---

**Examples**

This example show s you how to create policy profile 1.

```
PerleSwitch#network-policy profile 1<cr>
```

**Command**

*show network-policy*  
*(config-network-policy)*

**(config-network-policy)**

```
{voice vlan 1-4094 [cos 0-7] | [dscp 0-63] | dot1x [cos 0-7] | [dscp 0-63]
| [none] | [untagged]} | {[voice-signalling vlan 1-4094 [cos 0-7] | [dscp
0-63] | dot1p [cos 0-7] | [dscp] | [none] | [untagged]}
```

Use the no form of this command to negate a command or set its defaults.

Syntax	(config-network-policy)#
Description	

```
{voice vlan 1-4094
[cos 0-7] | [dscp
0-63] | dot1x [cos
0-7] | [dscp 0-63]
| [none] |
[untagged]}
```

```
[voice-signalling
vlan 1-4094 [cos
0-7] | [dscp 0-63]
| dot1p [cos 0-7] |
[dscp] | [none] |
[untagged]}
```

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	PerleSwitch(config-network-policy)#
----------------------	-------------------------------------

<b>Hardware model</b>	All models
-----------------------	------------

**Usage Guidelines**

Configuration network policy commands.

**voice** - voice appliance attributes

**voice-signaling** - voice signaling appliance attributes

**Examples**

This example will set voice attribute on vlan 2 to use cos priority 3 for voices devices.

```
PerleSwitch(config-network-policy)#voice vlan 2 cos 3<cr>
```

---

**Related Commands**
**ntp**

```
ntp {authentication} | {authentication-key 1-65534 md5 [authentication-key]
|[0 unencrypted-key] |[7 encrypted-key]} | {broadcastdelay 1-999999} |
{logging} | {master 1-15} | {[peer aaa.bbb.ccc.ddd] | [hostname-of-peer] |
{x:x:x:x:x} | ip ip-name-resolution | ipv6 ipv6-name-resolution]} | {server
[aaa.bbb.ccc.ddd] | [hostname-of-peer] | [x:x:x:x:x] | [ip
ip-name-resolution] | [ipv6 ipv6-name-resolution]} | {trusted-key 1-65534}
```

Use the no form of this command to negate a command or set its defaults.

---

Syntax	<b>ntp</b>
Description	

---

```
{authentication} |
```

---

```
{authentication-key
1-65534 md5
[authentication-key
] |[0
unencrypted-key] |
[7 encrypted-key]}
|
```

---

```
{broadcastdelay
1-999999} |
```

---

```
{logging} |
```

---

```
{master 1-15} |
```

---

```
{[peer
aaa.bbb.ccc.ddd] |
[hostname-of-peer]
| {[x:x:x:x:x] |
ip
ip-name-resolution
| ipv6
ipv6-name-resoluti
on]} |
```



```

{server
 [aaa.bbb.ccc.ddd]
 |
 [hostname-of-peer]
 | [x:x:x:x::x] | [
ip
ip-name-resolution
] | [ipv6
ipv6-name-resoluti
on}} |

```

```

{trusted-key
1-65534}

```

<b>Command Default</b>	no ntp disable
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

**Usage Guidelines**

**Command Options**

- authenticate** - authenticate time sources
- authentication-key** - authentication key for trusted time sources
- broadcast delay** - estimated round trip delay
- logging** - enable ntp logging
- master** - act as a master ntp clock
- peer** - configure ntp peer
- server** - configure ntp server
- trusted-key** - key numbers for trusted time sources

---

**Examples**

This example shows you how to use a ntp server to synchronize the switch's internal clock.

**PerleSwitch(config)#ntp logging<cr>**

**PerleSwitch(config)#ntp server 172.16.4.181<cr>**

```
23:40:31: %NTPD-5: ntpd 4.2.8p6@1.3265-o Wed May 18 14:33:49 UTC 2016 (10):
Starting
23:40:31: %NTPD-6: Command line: ntpd -n -g
23:40:31: %RSYSLOGD-6:LOGGINGHOST_STARTSTOP: Logging to UDP host
172.16.55.88 port 514 started
23:40:31: %NTPD-6: proto: precision = 3.840 usec (-18)
23:40:31: %NTPD-6: Listen and drop on 0 v6wildcard [::]:123
23:40:31: %NTPD-6: Listen and drop on 1 v4wildcard 0.0.0.0:123
23:40:31: %NTPD-6: Listen normally on 2 lo 127.0.0.1:123
23:40:31: %NTPD-6: Listen normally on 3 V11 172.16.113.77:123
23:40:31: %NTPD-6: Listen normally on 4 lo [::1]:123
23:40:31: %NTPD-6: Listen normally on 5 Gi2 [fe80::6ac9:bff:fec1:58da%4]:123
23:40:31: %NTPD-6: Listen normally on 6 Gi1 [fe80::6ac9:bff:fec1:58d9%3]:123
23:40:31: %NTPD-6: Listen normally on 7 eth0 [fe80::6ac9:bff:fec1:58d8%2]:123
23:40:31: %NTPD-6: Listening on routing socket on fd #38 for interface updates
23:40:31: %NTPD-3: Unable to listen for broadcasts, no broadcast interfaces available
23:40:31: %NTPD-6: 0.0.0.0 c01d 0d kern kernel time sync enabled
23:40:31: %NTPD-6: 0.0.0.0 c012 02 freq_set kernel 0.000 PPM
23:40:31: %NTPD-6: 0.0.0.0 c011 01 freq_not_set
23:40:31: %NTPD-6: 0.0.0.0 c016 06 restart
NewSwitchName(config)# 23:40:33: %NTPD-6: Listen for broadcasts to 172.16.255.255 on
interface #3 V11
23:40:33: %RSYSLOGD-6:LOGGINGHOST_STARTSTOP: Logging to UDP host
172.16.55.88 port 514 started
23:40:35: %NTPD-6: 0.0.0.0 c614 04 freq_mode
```

**PerleSwitch(config)#do show ntp status<cr>**

```
Clock is synchronized, stratum 12, reference is 172.16.4.180
Precision is 2**-18 s
Reference time is dae84dc5.33013328 (Thu, May 19 2016 10:35:49.199)
Clock offset is 7.595002 msec, root delay is 0.439 msec
Root dispersion is 7956.293 msec
System poll interval is 64 s
```

**Related Commands**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>p-ring</b>
<b>Description</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Enter p-ring submenu mode..	
<b>Examples</b>	
This example shows you how to enter p-ring submenu mode. PerleSwitch(config)#p-ring<cr>	
<b>Related Commands</b>	
<i>ring</i>	

## ring

### (config-p-ring)

**p-ring** | {enable} | {mode client | manager} | {ring-port-1 fastethernet slot / port-number} | {gigabitethernet slot / port-number} | {port-channel 1-2} | {ring-port-2 fastethernet slot / port-number} | {gigabitethernet slot / port-number} | {port-channel 1-2} | {save} | {show}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>p-ring</b>
<b>Description</b>	
{enable}	
{mode client   manager}	
{p-ring-1 fastethernet slot / port-number   gigabitethernet slot / port-number   port-channel 1-2}	

---

```
{p-ring-2
fastethernet slot /
port-number |
gigabitethernet
slot / port-number
| port-channel 1-2}
```

---

```
{save} |
```

---

```
{show}
```

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-p-ring)#
<b>Hardware model</b>	All models

---

### Usage Guidelines

#### Command Options

**mode** - select with client or manager (only one manager per p-ring)

**ring-port-1** - first ring port

**ring-port-2** - second ring port

**save** - save config to running config

**show** - show config for p-ring

---

### Examples

This example will set p-ring to manager. There can only be one manager on a ping-ring. All other switches must be in client mode.

```
PerleSwitch(config-p-ring)#mode manager<cr>
```

### Related Commands

[\*show p-ring\*](#)

## power-supply

**power-supply dual**

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>power-supply</b>
<b>Description</b>	

---

**dual**

---

<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#

---

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Enable to monitor dual power supply status.

---

**Examples**

This example shows how to monitor for dual power supply status.

```
PerleSwitch(config)#power-supply dual<cr>
```

Related Commands

*show facility-alarm*

**profinet**

**profinet** {id | vlan | mrp}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>profinet</b>
---------------	-----------------

**Description**

<b>{cr  </b>	Enable Profinet on switch
<b>id  </b>	Set the Profinet "name of station"
<b>vlan  </b>	Set the Profinet vlan
<b>mrp }</b>	Enable Profinet MRP. This disables the ability to set MRP parameters via the "(config)#mrp" command.

---

**Command Default****Command Modes**

PerleSwitch(config)#

---

**Hardware model**

All models

---

**Usage Guidelines**

Command is used to set Profinet parameters.

By default, the IDS switch is in "Profinet auto mode" of operation. In this mode, it listens for Profinet frames. If Profinet frames are detected, the Profinet feature will be enabled automatically. This allows a switch which is in "factory default" state to be configured using the Profinet DCP utility. The user can force the Profinet state to enabled or disabled using the "Profinet" command.

---

**Examples**

This example shows how to enable Profinet , set the vlan for Profinet to 2 and enable Profinet Media Redundancy Protocol.

```
PerleSwitch(config)#Profinet
PerleSwitch(config)#profinet vlan 2<cr>
PerleSwitch(config)#profinet mrp <cr>
```

Related Commands

*show profinet*  
*(config-if)#profinet dcp*

**ptp**

**ptp** {**version 1** | **2**}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ptp</b>
<b>Description</b>	

{ <b>version 1</b>   <b>2</b> }	Select PTPv1 or PTPv2 version.
---------------------------------	--------------------------------

<b>Command Default</b>	ptp version 2
------------------------	---------------

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Set the version number for ptp.

**Examples**

This example sets the ptp version to 1.

```
PerleSwitch(config)#ptp version 1<cr>
```

Related Commands

*(config-ptp-v1)*  
*(config-ptp-v2)*

**(config-ptp-v1)**

**ptp** {**domain 0-3**} | {**mode boundary** | **forward**} | {**sync interval 0-5**}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-ptp-v1)</b>
<b>Description</b>	

---

**{domain 0-3} |**

---

**{mode boundary | forward}**

---

**{sync interval 0-5}**

---

**Command Default**

None

---

**Command Modes**

PerleSwitch(config-ptp-v1)#

---

**Hardware model**

All models

---

### Usage Guidelines

#### Command Options

**domain** - domain range

**mode** - ptpv1 clock mode configuration. Select boundary clock mode or forward ptpv1 PDUs mode

**sync interval** - interval between sync messages.

---

#### Examples

This example sets the mode to boundary for ptpv1.

```
PerleSwitch(config-ptp-v1)#mode boundary<cr>
```

Related Commands

[\(config-ptp-v2\)](#)

## (config-ptp-v2)

**{clock-class 0-255} | {domain 0-127} | {mode boundary-e2e | boundary-p2p | forward | transparent-e2e [one-step | two-step] | transparent-p2p} | {sync interval 0-5} | {priority1 0-255} | {transport 8023 | udp4 | udp}**

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**

**(config-ptp-v2)**

**Description**

---

**{clock-class 0-255}**  
|

---

**{domain 0-127} |**

---

```

{mode
boundary-e2e |
boundary-p2p |
forward |
transparent-e2e
[one-step |
two-step] |
transparent-p2p} |

```

---

```
{priority1 0-255} |
```

---

```
{transport 8023 |
udp4 | udp}
```

---

#### Command Default

```

ptpv2
mode transparent-e2e two-step
doamin 0
transport udp4
clock-class 248
priority1 128
priority2 128

```

---

#### Command Modes

```
PerleSwitch(config-ptp-v2)#
```

---

#### Hardware model

```
All models
```

---

#### Usage Guidelines

##### Command Options

```

clock-class - ptpv2 clock class configuration
domain - ptp2 domain configuration
mode - set type of clock mode
priority1 -ptpv2 clock priority1
priority2 -ptpv2 clock priority 2
transport - ptpv2 PDU transport type configuration

```

---

#### Examples

This example sets the mode clock type to forward.

```
PerleSwitch(config)#mode forward<cr>
```

#### Related Commands

[\(config-ptp-v1\)](#)

## radius

```
radius {server name-of-radius}
```



Use the no form of this command to negate the RADIUS server name.

<b>Syntax</b>	<b>radius</b>
<b>Description</b>	
	<b>{server name-of-radius}</b>
<b>Command Default</b>	radius-server retransmit 3 radius-server timeout 5 radius-server deadtime 0
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Set the RADIUS server name.	

#### Examples

This example sets the RADIUS server name to office-radius.

```
PerleSwitch(config)#radius server office-radius<cr>
```

### (config-radius-server)

```
radius {address [ipv4 a.b.c.d | ipv6 x:x:x:x::x | hostname] | [acct-port  
0-65535] | [auth-port 0-65535] | [key 0 | 7 | shared-key] | [retransmit 1-100] |  
timeout 1-1000}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>radius</b>
<b>Description</b>	
	<b>{address [ipv4 a.b.c.d   ipv6 x:x:x:x::x   hostname]   [acct-port 0-65535]   [auth-port 0-65535]   [key 0   7   shared-key]   [retransmit 1-100]   timeout 1-1000}</b>

<b>Command Default</b>	retransmit 3 timeout 5
<b>Command Modes</b>	PerleSwitch(config-radius-server)#
<b>Hardware model</b>	All models

### Usage Guidelines

#### Command Options

**address** - specify the address of the RADIUS server. (hostname must exist in the host table if specifying by hostname)

**key** - encryption key shared with the RADIUS server.

**retransmit** - specify the number of retries to the active server

**timeout** - time (in seconds) to wait for a RADIUS server to reply

#### Examples

This example shows you how to set the address for the RADIUS server to IPv4 address 172.16.55.44.

```
PerleSwitch(config)#address ipv4 172.16.55.44<cr>
```

## scada modbus

**tcp server** {<cr> | port <tcp number> | connections <number>}

Use the no form of this command to negate a command or set its defaults.

Syntax	tcp server
<b>Description</b>	
<cr>	Enable/Disable Modubs.
port <1-65535>	Set the TCP port number the Modbus server will listen on. Default port is 502
connection <1-5>	The number of simultaneous connection Modbus will support. Default is 1.
<b>Command Default</b>	Modbus is disabled by default.
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

### Usage Guidelines

The "scada" command is used to set the Modbus Server feature parameters. The user can enable/disable the server, set the TCP port the server listens on and define how many Modbus connections can exist at the same time.

The list of Modbus registers the user can read and their content is described following the "Related Commands" section.

---

## Examples

This example shows you how to set the Modbus parameters.

**PerleSwitch(config)#scada modbus tcp server<cr>**

Enables the Modbus Server feature.

**PerleSwitch(config)#scada modbus tcp server port 627<cr>**

The Modbus Server will listen on TCP port 627 for incoming Modbus requests.

**PerleSwitch(config)#scada modbus tcp server connections 2<cr>**

Two Modbus connections can be established at the same time.

---

## Related Commands

*show scada modbus*

*clear scada modbus*

## Global Modbus Registers.

Address	# of registers	Description	Format
0x0000	64	Vendor Name	Text
0x0040	64	Software Image Name	Text
0x0080	64	Software Image Version	Text
0x00C0	64	Product Name	Text
0x0100	64	System Name	Text
0x0140	64	Serial Number	Text
0x0180	64	Uptime (days, hours, minutes)	Text
0x0200	64	Alarm 1 Description	Text
0x0240	64	Alarm 2 Description	Text
0x0300	1	Power Supply 1 Status (1=good, 0=bad)	Uint16
0x0301	1	Power Supply 2 Status (1=good, 0=bad)	Uint16
0x0302	1	Alarm relay status (1 = alarm, 0 = no alarm)	Uint16
0x0303	1	Alarm input 1 (1=alarm, 0=no alarm,2=no digital input.	Uint16
0x0304	1	Alarm input 2 (1=alarm, 0=no alarm,2=no digital input.	Uint16
0x0305	1	System Temperature (in Celsius)	Int16

- **Port Specific Modbus Registers.**

Address	# of registers	Description	Format
0x1000	64	Port 1 Name	Text
0x1040	64	Port 2 Name	Text

0x1080	64	Port 3 Name	Text
....	....	Additional ports, up to the number of ports supported by your switch.	Text
0x1FC0	64	Port 64 Name	Text
0x2000	1	Port 1 Status 0 = link down, 1 = link up 2 = link disabled, F = no port	Uint16
0x2001	1	Port 2 Status 0 = link down, 1 = link up 2 = link disabled, F = no port	Uint16
....	....	Additional ports, up to the number of ports supported by your switch.	Uint16
0x203F	1	Port 64 Status 0 = link down, 1 = link up 2 = link disabled, F = no port	Uint16
0x2040	4	Port 1 Statistics, packets received	Uint64
0x2044	4	Port 2 Statistics, packets received	Uint64
....	....	Additional ports, up to the number of ports supported by your switch. If port does not exist, returns a zero value.	Uint64
0x213C	4	Port 64 Statistics, packets received	Uint64
0x2140	4	Port 1 Statistics, packets sent	Uint64
0x2144	4	Port 2 Statistics, packets sent	Uint64
....	....	Additional ports, up to the number of ports supported by your switch. If port does not exist, returns a zero value.	Uint64
0x223C	4	Port 64 Statistics, packets sent	Uint64
0x2240	4	Port 1 Statistics, bytes received	Uint64
0x2244	4	Port 2 Statistics, bytes received	Uint64
....	....	Additional ports, up to the number of ports supported by your switch. If port does not exist, returns a zero value.	Uint64
0x233C	4	Port 64 Statistics, bytes received	Uint64
0x2340	4	Port 1 Statistics, bytes sent	Uint64
0x2344	4	Port 2 Statistics, bytes sent	Uint64
....	....	Additional ports, up to the number of ports supported by your switch. If port does not exist, returns a zero value.	Uint64
0x243C	4	Port 64 Statistics, bytes sent	Uint64

## sdm

**sdm {dual prefer default | dual-ipv4-and-ipv6 default}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>sdm</b>
<b>Description</b>	
	<b>{dual prefer default   dual-ipv4-and-ipv6 default}</b>
<b>Command Default</b>	sdm prefer default
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
The sdm command is used to set IP protocols on your switch. By default the switch is set for IPv4. To enable both IPv4 and IPv6 see the example below.	
<b>Examples</b>	
This example shows you how to set the switch for both IPv4 and IPv6 traffic.	
<b>PerleSwitch(config)# sdm prefer dual-ipv4-and-ipv6 default&lt;cr&gt;</b>	
<b>Related Commands</b>	

## service

**service {dhcp} | {password-encryption} | {sequence-numbers} | {timestamps log [datetime] | [localtime] | [msec] | [showtime-zone] | [year] | uptime}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>service</b>
<b>Description</b>	

```
{dhcp} |
{password-encryption} |
{sequence-numbers} | {timestamps}
log [datetime] |
[localtime] |
[msec] |
[showtime-zone] |
[year] | uptime}
```

**Command Default**

```
service dhcp
no service sequences numbers
no service timestamps log uptime
```

**Command Modes**

```
PerleSwitch(config)#
```

**Hardware model**

```
All models
```

**Usage Guidelines**

**dhcp** - enable dhcp server and relay agent.

**password-encryption** - encrypt system passwords

**password-recovery**- configure password recovery

**sequence-numbers**- stamp logger messages with a sequence number.

**timestamp** - timestamp log messages

**Examples**

This example shows you how to encrypt system passwords.

```
PerleSwitch(config)# service password-encryption<cr>
```

**Related Commands**

*ip dhcp*

*(config-dhcp-class)*

*(config-dhcp-class-relayinfo)*

*release*

*renew*

**snmp-server**

```
snmp-server {community community-string [1-99] | [1300-1999]
[access-list-name] | [ro] | [rw]} | {contact contact-person-name} | {enable
traps [alarms 1-4 | [major] | [minor] | [authentication] |
[bandwidth-exceeded] | [bridge] | [dot1x] | [entity] | [envon] |
[errdisable] | [gmrp] | [gvrp] | [igmp] | [link-standby] | [lldp] |
[mac-notification] | [mld] | [ring] | [port-security] | [snmp
[authentication] | [coldstart] | [linkdown] | [link-up] | [warmstart]] |
```

[**transceiver**] | [**vlan-membership**] | [**vlancreate**] | [**vlandelete**]} | {**engineid**} | {**group**} | {**host**} | {**inform**} | {**location**} | {**queue-length**} | {**user**} | {**view**}

Use the no form of this command to negate a command or set its defaults.

---

Syntax	<b>snmp-server</b>
Description	

---

{**community**  
*community-string*  
 [1-99] |  
 [1300-1999]  
 [access-list-name]  
 | [ro] | [rw]} |  
 {**contact**  
*contact-person-name* } | **enable traps**  
 [alarms 1-4 |  
 [major] | [minor]  
 | [authentication] |  
 [bandwidth-exceeded] | [bridge] |  
 [dot1x] | [entity]  
 | [envon] |  
 [errdisable] |  
 [gmrp] | [gvrp] |  
 [igmp] |  
 [link-standby] |  
 [lldp] |  
 [mac-notification]  
 | [mld] | [ring] |  
 [port-security]  
 [snmp  
 [authentication] |  
 [coldstart] |  
 [linkdown] |  
 [link-up] |  
 [warmstart]] |  
 [transceiver |  
 [vlan-membership  
 | [vlancreate[ |  
 [vlandelete]}]

---

**Command Default**

None

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

#### Command Options

**community**- set community strings and access privileges

**contact** - text for mib object sysContact

**enable** - enables traps

**engineID** - configure a local or remote SNMPV3 engineID

**group** - define a SNMPv3 user security model

**host** - specify hosts to receive SNMP notifications

**inform** - configure SNMP inform options

**location** - text for MIB object sysLocation

**queue-length** - message queue length for each TRAP host

**user** - define a user who can access the SNMP engine

**view** - define an SNMPv3 MIB view

---

#### Examples

This example will set community name to public and contact person to admin, then enable trap messages for authentication.

```
PerleSwitch(config)#community public<cr>
```

```
PerleSwitch(config)#snmp-server contact admin<cr>
```

```
PerleSwitch( config)#snmp-server enable traps authentication<cr>
```

---

#### Related Commands

*show snmp*

*(config-if)#sgmii*

## spanning-tree

```
spanning-tree {aging-time 10-1000000} | {logging} | {loopguard default} |
{maxhops 6-40} | {mode [mstp | rstp | stp]} | {mst configuration} |
{ring-mode} | {pathcost method [long | short]} | {portfast [bpdufilter |
bpduguard | default]} | {tx-hold-count 1-20} | {vlan vlan-range
[forward-time 4-30] | [hello-time 1-10] | [max-age 6-40] | [priority
0-61440] | [root]}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>spanning-tree</b>
---------------	----------------------

**Description**



---

```
{aging-time  
10-100000} |
```

---

```
{logging} |
```

---

```
{loopguard  
default} |
```

---

```
{maxhops 6-40} |
```

---

```
{mode [mstp | rstp  
| stp]} |
```

---

```
{mst  
configuration} |
```

---

```
{ring-mode} |
```

---

```
{pathcost method  
[long | short]} |
```

---

```
{portfast  
[bpdufilter |  
bpduguard |  
default]} |
```

---

```
{tx-hold-count  
1-20} |
```

---

```
{vlan vlan-range  
[forward-time  
4-30 ] |  
[hello-time 1-10]  
| [max-age 6-40 ]  
| [priority  
0-61440] | [root]}
```

---

<b>Command Default</b>	no spanning-tree bpdguard no spanning-tree bpdufilter no spanning-tree cost no spanning-tree port-priority no spanning-tree link-type no spanning-tree port-type no spanning-tree guard root no spanning-tree guard restrict_tcn no spanning-tree mcheck spanning-tree pathcost long spanning-tree aging 300 seconds no spanning-tree logging spanning-tree loop guard default(off) spanning-tree max-hops 20 spanning-tree mode RSTP no spanning-tree ring-mode spanning-tree portfast default(off) spanning-tree tx-hold-count 6 spanning-tree forward-time 15 spanning-tree priority 8 (32768)
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models

## Usage Guidelines

### Command Options

**aging time** is the timeout period, in seconds, for aging out dynamically learned forwarding information.

**logging** - turn logging on for spanning-tree

**loop guard** - this causes additional checks to be made before a port moves from blocked to listening/learning/forwarding state. STP determines that a port is not a candidate for a loop if it does not detect BPDU messages on it for a certain amount of time. With loop guard when this happens, the port transitions to a "loop consistent blocking" state.

**max-hops** - this is the maximum number of hops that a BPDU is valid for.

**mode** - RSTP (fallback to STP if not supported on network).

**mst configuration** - go into mst config mode (config-mst)#

**p-ring-mode** - This parameter defines whether we are running spanning-trees on p-ring ports. Off - if p-ring is being used, spanning tree will be disabled on any p-ring ports. On - P-ring ports will now advertise their path to the root as a cost of 1. This will prevent these ports from ever being blocked due to spanning tree redundancy detection logic. If spanning tree is being used in conjunction with p-ring, the spanning-tree "root" must reside on the ring.

**pathcost method (applies to vlans only)** -this is the method used to determine the cost to the root. It is only used with STP. All nodes on the network need to be using the same method.

**portfast (applies to vlans only)** - this feature is used when a port needs to go into port forwarding mode quickly such as for an application like DHCP or DNS. Portfast should only be used on a port that is directly connected to a server/workstation (never to a hub or switch). The portfast feature is automatically enable when you configure a voice vlan this port.

**tx-hold-count (applies to vlans only)**- the transmit hold counter is a counter used to limit the maximum transmission rate of the switch. The number of BPDUs transmitted during every hello-time period from a minimum of one to a maximum that is not more then the tx-hold-counter set by the user.

**forward-time (applies to vlans only)**- the forward delay timer is the time interval (in seconds) that is spend in the listening and learning state.

**hello-time (applies to vlans only)** - the hello timer is the time interval between each BPDU that is sent on a port.

**max-age** - the max age timer controls the maximum length of time interval that a STP switch port saves it configuration BPDU information.

**priority** - every switch participating in a spanning tree protocol network is assigned with a numerical number called a switch priority value. Priority values decide who will be elected as root. Priority values must be specified in increments of 4096.

**root** - the switch will automatically negotiate with other switches for who will be root. If you configure the switch to be root, the switch will set the priority of this switch to 0 (highest priority) and force this switch to become root.

---

**Examples**

This example will set the switch to root.

```
PerleSwitch(config)#spanning-tree vlan 3 root<cr>
```

---

**Related Commands**

*(config-if)spanning-tree*

**(config-mst)#**

{**abort** | **exit** | **instance** | **name** | **no** | **revision** | **show**}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>system</b>
---------------	---------------

<b>Description</b>	
--------------------	--

---

{**abort** | **exit** |  
**instance** | **name** |  
**no** | **revision** |  
**show**}

---

<b>Command Default</b>	
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines****Command Options**

**abort** - exit region configuration mode, aborting changes

**exit** - exit region configuration mode, saving changes

**instance** - map vlans to an MST instance (0-63). Instance 0 cannot be deleted and will be used to map unmapped vlans to instance 0

**name** - set configuration name

**revision** - set configuration revision number

**show** - display region configuration

---

**Examples**

This example will group vlans 10 to 20 bundled as instance 3.

```
PerleSwitch(config-mst)#instance 3 vlan 10-20<cr>
```

```
PerleSwitch#show<cr>
```

Pending MST configuration

Name: [ ]

Revision: 0 Instances configured 2

Instance	Vlans mapped
0	1-9, 21-4094
3	10-20

---

**Related Commands**

*(config-if)#spanning-tree*

*clear scada modbus*

**system**

**system** {**mtu jumbo**}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>mtu jumbo</b>
<b>Description</b>	

{**mtu jumbo**}

---

<b>Command Default</b>	system mtu jumbo
------------------------	------------------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Sets maximum transmission units to jumbo frames. Applies only to gigabitethernet interfaces.

---

**Examples**

This example will set mtu to jumbo frames.

```
PerleSwitch(config)# system mtu jumbo<cr>
```

**tacacs**

**tacacs server** {*name-of-tacacs-server*}

Use the no form of this command to negate tacacs server name.

<b>Syntax</b>	<b>tacacs server</b>
<b>Description</b>	
	<i>name-of-tacacs-server</i>
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Set the name of your TACACS server.	

**Examples**

This example shows you how to name the TACACS+ server and enter into TACACS+ config mode.

```
PerleSwitch(config)# tacacs server tac+<cr>
```

```
PerleSwitch(config-tacacs-server)#
```

**(config-tacacs-server)**

```
tacacs-server {deadtime 1-1440 in mintues } | [key 0 - unencrypted-shared-key | 7 - hidden-key | shared-key] | [retransmit 1-100] | [timeout 1-1000 wait-time] }
```

Use the no form of this command to negate parameters.

<b>Syntax</b>	<b>config-radius-server</b>
<b>Description</b>	
	{ <b>deadtime</b> <i>1-1440 in mintues</i> }   [ <b>key</b> <i>0 - unencrypted-shared-key   7 - hidden-key   shared-key</i> ]   [ <b>retransmit</b> <i>1-100</i> ]   [ <b>timeout</b> <i>1-1000 wait-time</i> ] }
<b>Command Default</b>	tacacs deadtime 0 tacacs timeout 5

---

<b>Command Modes</b>	PerleSwitch(config-tacacs-server)#
----------------------	------------------------------------

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines****Command Options**

**address** - specify the address of the TACACS server.

**key** - encryption key shared with the TACACS server.

**retransmit** - specify the number of retries to the active server

**timeout** - time to wait for a TACACS server to reply

---

**Examples**

This example will set the deadtime to 5 minutes for a TACACS+ server that doesn't respond.

```
PerleSwitch(config-tacacs-server)#deadtime 5<cr>
```

---

**Related Commands**

*PerleSwitch(config-sg-tacacs+)*

*clear tacacs+ statistics*

*show tacacs+*

**username**

**username** {*name-of-user* [**nopassword**] | [**privilege 1 | 15**] | [**secret**]}

Use the no form of this command to negate username.

---

<b>Syntax</b>	<b>username</b>
---------------	-----------------

<b>Description</b>	
--------------------	--

---

```
{name-of-user
[nopassword] |
[privilege 1 | 15]
| [secret]}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config)#
----------------------	----------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines****Command Options**

privilege level

- 1 specifies user privilege level (user exec)
- 15 specifies privilege exec level (privilege exec)

Secret

0 - Specifies that an UNENCRYPTED password will follow.

7 Specifies an ENCRYPTED password will follow

LINE - the UNENCRYPTED (cleartxt) password.

---

**Examples**

This example creates a user with user exec privileges and a clear text password.

**PerleSwitch(config)#username lyn privilege 1 secret password123<cr>**

---

**Related Commands***show users***vlan***vlan-id-or-range*

Syntax	vlan
Description	
<i>vlan-id-or-range</i>	
Command Default	None
Command Modes	PerleSwitch(config)#
Hardware model	All models

---

**Usage Guidelines**

Specify the number or range of vlans you want to perform commands on.

---

**Examples**

This example shows you how to select the vlan you want to perform commands on.

**PerleSwitch(config)#vlan 10<cr>**

This example shows you how to select a range of vlans to perform commands on.

**PerleSwitch(config)#vlan 5-10<cr>**



---

**Related Commands***show vlan***(config-vlan)****(config-vlan)#{name} | shutdown**

Use the no form of this command to negate the name or to enable the vlan.

Syntax	(config-vlan#
Description	
{name}   shutdown	
Command Default	vlan 1
Command Modes	PerleSwitch(config-vlan)#
Hardware model	All models

**Usage Guidelines**

Use the name command to give a vlan a name. You cannot assign names to a range. Default vlan 1 cannot be deleted or changed.

**Examples**

This example shows you how to give a name to a vlan.

From config mode select the vlan number to name. Now from config-vlan mode name the vlan.

```
PerleSwitch(config)#vlan 10<cr>
```

```
PerleSwitch(config-vlan)#name office
```

This example shows how to shutdown a range of vlans.

```
PerleSwitch(config)#vlan 10-20<cr>
```

```
PerleSwitch(config-vlan)#shutdown
```

**Related Commands***show vlan*

# 5 Interface configuration

This chapter contains the CLI commands for Interface Config Mode.

## Interface

**interface** {[fastethernet slot / port-number] | [gigabitethernet slot / port-number] | [range]}

See [Interface configuration](#) to configure switchports.

See [Interface Port Channels](#) to configure port channels.

See [Vlan config mode](#) to configure vlans.

See [Interface line mode](#) to configure console and vtys.

Use the no form of this command to negate a command or set its defaults.

.

---

<b>Syntax</b>	<b>interface</b>
---------------	------------------

<b>Description</b>	
--------------------	--

---

{[fastethernet slot / port-number] | [gigabitethernet slot / port-number] | [port-channel port-channel-number] | [vlan 1-4094] | [range]}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

### Usage Guidelines

Select the interface, port channel, vlan or interface range that you want to perform commands on. You will now be in (config-if) mode.

### Examples

This example shows you how to enter interface config command mode for a vlan interface.

```
PerleSwitch(config)# interface vlan 1<cr>
```

This example shows you how to group vlan interface 1 and 2. Any config commands will now be performed on vlan 1 and 2.

```
PerleSwitch(config-if-range)# interface range vlan 1 - 2 <cr>
```

```
PerleSwitch(config-if-range)# no interface range<cr>
```

This example shows you how to set a gigabitethernet range and how to set the gigabitethernet range to defaults.

```
PerleSwitch(config-if-range)# interface range gigabitethernet 1/1<cr>
```

```
PerleSwitch(config-if-range)#default interface range gigabitethernet 1/1<cr>
```

---

**Related Commands**

*Interface configuration*  
*Interface Port Channels*  
*Vlan config mode*  
*Interface line mode*

**(config-if)#alarm**

**alarm** {**profile** *profile-name*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>alarm</b>
<b>Description</b>	

---

{**profile**  
*profile-name*}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Create alarm profiles.

**Examples**

This example shows you how to create an alarm.

```
PerleSwitch(config)# alarm profile alarm1 <cr>
```

This example shows you how to attach the alarm to a gigabitEthernet port.

```
PerleSwitch(config)# interface gig 1 / 1 <cr>
```

```
PerleSwitch(config-if)# alarm profile alarm1 <cr>
```

---

**Related Commands**

*(config-if)#alarm*  
*alarm*  
*(alarm-profile)*

**(config-if)#authentication**

**authentication** {**event** [**fail action** **authorize** **vlan** *vlan\_interface\_number*] | [**no-response action** **authorize** **vlan** *vlan\_interface\_number*]} | {**host-mode** **multi-auth** | **multi-host** | **single-host**} | {**periodic**} | {**port-control** **auto** | **force-authorized** | **force-unauthorized**} | {**timer** **reauthenticate** *1-65535* | **restart** *0-65535*} | {**violation** **protect** | **replace** | **restrict** | **shutdown**}

Syntax	(config-if)#authentication
<b>Description</b>	
	<pre> {event [fail action authorize vlan vlan_interface_number]   [no-response action authorize vlan vlan_interface_number]}profile profile-name </pre>
	<pre> {host-mode multi-auth   multi-host   single-host} </pre>
	<pre> {periodic} </pre>
	<pre> {port-control auto   force-authorized   force-unauthorized} </pre>
	<pre> timer reauthenticate 1-65535   restart 0-65535 } </pre>
	<pre> {violation protect   replace   restrict   shutdown} </pre>
<b>Command Default</b>	<pre> authentication host mode single-host authentication port-control forced-authorized no authentication periodic authentication timer re-authenticate 3600 seconds authentication timer restart 60 seconds authentication violation shutdown </pre>
<b>Command Modes</b>	PerleSwitch(config-if)#

---

**Usage Guidelines****Command Options**

**event** - sets the action for authentication events.

**host-mode** - Set the host mode for authentication on this interface.

**periodic** - Enable or disable re-authentication for this port

**port-control** - Set the port control value. Auto - port state set to automatic, force-authorized - port state set to authorized, force authorize - port state set to unauthorized.

**timer-authentication** - time in seconds after which an automatic re-authentication should be initiated. **Restart** - interval in seconds after which an attempt should be made to authenticate an unauthorized port.

**violation** - Configure action to take on a security violation.

---

**Examples**

This example sets the retry timer for failed authentications to 3.

```
PerleSwitch(config-authentication event fail retry 3<cr>
```

---

**Related Commands****(config-if)#bandwidth-control**

```
bandwidth-control {egress | ingress> traffic all | bc | bc+mc pps  
0-10000000 0-1000000 action shutdown | trap}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>bandwidth-control</b>
<b>Description</b>	

```
{egress | ingress>
traffic all | bc |
bc+mc pps
0-1000000
0-1000000 action
shutdown | trap}
```

Enter the first parameter as high level threshold in packets per second format.

Enter the second parameter as low level threshold in packets per second format.

If the high level threshold on this interface is reached and it is configured to shutdown then the following will happen:

- port will be put in a errdisable state
- the recovery of the port will be determined by the errdisable recovery setting.
- a trap will be set to the configured snmp server
- If the high level threshold on this interface is reached and it is configured to trap then the following will happen:
  - a trap will be sent to a configured snmp server when the high level threshold is reached. Once a trap is issued, no traps will be issued for this condition until the packets per second (pps) has dropped below to or below the low level at the point another trap message will be sent to indicate the event has occurred again.
- the port will continue to operate normally

---

### Command Default

---

### Command Modes

PerleSwitch(config-if)#

---

### Usage Guidelines

When a port channel group is specified, all channels within that group are adding to the frame counter.

---

### Examples

This example shows how you can enable a port in errdisable state.

**PerleSwitch(config)#errdisable recovery cause bandwidth-exceeded (this setting applies to all interfaces, not individual interfaces).**

---

### Related Commands

*bandwidth-control*  
*(config-if)#bandwidth-control*  
*show bandwidth-control*

## (config-if)# channel-group

**channel-group** {1-2 [**mode active** | **on** | **passive**]}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>channel-group</b>
<b>Description</b>	
	<b>{1-2 [mode active   on   passive]}</b>
<b>Command Default</b>	no channel group
<b>Command Modes</b>	PerleSwitch(config)#
<b>Usage Guidelines</b>	
Sets the behavior of the channel group	
<b>active</b> - enable LACP unconditionally	
<b>on</b> - enable Etherchannel only	
<b>passive</b> - enable LACP only if LACP device is detected	
<b>Examples</b>	
This example sets the mode for channel port 1 to active.	
<b>PerleSwitch(config-if)#channel group 1 mode active&lt;cr&gt;</b>	
<b>Related Commands</b>	
<a href="#"><i>(config-if)#lacp</i></a>	
<a href="#"><i>show lacp</i></a>	

**(config-if)#description****description** {*interface-description*}

<b>Syntax</b>	<b>description</b>
<b>Description</b>	
	<b>{<i>interface-descripti</i> <i>on</i>}</b>
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Set a description for the specified interface.	
<b>Examples</b>	
This example sets the description on gigabit interface 1 to office-1.	
<b>PerleSwitch(config)#interface g1/1&lt;cr&gt;</b>	
<b>PerleSwitch(config-if)description office-1&lt;cr&gt;</b>	

---

## Related Commands

### (config-if)#dot1x

**dot1x** {**credentials** *credential-profile-name*} | {**max-reauth-req** *1-10*} | {**max-req** *1-10*} | {**pae authenticator** | **supplicant**} | {**timeout quiet-period** *1-65535* | **supp-timeout** *1-65535* | **tx-period** *1-65535*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>dot1x</b>
<b>Description</b>	

---

{**credentials**  
*credential-profile-n*  
*ame*} |

---

{**max-reauth-req**  
*1-10*} |

---

{**max-req** *1-10*} |

---

**pae authenticator** |  
**supplicant**} |

---

{**timeout**  
**quiet-period**  
*1-65535* |  
**supp-timeout**  
*1-65535* |  
**tx-period** *1-65535*}

---

#### Command Default

```
no dot1x pae
dot1x credential
dot1x supplicant eap profile
dot1x timeout tx-period 30
dot1x timeout supp-timeout 30
dot1x timeout quiet-period 60
dot1x timeout server-timeout 30
dot1x max-reauth-req 2
dot1x max-req 2
```

---

#### Command Modes

PerleSwitch(config-if)#



---

**Usage Guidelines**

Interface config commands for IEEE 802.1x.

---

**Examples**

This example shows how to enable pae authenticator for dot1x on interface g1/1.

```
PerleSwitch(config)#interface g1/1<cr>
PerleSwitch(config-if)switchport mode access<cr>
PerleSwitch(config-if)#dot1x pae authenticator<cr>
```

---

**Related Commands**

[aaa authorization](#)  
[aaa authentication](#)

---

\*only applies to All models models

**(config-if)#duplex**

**duplex** {**auto** | **full** | **half** }

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**

**duplex**

**Description**

{**auto** | **full** | **half**  
}

Duplex applies to GigabitEthernet.

---

**Command Default**

None

---

**Command Modes**

PerleSwitch(config-if)#

---

**Usage Guidelines**

Sets the duplex mode for the specified interface.

---

**Examples**

This example shows you how to set duplex mode for a specified interface.

First, set the interface you want to perform the duplex command.

```
PerleSwitch(config-if)# interface gigabitEthernet 1 /1 <cr>
```

Next, set duplex on that interface

```
PerleSwitch(config-if)# duplex full <cr>
```

---

**Related Commands**

[\(config-if\)#duplex](#)

**(config-if)#flowcontrol**

**flowcontrol** {**send-receive auto** | **off** | **on**}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>flowcontrol</b>
<b>Description</b>	
	<b>{send-receive auto   off   on}</b>
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-if)#

### Usage Guidelines

You can set flowcontrol options on FastEthernet and GigabitEthernet interfaces.

Flow control **auto** on this line means allow but do not require flow control packets on port.

Flowcontrol **off**, disables flowcontrol packets or back-pressure on the port.

Flow control **on**, enables flow control packets or back pressure on the port.

### Examples

This example shows you how to set flow control for a specified interface.

First, set the interface you want to perform the flowcontrol command. You can also set a range of interfaces.

```
PerleSwitch(config-if)# interface gigabitEthernet 1 /1 <cr>
```

Next, set flow control on that interface

```
PerleSwitch(config-if)# flowcontrol on <cr>
```

### Related Commands

*(config-if)#duplex*

## (config-if)#gmrp

**gmrp {forward all} | {service all groups | unregistered-groups}**

<b>Syntax</b>	<b>gmrp</b>
<b>Description</b>	

**{forward all} |**

**{service all groups  
|  
unregistered-grou  
ps}**

---

<b>Command Default</b>	no gmrp no gmrp forward-all no gmrp service
------------------------	---

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

### Usage Guidelines

Sets the parameters for GMRP. GMRP must be enabled globally for GMRP to work on all interface.

### Examples

This example will enable GMRP on interface g1/1.

```
PerleSwitch(config-if)gmrp<cr>
```

### Related Commands

*clear gmrp*

*gmrp*

*show gmrp*

---

**Note:** GMRP must be enabled at the global config level for any GMRP interface parameters to take affect.

---

## (config-if)#gvrp

```
gvrp {dynamic-vlan-creation}
```

---

<b>Syntax</b>	<b>gvrp</b>
<b>Description</b>	

---

**{dynamic-vlan-creation}**

---

<b>Command Default</b>	no gvrp no gvrp dyanmic-vlan-creation
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

### Usage Guidelines

Use this command to enable GVRP on your switch. Configuring the dynamic-vlan-creation on will enable the switch to add vlans to its database when it receives a GVRP join message about VLANs it does not have.

### Examples

This example show how to enable GVRP for the selected interface.

```
PerleSwitch(config)interface g1/1<cr>
```

```
PerleSwitch(config-if)#gvrp<cr>
```

**Related Commands**

*clear gvrp*  
*show gvrp*  
*gvrp*

**Note:** GVRP must be enabled at the global config level for any GVRP interface parameters to take affect.

**(config-if)#ip**

**ip** {**max-groups** *0-8192* | **snooping tcn flood**} | {**dhcp server use subscriber-id client-id**}

Syntax	ip
<b>Description</b>	
{ <b>max-groups</b> <i>0-8192</i>   <b>snooping tcn flood</b> }	
{ <b>dhcp server use subscriber-id client-id</b> }	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Enables or disables igmp snooping tcn flood.	
<b>Examples</b>	
This example enables igmp snooping tcn flood.	
<b>PerleSwitch(config)#igmp snooping tcn flood&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>ip igmp logging</i>   <i>snooping</i>	
<i>clear ip igmp</i>	
<i>show ip igmp</i>	
*only applies to All models models	

**Usage Guidelines**

Enables or disables igmp snooping tcn flood.

**Examples**

This example enables igmp snooping tcn flood.

**PerleSwitch(config)#igmp snooping tcn flood<cr>**

**Related Commands**

*ip igmp logging* | *snooping*  
*clear ip igmp*  
*show ip igmp*

\*only applies to All models models

**(config-if)#ipv6**

**ipv6** {**mld max-groups** *0-8192* | **snooping tcn flood**}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#ipv6</b>
<b>Description</b>	
	<b>{mld max-groups 0-8192   snooping tcn flood}</b>
<b>Command Default</b>	ipv6 mld snooping ipv6 mld max-groups 0 ipv6 mld snooping tcn flood
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
<b>max-groups</b> - set the maximum number of groups that can be joined. Groups exceeding the max threshold will be denied.	
<b>snooping</b> - global mld snooping enabled for Vlans	
<b>Examples</b>	
This example sets max groups to 50.	
<b>PerleSwitch(config-if)#ipv6 mld max-groups 50&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>clear ipv6</i>	
<i>show ipv6</i>	
*only applies to All models models	

**(config-if)#lACP****lACP** {port-priority 0-65535}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#lACP</b>
<b>Description</b>	
	<b>{port-priority 0-65535}</b>
<b>Command Default</b>	logging event bundle-status logging link-status
<b>Command Modes</b>	PerleSwitch(config-if)#

---

**Usage Guidelines**

The port priority determines which ports will be put in standby mode when a hardware limitation prevents all compatible ports from aggregating.

---

**Examples**

This example sets the port-priority to 100 on gigabitethernet 1/1<cr>

```
PerleSwitch(config)interface g1/1<cr>
```

```
PerleSwitch(config-if)#lacp port-priority 100<cr>
```

---

**Related Commands**

*lacp*

*show lacp*

*(config-if)# channel-group*

---

\*only applies to All models models

**(config-if)#lldp**

**lldp** {**max-neighbors 1-50**} | {**med-tvl-select location | network-policy**} | **receive**} | {**tvl-select link-aggregate | mac-phy-cfg | management-address | max-frame-size | port-description | port-vlan | system-capabilities | system-description | system-name | vlan-name**} | {**transmit**}

Use the no form of this command to negate a command or set its defaults.

---

Syntax	(config-if)#lldp
--------	------------------

Description	
-------------	--

---

{ <b>max-neighbors 1-50</b> }	
-------------------------------	--

---

{ <b>med-tvl-select location   network-policy</b> }	
---	--

---

```

{tlv-select
link-aggregate |
mac-phy-cfg |
management-address |
max-frame-size |
port-description |
port-vlan |
system-capabilities
|
system-description
| system-name |
vlan-name} |

```

---

```
{transmit}
```

---

<b>Command Default</b>	lldp max-neighbors 10
------------------------	-----------------------

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

### Usage Guidelines

Parameters for usage.

**max-neighbors** -set the ports maximum number of LLDP neighbors

**med-tlv-select** - selection of LLDP MED TLVs to send

**receive** - enable LLDP reception on the interface

**tlv-select** - selection of LLDP TLVs to send on the interface

**transmit** - enable LLDP transmission on the interface.

---

### Examples

This example will show you how to enable LLDP transfer and receive on the specified interface.

```
PerleSwitch(config)#interface g1/1<cr>
```

```
PerleSwitch(config-if)#lldp receive<cr>
```

```
PerleSwitch(config-if)#lldp transmit<cr>
```

---

### Related Commands

*lldp*

*clear lldp*

*show lldp*

## (config-if)#location

```
location {civic-location-id | elin-location-id} | {none port-location}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#logging</b>
<b>Description</b>	
	{ <b>civic-location-id</b>   <b>elin-location-id</b> }
	{ <b>none</b> <b>port-location</b> }
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines.</b>	
Specify the location to use for this interface or select none and provide the port location.	
<b>Examples</b>	
This example will set the location for this interface to civic-location-id civictest. <b>PerleSwitch(config-if)#location civic-location-id civictest&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>location</i>	

## (config-if)#logging

**logging** {**event bundle-status** | **link-status**}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#logging</b>
<b>Description</b>	
	{ <b>event</b> <b>bundle-status</b>   <b>link-status</b> }
<b>Command Default</b>	logging event bundle-status logging link-status
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines.</b>	
Enable or disable logging messages for event and link status on selected interface.	



---

**Examples**

This command will disable logging link-status for g1/1.

```
PerleSwitch(config)#interface g1/1<cr>
```

```
PerleSwitch(config-if)#no logging event link-status<cr>
```

---

**Related Commands**

*logging*

**(config-if)#mab**

**mab** {*eap*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#mab</b>
---------------	------------------------

<b>Description</b>	
--------------------	--

---

{*eap*}

---

<b>Command Default</b>	no mab no mab eap
------------------------	----------------------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

**Usage Guidelines**

If mab is enabled on the port the switch will use the normal protocol to communicate to the Radius server.

If mab eap is enabled on the switch, the switch will use the EAP protocol to communicate with the RADIUS server.

---

**Examples**

This example shows how to set mab eap on interface g1/1.

```
PerleSwitch(config)#interface g1/1<cr>
```

```
PerleSwitch(config-if)mab eap<cr>
```

---

**Related Commands**

---

\*only applies to All models models

**(config-if)#mdix**

**mdix** {*auto* | *off* | *on*}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#mdix</b>
<b>Description</b>	
<b>{[auto]   {auto   off   on}}</b>	MDIX applies to GigabitEthernet interfaces.
<b>Command Default</b>	None
<b>Command Modes</b>	PerlSwitch(config-if)#
<b>Usage Guidelines</b>	
Sets the media dependent interface with crossover.	
<b>Examples</b>	
This example will set the mdix crossover on this interface g 1/1 to auto.	
PerleSwitch(config)interface g 1/1<cr>	
PerleSwitch(config-if)mdix auto	
<b>Related Commands</b>	
<a href="#">(config-if)#duplex</a>	
<a href="#">(config-if)#flowcontrol</a>	

## (config-if)#mls qos

**mls {qos cos 0-7 | override} | {trust cos | dscp}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#mls qos</b>
<b>Description</b>	
<b>{qos {cos 0-7   override}   {trust cos   dscp}}</b>	
<b>Command Default</b>	no mls qos trust mls qos cos 0 no mls qos cos override
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Parameters for usage.	
<b>qos</b> - select the class of service 0-7 or select to override cos	
<b>trust</b> - select to trust either cos or dscp keyword.	

---

**Examples**

This example sets g1/2 interface to trust only dscp.

```
PerleSwitch(config)#interface g1/2<cr>
```

```
PerleSwitch(config-if)#mls qos trust cos<cr>
```

---

**Related Commands**

*show mls*

---

**Note:** mls must be enabled at the global config level for any mls interface parameters to take affect.

---

**(config-if)#network-policy**

```
network-policy {1-4294967295}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#network-policy</b>
<b>Description</b>	

---

```
network-policy  
1-4294967295
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

**Usage Guidelines**

Enable network policy on this interface.

---

**Examples**

Enable network-policy 4 on interface g1/1.

```
PerleSwitch(config)#interface g1/1<cr>
```

```
PerleSwitch(config-if)#network-policy 4<cr>
```

---

**Related Commands**

*network-policy*

---

\*only applies to All models models

**(config-if)#power**

```
power {efficient-ethernet auto}
```

<b>Syntax</b>	<b>(config-if)#power</b>
<b>Description</b>	
	<b>{efficient-ethernet auto}</b>
<b>Command Default</b>	no power efficient ethernet auto
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Enables Energy Efficient Ethernet on this interface.	
<b>Examples</b>	
This example enables energy efficient ethernet on gig 1/1.	
<b>PerleSwitch(config-if)#power efficient-ethernet auto&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>show eee</i>	

**(config-if)#power****power {efficient-ethernet auto}**

<b>Syntax</b>	<b>(config-if)#power</b>
<b>Description</b>	
	<b>{efficient-ethernet auto}</b>
<b>Command Default</b>	no power efficient ethernet auto
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Enables Energy Efficient Ethernet on this interface.	
<b>Examples</b>	
This example enables energy efficient ethernet on gig 1/1.	
<b>PerleSwitch(config-if)#power efficient-ethernet auto&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>show eee</i>	

**(config-if)#profinet dcp****block egress** {**hello** | **identity**}

Use the no form of this command to negate a command or set its defaults.

Syntax Description	(config-if)#profinet dcp block egress
<b>hello</b>	Will prevent DCP hello frames from being propagated to other switch ports.
<b>identity</b>	Will prevent DCP identity frames from being propagated to other switch ports.
<b>Command Default</b>	Frames will not be blocked.
<b>Command Modes</b>	PerleSwitch(config-if)#

**Usage Guidelines**

DCP (Discovery and Configuration Protocol) is used in Profinet environments to both discover units and perform basic configuration on them. A factory default Perle switch which is plugged into the network can be discovered and configured via Profinet DCP.

This command controls whether specific DCP frames received by the switch will get propagated to other switch ports.

**Examples**

This example will prevent DCP identity frames received on this switch port from being propagated out other switch ports.

```
PerleSwitch(config-if)#profinet dcp block egress identity<cr>
```

**Related Commands***profinet**show profinet***(config-if)#service****dhcp**

Use the no form of this command to negate a command or set its defaults.

Syntax Description	(config-if)#service
<b>dhcp</b>	
<b>Command Default</b>	service dhcp
<b>Command Modes</b>	PerleSwitch(config-if)#

---

**Usage Guidelines**

Enable or disable the DHCP service and relay agent for this interface.

---

**Examples**

This command will disable the DHCP service for this interface. (All models model only)

```
PerleSwitch(config-if)no service dhcp<cr>
```

---

**Related Commands**

*show dhcp lease*

*ip dhcp*

**(config-if)#shutdown**

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#shutdown</b>
---------------	-----------------------------

<b>Description</b>	
--------------------	--

---

<b>Command Default</b>	
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

**Usage Guidelines**

Use this shutdown command to shutdown the interface.

---

**Examples**

This example will shutdown the g1/1 interface.

```
PerleSwitch(config-if)#shutdown g1/1<cr>
```

---

**Related Commands****(config-if)#sgmii**

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#sgmii</b>
---------------	--------------------------

<b>Description</b>	
--------------------	--

---

<b>Command Default</b>	no sgmii (Fiber SFP)
------------------------	----------------------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

---

**Usage Guidelines**

This command is only applicable on SFP ports. It is used to indicate that an SGMII SFP is being used in this interface.

---

**Examples**

PerleSwitch(config-if)sgmii<cr>

---

**Related Commands**

*(config-if)#duplex*

*(config-if)#flowcontrol*

*(config-if)#speed*

**(config-if)snmp**

**snmp** {trap link status}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#snmp</b>
<b>Description</b>	

---

**trap link status**

---

<b>Command Default</b>	snmp trap link-status
------------------------	-----------------------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

**Usage Guidelines**

Capture snmp trap link-status messages on this interface.

---

**Examples**

This command will enable snmp to trap link status messages.

PerleSwitch(config-if)#snmp trap link-status.

---

**Related Commands**

*(config-if)#sgmii*

**(config-if)spanning-tree**

**spanning-tree** {bpdufilter disable | enable } | {bpduguard disable | enable} | {mst cost 1-20000000 } | {guard loop | none | root | topology\_ | change } | {link-type auto | point-to-point | shared} | {mcheck} | {mst mst-instance-list} | {port-priority 0-240} | {port-type edge | network | normal} | {portfast disable | trunk} | {vlan vlan-range 1-20000000 | port-priority 0-240 }

Use the no form of this command to negate a command or set its defaults.

---

**Syntax** (config-if)#spanning-tree

**Description**


---

```
{bpdufilter disable
| enable } |
```

---

```
{bpduguard
disable | enable} |
```

---

```
{cost 1-200000000
}
```

---

```
{guard loop |
none | root |
topology_change }
|
```

---

```
{link-type auto |
point-to-point |
shared} |
```

---

```
{mcheck} |
```

---

```
{mst
mst-instance-list} |
```

---

```
{port-priority
0-240} |
```

---

```
{port-type edge |
network |
normal} |
```

---

```
{portfast disable |
trunk}
```

---

```
{vlan vlan-range
1-200000000 |
port-priority 0-240
}
```

---



---

<b>Command Default</b>	no spanning-tree bpduguard no spanning-tree bpdfilter spanning-tree cost 2000000 spanning-tree port-priority 128 spanning-tree link-type auto spanning-tree port-type normal no spanning-tree guard root no spanning-tree guard restriction no spanning-tree mcheck
------------------------	---

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

### Usage Guidelines

Parameters for usage.

**bpdfilter** - disable or enable - don't send or receive BPDUs on this interface.

**bdpuguard** - disable or enable - don't accept BPDU's on this interface.

**cost** - change this interfaces spanning tree port path costs.

**guard** loop/none/root or topology - change this interface's spanning tree guard mode link-type auto/point-to-point/shared - specify a link type for spanning tree protocol use.

**mcheck** -try to get back from STP to rapid (RSTP/MSTP) mode.

**mst** - multiple spanning tree configurations.

**port-priority** - change this interface's spanning tree port priority (must be specified in increments of 16).

port-type edge/network/normal -mspecify a port type for this interface.

**portfast** disable or trunk - enable this interface to move directing to port forwarding on a link up

**vlan** - vlan switching tree

---

### Examples

This example will enable spanning-tree bdpuguard on interface g1/1.

```
PerleSwitch(config)#interface g1/1<cr>
```

```
PerleSwitch(config-if)spanning-tree bdpuguard<cr>
```

---

### Related Commands

*clear scada modbus*

*show spanning-tree*

## (config-if)#speed

**speed** {10 | 100 | 1000 | auto}

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#speed</b>
<b>Description</b>	
<b>{10   100   1000   auto}</b>	Speed applies to GigabitEthernet interface
<b>Command Default</b>	speed-auto
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Sets the speed for this interface or select auto and the switch will determine the fastest speed to connect with.	
<b>Examples</b>	
This example sets the speed on gigabitethernet 1 to 1000.	
<b>PerleSwitch(config)#interface g1/1&lt;cr&gt;</b>	
<b>PerleSwitch(config-if)#speed 1000&lt;cr&gt;</b>	
<b>Related Commands</b>	
<a href="#"><i>(config-if)#flowcontrol</i></a>	
<a href="#"><i>(config-if)#duplex</i></a>	

## (config-if)#storm-control

**storm-control {egress [level 1-100] | kbps 64-1000000} | {ingress [bc | bc+mc | bc+mc+uuc [level 1-100] | [kbps 64-1000000]}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#storm-control</b>
<b>Description</b>	
<b>{egress [level 1-100]   kbps 64-1000000}</b>	
<b>{ingress [bc   bc+mc   bc+mc+uuc [level 1-100]   [kbps 64-1000000]}</b>	
<b>Command Default</b>	no storm control egress no storm-control ingress
<b>Command Modes</b>	PerleSwitch(config-if)#

---

**Usage Guidelines**

Specify a rate in percentage or kbps where egress or ingress frames will be discarded if the configured threshold is reached.

---

**Examples**

This example sets the egress threshold to 50 percentage. Frames that exceed the threshold will be discarded.

```
PerleSwitch(config)#storm-control egress level 50<cr>
```

```
PerleSwitch(config)#do show storm-control<cr>
```

```
Interface  Port State  Ingress Limit  Egress Limit
```

```
-----
Gi1/1     Forwarding  Disabled      50 %
Gi1/2     Forwarding  Disabled      Disabled
Gi1/3     Forwarding  Disabled      Disabled
Gi1/4     Forwarding  Disabled      Disabled
Gi1/5     Forwarding  Disabled      Disabled
```

---

**Related Commands****(config-if)switchport**

```
switchport {access vlan 1-4094} | {backup coupling active control-port |
extended-redundancy | standby control-port interface mmu primary vlan
1-4094 | multicast fastconvergence | preemption delay 1-300 | {block
multi-cast | unicast} | {mode access | trunk} | {port-security [mac-address
h.h.h | sticky] | [maximum 1-8192] | {violation protected vlan | restrict vlan
| shutdown vlan} | {trunk allowed vlan-id-or-range [add] | [all] | [except] |
[none] [remove] | native vlan-id-or-range } | {voice vlan 1-4094 | dot1p |
none | untagged}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#switchport</b>
<b>Description</b>	

---

```
{access vlan
1-4094} |
```

---

```

backup coupling
active control-port
|
extended-redunda
ncy | standby
control-port
interface mmu
primary vlan
1-4094 | multicast
fastconvergence |
preemption delay
1-300 | mode
bandwidth |
forced | off} |

```

---

```

{block multi-cast
| unicast} |

```

---

```

{mode access |
trunk} |

```

---

```

{port-security
[mac-address
h.h.h | sticky] |
[maximum
1-8192] |
{violation
protected vlan |
restrict vlan |
shutdown vlan} |

```

---

```

{trunk allowed
vlan-id-or-range
[add] | [all] |
[except] | [none]
[remove] | native
vlan-id-or-range } |

```

---

```

{voice vlan 1-4094
| dot1p | none |
untagged}

```

---

<b>Command Default</b>	switchport mode access switchport access vlan 1 switchport voice vlan none switchport trunk allowed vlan 1-4094 no switchport block multicast no switchport block unicast switchport port-security maximum 1 switchport port-security maximum 8192 vlan
------------------------	--

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

### Usage Guidelines

#### Parameters for usage.

**access vlan** - sets access mode characteristics for this interface

**backup coupling** - sets backup for this interface

**block multicast/unicast** - disable forwarding of unknown multicast/unicast addresses

**mode** -set trunking mode on this interface

**port-security** - port security related commands

**trunk-allowed** -set trunking characteristics for this interface.

**voice** - voice appliance attributes

---

### Examples

This example will set gigabitethernet interface 1 to trunking mode access.

```
PerleSwitch(config-if)#switchport mode access<cr>
```

---

### Related Commands

# 6 Interface Port Channels

This chapter contains the CLI commands for Port Channel Config Mode.

## (config-if)#bandwidth-control

```
bandwidth-control {egress | ingress traffic all | bc | bc+mc pps  
0-10000000 0-1000000 action shutdown | trap}
```

Use the no form of this command to negate a command or set its defaults.

Syntax	bandwidth-control
Description	
	{egress   ingress traffic all   bc   bc+mc pps 0-10000000 0-1000000 action shutdown   trap}
Command Default	None
Command Modes	PerleSwitch(config-if)#
Hardware model	All models

### Usage Guidelines

Enter the first parameter as high level threshold in packets per second format.

Enter the second parameter as low level threshold in packets per second format.

If the high level threshold on this interface is reached and it is configured to shutdown then the following will happen:

- port will be put in a errdisable state
- the recovery of the port will be determined by the errdisable recovery setting.
- a trap will be set to the configured snmp server
- If the high level threshold on this interface is reached and it is configured to trap then the following will happen:
  - a trap will be sent to a configured snmp server when the high level threshold is reached. Once a trap is issued, no traps will be issued for this condition until the packets per second (pps) has dropped below to or below the low level at the point another trap message will be sent to indicate the event has occurred again.
- the port will continue to operate normally

When a port channel group is specified, all channels within that group are adding to the frame counter.

---

**Examples**

In this example all outbound traffic (egress) would be restricted to a rising threshold of 10000 and a falling threshold of 100 packets per second. In addition inbound broadcast (ingress) packets would be restricted to a rising threshold of 100000 and a falling threshold of 10000 packets per second.

```
PerleSwitch(config-if)bandwidth-control egress traffic all pps 10000 100<cr>
PerleSwitch(config-if)#bandwidth-control ingress traffic bc pps 100000
10000<cr>
```

---

**Related Commands**

*bandwidth-control*  
*show bandwidth-control*

---

\*only applies to All models models

**(config-if)#description**

**description** *{interface-description}*

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>description</b>
<b>Description</b>	

---

*{interface-  
description}*

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Adds a description for the specified Port channel.

---

**Examples**

This example add description "testport1" to port-channel 1.

```
PerleSwitch(config-if)#description testport1<cr>
```

```
PerleSwitch(config-if)#exit<cr>
```

```
PerleSwitch(config)#exit
```

```
PerleSwitch>show interface port-channel 1<cr>
```

Port-channel1 is down, protocol is down

Description: testport1

Hardware is EtherChannel

MTU 10240 bytes

0 packets input, 0 bytes,

Received 0 broadcasts (0 multicasts)

0 runts, 0 giants

0 input errors, 0 CRC, 0 frame

Packet Sizes

-----  
1 - 64 0

65 - 127 0

128 - 255 0

256 - 511 0

512 - 1023 0

1024 - Max 0

---

**Related Commands**

*show ip access-list*

**(config-if)#duplex**

**duplex** {**auto** | **full** | **half**}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>duplex</b>
---------------	---------------

<b>Description</b>	
--------------------	--

---

{**auto** | **full** |  
**half**}

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitcg(config-if)#
----------------------	-------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

**Usage Guidelines**

Set the duplex on this Port channel.



---

**Examples**

This example shows you how to set duplex mode for a specified interface. First, set the interface you want to perform the duplex command.

```
PerleSwitch(config-if)# interface gigabitEthernet 1 /1 <cr>
```

Next, set duplex on that interface

```
PerleSwitch(config-if)# duplex full <cr>
```

---

**Related Commands**

[\(config-if\)#flowcontrol](#)

**(config-if)#flowcontrol**

```
flowcontrol {send-receive auto | off | on}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>flowcontrol</b>
<b>Description</b>	
	{send-receive auto   off   on}
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Hardware model</b>	All models

---

**Usage Guidelines**

**Flow control auto** on this line means allow but do not require flow control packets on port.

**Flowcontrol off**, disables flowcontrol packets or back-pressure on the port.

**Flow control on**, enables flow control packets or back pressure on the port.

---

**Examples**

This example shows you how to set flow control for a specified interface. First, set the interface or range of interfaces, then set the flow control.

```
PerleSwitch(config-if)# interface port-channel 1 <cr>
```

Next, set flow control on that interface

```
PerleSwitch(config-if)# flowcontrol on <cr>
```

---

**Related Commands**

[\(config-if\)#duplex](#)

**(config-if)#ip****ip {igmp snooping tcn flood}**

Use the no form of this command to negate a command or set its defaults.

---

**Syntax** **ip**  
**Description**


---

**{igmp snooping  
tcn flood}****Command Default** None**Command Modes** PerleSwitch(config-if)#**Hardware model** All models**Usage Guidelines**

IGMP snooping command.

**Examples**

This example will enable ip igmp snooping tcn flood.

**PerleSwitch(config-if)#ip igmp snooping tcn flood<cr>****Related Commands***[ip igmp logging](#) | [snooping](#)***(config-if)#ipv6****ipv6 {mld igmp snooping tcn flood}**

Use the no form of this command to negate a command or set its defaults.

---

**Syntax** **ipv6**  
**Description**


---

**{mld igmp  
snooping tcn  
flood}****Command Default** None**Command Modes** PerleSwitch(config-if)#**Usage Guidelines**

IGMP snooping command.

---

**Examples**

This example will enable ip igmp snooping tcn flood.

```
PerleSwitch(config-if)ipv6 mld igmp snooping tcn flood<cr>
```

---

**Related Commands**

*clear ipv6*

*show ipv6*

**(config-if)#logging**

**logging** {*event bundle-status* | *link-status*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#logging</b>
---------------	----------------------------

<b>Description</b>	
--------------------	--

---

{*event  
bundle-status* |  
*link-status*}

---

<b>Command Default</b>	logging event bundle-status logging link-status
------------------------	--

---

<b>Command Modes</b>	SwitchPerle(config-if)#
----------------------	-------------------------

---

**Usage Guidelines**

Enable or disable logging messages for event and link status on selected interface.

---

**Examples**

This command will disable logging link-status for port channel 1.

```
PerleSwitch(config)#interface port-channel 1<cr>
```

```
PerleSwitch(config-if)#no logging event link-status<cr>
```

---

**Related Commands**

*logging*

**(config-if)#network-policy**

**network-policy** {*1-4294967295*}

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>(config-if)#network-policy</b>
---------------	-----------------------------------

<b>Description</b>	
--------------------	--

---

**network-policy**  
*1-4294967295*


---

**Command Default**           None

---

**Command Modes**           PerleSwitch(config-if)#

---

**Usage Guidelines**

Enable network policy on this port channel.

---

**Examples**

Enable network-policy 4 on port channel 1.

**PerleSwitch(config)#interface port channel 1<cr>**

**PerleSwitch(config-if)#network-policy 4<cr>**

---

**Related Commands**

*network-policy*

---

\*only applies to All models models

## **(config-if)#service**

Use the no form of this command to negate a command or set its defaults.

---

**Syntax**                   **(config-if)#service**  
**Description**

**dhcp**

---

**Command Default**           service dhcp

---

**Command Modes**           PerleSwitch(config-if)#

---

**Usage Guidelines**

Enable or disable the DHCP service and relay agent for this port channel.

---

**Examples**

This command will disable the DHCP service for this port channel. (All models model only)

**PerleSwitch(config-if)no service dhcp<cr>**

---

**Related Commands**

## **(config-if)#shutdown**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#shutdown</b>
<b>Description</b>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Use this shutdown command to shutdown the port channel.	
<b>Examples</b>	
This example will shutdown port channel 1.	
<b>PerleSwitch(config-if)#shutdown port-channel 1&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>Interface</i>	

## (config-if)snmp

**snmp {trap link status}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#snmp</b>
<b>Description</b>	
<b>trap link status</b>	
<b>Command Default</b>	snmp trap link-status
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Capture snmp trap link-status messages on this port channel	
<b>Examples</b>	
This command will enable snmp to trap link status messages on this port channel.	
<b>PerleSwitch(config-if)#snmp trap link-status.</b>	
<b>Related Commands</b>	
<i>(config-if)#sgmii</i>	

**(config-if)spanning-tree**

```
spanning-tree {bpdudisable disable | enable } | {bpduguard disable | enable} |
{mst cost 1-200000000 } | {guard loop | none | root | topology_ | change } |
{link-type auto | point-to-point | shared} | {mcheck} | {mst
mst-instance-list} | {port-priority 0-240} | {port-type edge | network |
normal} | {portfast disable | trunk} | {vlan vlan-range 1-200000000 |
port-priority 0-240 }
```

Use the no form of this command to negate a command or set its defaults.

---

Syntax	<b>spanning-tree</b>
Description	

---

{bpdudisable disable   enable }
------------------------------------

---

{bpduguard disable   enable}
---------------------------------

---

{cost 1-200000000 }
------------------------

---

{guard loop   none   root   topology_  change }
--

---

{link-type auto   point-to-point   shared}
--

---

{mcheck}
----------

---

{mst mst-instance-list}
----------------------------

---

{port-priority 0-240}
--------------------------

---

{port-type edge   network   normal}
--

---

{portfast disable   trunk}
-------------------------------

---

```
{vlan vlan-range
  1-20000000 |
port-priority 0-240
}
```

**Command Default**

```
no spanning-tree bpduguard
no spanning-tree bpdfilter
no spanning-tree cost
no spanning-tree port-priority
no spanning-tree link-type
no spanning-tree port-type
no spanning-tree guard root
no spanning-tree guard restriction
no spanning-tree mcheck
```

**Command Modes**

```
PerleSwitch(config-if)#
```

**Usage Guidelines**

**bpdfilter** (disable or enable) - don't send or receive BPDUs on this interface.

**bpduguard** (disable or enable) - don't accept BPDU's on this interface.

**cost** - change this interfaces spanning tree port path costs.

**guard loop** (/none/root or topology) - change this interface's spanning tree guard mode link-type auto/point-to-point/shared - specify a link type for spanning tree protocol use.

**mcheck** -try to get back from STP to rapid (RSTP/MSTP) mode.

**mst** - multiple spanning tree configurations.

**port-priority** - change this interface's spanning tree port priority (must be specified in increments of 16).

port-type edge/network/normal -mspecify a port type for this interface.

**portfast** disable or trunk - enable this interface to move directing to port forwarding on a link up

**vlan** - vlan switching tree

**Examples**

This example will enable spanning-tree bdpuguard on port channel 1.

```
PerleSwitch(config)#interface port channel 1<cr>
```

```
PerleSwitch(config-if)spanning-tree bdpuguard<cr>
```

**Related Commands**

*clear scada modbus*

*(config-if)#spanning-tree*

*spanning-tree*

**(config-if)#speed**

```
speed {10 | 100 | 1000 | auto}
```

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#speed</b>
<b>Description</b>	
<b>{10   100   1000   auto}</b>	Speed applies to GigabitEthernet and Port channels only.
<b>Command Default</b>	speed-auto
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
Sets the speed for this interface or select auto and the switch will determine the fastest speed to connect with.	
<b>Examples</b>	
This example sets the speed on gigabitethernet 1 to 1000.	
<b>PerleSwitch(config)#interface g1/1&lt;cr&gt;</b>	
<b>PerleSwitch(config-if)#speed 1000&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>(config-if)#flowcontrol</i>	
<i>(config-if)#duplex</i>	

## (config-if)#speed

**speed {10 | 100 | 1000 | auto}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>(config-if)#speed</b>
<b>Description</b>	
<b>{10   100   1000   auto}</b>	
<b>Command Default</b>	speed-auto
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Usage Guidelines</b>	
<b>Examples</b>	
This example sets port channel speed to 1000 bps.	
<b>PerleSwitch(config)#interface port channel 1&lt;cr&gt;</b>	
<b>PerleSwitch(config-if)#speed 1000&lt;cr&gt;</b>	



**Related Commands***(config-if)#flowcontrol**(config-if)#duplex***(config-if)#switchport**

```
switchport {access vlan 1-4094} | {backup coupling active control-port
[interface fastethernet slot / port-number] | [gigabitethernet slot / port-number] |
[port-channel port-channel-number] | extended-redundancy} | {block
multi-cast | unicast} | {mode [access | trunk]} | {port-security mac-address
[h.h.h | sticky] | maximum 1-8192 vlan access | violation [protected vlan] |
[restrict vlan] | [shutdown vlan]} | {trunk allowed van-ids | add | all | except |
none | remove} | {voice vlan 1-4094 | dot1p | none | untagged}
```

Syntax	(config-if)#switchport
--------	------------------------

**Description**

```
{access vlan
1-4094} |
```

```
{backup coupling
active control-port
[interface
fastethernet slot /
port-number] |
[gigabitethernet
slot / port-number]
| [port-channel
port-channel-numb
er] |
extended-redunda
ncy} |
```

```
{block multi-cast |
unicast} | {mode
[access | trunk]}
| {port-security
mac-address
[h.h.h | sticky] |
maximum 1-8192
vlan access |
violation
[protected vlan] |
[restrict vlan] |
[shutdown vlan]}
```

---

```

{port-security
mac-address
[h.h.h | sticky] |
maximum 1-8192
vlan access |
violation
[protected vlan] |
[restrict vlan] |
[shutdown vlan]} |

```

---

```

{trunk allowed
van-ids | add | all |
except | none |
remove} |

```

---

```

{voice vlan 1-4094
| dot1p | none |
untagged} {10 |
100 | 1000 | auto}

```

---

<b>Command Default</b>	switchport mode access switchport access vlan 1 switchport voice vlan none switchport trunk allowed vlan 1-4094 no switchport block multicast no switchport block unicast switchport port-security maximum
------------------------	--

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

### Usage Guidelines

#### Usage Guidelines

#### Parameters for usage.

**access vlan** - sets access mode characteristics for this interface

**backup coupling** - sets backup for this interface

**block multicast/unicast** - disable forwarding of unknown mulicast/unicast addresses

**mode** -set trunking mode on this interface

**port-security** - port security related commands

**trunk-allowed** -set trunking characteristics for this interface.

**voice** - voice appliance attributes

---

### Examples

This example will set gigabitethernet interface 1 to trunking mode access.

```
PerleSwitch(config-if)#switchport mode access<cr>
```

---

**Related Commands**

# 7 Vlan config mode

This chapter contains the CLI commands for VLAN Config Mode.

## (config-if)#arp

**arp** {*timeout 1-34560*}

Use the no form of this command to negate a command or set its defaults.

Syntax	description
<b>Description</b>	
<i>{timeout 1-34560}</i>	
<b>Command Default</b>	240 minutes
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Hardware model</b>	All models

### Usage Guidelines

The vlan arp timeout value (in minutes) overrides the value as specified by the global time out value. Executing the no command will set the vlan arp timeout value back to the global timeout value.

### Examples

This examples sets the arp timer to 20 minutes. Dynamic entries in the arp table will be cleared from the table.

```
PerleSwitch(config-if)#arp timeout 20<cr>.
```

### Related Commands

*clear arp-cache*

## (config-if)#description

**description** {*interface-description*}

Use the no form of this command to negate a command or set its defaults.

Syntax	description
<b>Description</b>	
<i>{interface-descripti on}</i>	
<b>Command Default</b>	None
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Hardware model</b>	All models

---

**Usage Guidelines**

Adds a description for the specified fastethernet, gigabitethernet, port channel or vlan interface.

---

**Examples**

This example sets the description for vlan2 to office-van.

```
PerleSwitch(config-if) interface vlan 2<cr>
```

```
PerleSwitch(config-if)#description office-vlan<cr>
```

---

**Related Commands****(config-if)#ip**

```
ip {address aaa.bbb.ccc.ddd aaa.bbb.ccc.ddd | {dhcp client-id fastethernet  
slot / port-number | gigabitethernet slot / port-number | vlan 1-4094} |  
{hostname}}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>ip</b>
<b>Description</b>	

---

```
{address  
aaa.bbb.ccc.ddd  
aaa.bbb.ccc.ddd |  
dhcp}
```

---

```
{dhcp client-id  
fastethernet slot /  
port-number |  
gigabitethernet  
slot / port-number |  
vlan 1-4094}
```

---

```
{hostname}
```

---

<b>Command Default</b>	None
------------------------	------

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

---

**Usage Guidelines**

Parameters for usage.

**aaa.bbb.ccc.ddd** - specify the IP address for this vlan interface followed by the subnet mask.

**dhcp client-id hostname** - specify the switch's class-id for this vlan either as a character string (up to 200 characters - any characters over 200 will be truncated) or as a hexadecimal string (up to 100 hex characters). This value must be configured the same on the server side and associated with an address to give the switch or specify the hostname for this switch. By default this is the name of the Perle switch (PerleSwitch).

**hostname** - specify the hostname for this switch. By default this is the name of the Perle switch (PerleSwitch).

---

**Examples**

This example shows you how to set a IPv4 address for vlan 3.

```
PerleSwitch(config)#interface vlan 3<cr>
```

```
PerleSwitch(config-if)#ip address 172.17.55.66 255.255.0.0<cr>
```

**Related Commands**

*show ip dhcp*

*ip dhcp*

**(config-if)#ipv6**

```
ipv6 {address x::x::x::x | x::x::x::x /0-128 | autoconfig} | {enable}
```

---

Syntax	<b>ipv6</b>
--------	-------------

Description	
-------------	--

---

```
{address x::x::x::x  
| x::x::x::x /0-128  
| autoconfig} |
```

---

```
{enable}
```

---

Command Default	None
-----------------	------

---

Command Modes	PerleSwitch(config-if)#
---------------	-------------------------

---

Hardware model	All models
----------------	------------

---

**Usage Guidelines**

Enter IPv6 local link address, IPv6 address with prefix length or autoconfig.

---

**Examples**

This example sets the IPv6 address to autoconfig.

```
PerleSwitch(config)#ipv6 autoconfig<cr>
```

---

**Related Commands***(config-if)#ip***(config-if)#logging****logging**{event link-status}

Use the no form of this command to turn off event logging for this interface.

<b>Syntax</b>	<b>logging</b>
<b>Description</b>	
	<b>{event link-status}</b>
<b>Command Default</b>	no logging event link-status
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Hardware model</b>	All models

**Usage Guidelines**

Log link status events for this vlan.

**Examples**

This example logs link status events for this van.

**PerleSwitch(config-if)#logging event link-status<cr>****Related Commands***clear logging**show logging***(config-if)#ntp**

**ntp** {[broadcast client] | [broadcast destination ip-address] | [key 1-65534] | [minpoll 4-17] | [version 1-4]} | {disable} | {multicast [ipv4address] | [ipv6address] | [client ipv4address | ipv6address] | key 1-65534} | minpoll 4-17 | [ttl 1-255] | [version 1-65534]}

Use the no form of this command turns ntp for this interface.

<b>Syntax</b>	<b>ntp</b>
<b>Description</b>	

---

```
{[broadcastclient]
| [broadcast
destination
ip-address] [key
1-65534] |
[minpoll 4-17] |
[version 1-4]}
```

---

```
{disable}
```

---

```
{multicast
[ipv4address] |
[ipv6address] |
[client ipv4address
| ipv6address] |
key 1-65534] |
minpoll 4-17] |
[ttl 1-255] |
[version 1-65534]}
```

---

```
Command Default          no ntp disable
```

---

```
Command Modes          PerleSwitch(config-if)#
```

---

```
Hardware model         All models
```

---

### Usage Guidelines

Configuration Parameters

**broadcast** - configures parameters for ntp broadcast services.

**disable** - disables ntp on this vlan.

**multicast** - configures ntp multicast services

---

### Examples

This example will set the ntp broadcast version to 4.

```
PerleSwitch(config-if)#ntp broadcast version 4<cr>
```

---

### Related Commands

*ntp*

*show ntp*

## (config-if)#service

```
service {dhcp}
```

Use the no form of this command to turn DHCP off for this vlan



<b>Syntax</b>	<b>service</b>
<b>Description</b>	
<b>{dhcp}</b>	
<b>Command Default</b>	
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Turn the DHCP service and relay agent on for this vlan or range of vlans.	
<b>Examples</b>	
This example shows you how to turn off DHCP for this vlan.	
<b>PerleSwitch(config)#no service dhcp&lt;cr&gt;</b>	
<b>Related Commands</b>	
<i>show ip dhcp</i>	
<i>ip dhcp</i>	

**(config-if)#shutdown****shutdown**

Use the no form of this command to enable this vlan interface.

<b>Syntax</b>	<b>shutdown</b>
<b>Description</b>	
<b>Command Default</b>	no shutdown (interface vlan1)
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Enable or disable vlan interfaces.	
<b>Examples</b>	
This example shows you how to turn off vlan 1.	
<b>PerleSwitch(config)#shutdown&lt;cr&gt;</b>	
<b>Related Commands</b>	

**(config-if)#snmp****snmp** {**trap link-status**}

Use the no form of this command to disable snmp trap on this vlan interface.

<b>Syntax</b>	<b>snmp</b>
<b>Description</b>	
	<b>{trap link-status}</b>
<b>Command Default</b>	snmp trap link-status
<b>Command Modes</b>	PerleSwitch(config-if)#
<b>Hardware model</b>	All models

**Usage Guidelines**

Enable or disable trap link status messages.

**Examples**

This example shows you how to disable traps for this vlan interface.

**PerleSwitch(config)#no trap link-status<cr>****Related Commands***snmp-server**show snmp**(config-if)#sgmii***(config-if)#spanning-tree**

**spanning-tree** {**bpdufilter** [**disable** | **enable**]} | {**bpduguard** [**disable** | **enable**]} | {**cost** *1-200000000*} | {[**guard loop**] | [**none**] | [**root**] | [**topology\_change**]} | {[**link-type** [**auto**] | [**point-to-point**] | [**shared**]} | {[**port-priority** *0-240*]} | {[**portfast** [**disable** | **trunk**]}

<b>Syntax</b>	<b>spanning-tree</b>
<b>Description</b>	

**{bpdufilter**  
[**disable** | **enable**]}  
|

**{bpduguard**  
[**disable** | **enable**]}  
|

**{cost**  
*1-200000000*} |

---

```
{[guard loop] |
[none] | [root] |
[topology_change]
} |
```

---

```
{[link-type [auto]
| [point-to-point] |
[shared]] |
```

---

```
{[port-priority
0-240]} |
```

---

```
{[portfast [disable
| trunk]]
```

---

<b>Command Default</b>	spanning-tree cost 2000000 spanning-tree port priority 128
------------------------	---

---

<b>Command Modes</b>	PerleSwitch(config-if)#
----------------------	-------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

#### Parameter options:

**bpdufilter** (disable or enable) - don't send or receive BPDUs on this interface.

**bdpuguard** (disable or enable) - don't accept BPDU's on this interface.

**cost** - change this interfaces spanning tree port path costs.

**guard loop** (/none/root or topology) - change this interface's spanning tree guard mode link-type auto/point-to-point/shared - specify a link type for spanning tree protocol use.

**mcheck** -try to get back from STP to rapid (RSTP/MSTP) mode.

**mst** - multiple spanning tree configurations.

**port-priority** - change this interface's spanning tree port priority (must be specified in increments of 16).

**port-type** edge/network/normal -mspecify a port type for this interface.

**portfast** disable or trunk - enable this interface to move directing to port forwarding on a link up

---

### Examples

This example will enable spanning-tree bdpuguard on vlan 2.

```
PerleSwitch(config)#interface vlan 2<cr>
```

```
PerleSwitch(config-if)spanning-tree bdpuguard<cr>
```

---

**Related Commands**

*clear scada modbus*

*(config-if)spanning-tree*

*spanning-tree*

---

\*only applies to All models models

## 8 Interface line mode

This chapter defines all the CLI commands associated with configuring the console and vty ports.

### line

**line console 0-0 | vty 0-15**

<b>Syntax</b>	<b>line</b>
<b>Description</b>	
<b>Command Default</b>	
<b>Command Modes</b>	PerleSwitch(config-line)#
<b>Hardware model</b>	All models
<b>Usage Guidelines</b>	
Use this command to change to line mode.	
<b>Examples</b>	
This example switched to line console mode. PerleSwitch(config-line)# <b>line console 0</b> <cr>	
<b>Related Commands</b>	
<i>console 0-0</i>	

### console 0-0

**{accounting exec *accounting-list* | default} | {databits 7 | 8} | {exec} | {exec-timeout 0-35791 [0-2147483]} | {login authentication *authentication-list-name* | default} | {parity [even | odd | none]} | {speed | 115200 | 19200 | 38400 | 57600} | {stopbits 1 | 2} | {timeout login response 1-300} | {media-type *rj45*} | {usb-inactivity-timeout [1 - 240]}**

Use the no form of this command to negate a command or set its defaults.

<b>Syntax</b>	<b>console 0-0</b>
<b>Description</b>	
<b>{accounting exec <i>accounting-list</i>   default}</b>	
<b>{databits 7   8}  </b>	
<b>{exec}  </b>	

---

```
{exec-timeout
0-35791
[0-2147483]} |
```

---

```
{login
authentication
authentication-list-
name | default } |
```

---

```
{parity even | odd
| none} |
```

---

```
{speed | 115200 |
19200 | 38400 |
57600} |
```

---

```
{stopbits [1 | 2]} |
```

---

```
{timeout login
response 1-300}
```

---

```
{media-type rj45}
```

---

```
{usb-inactivity-tim
eout 1 - 240
minutes}
```

---



---

#### Command Default

```
console 0
timeout login response 30
no exec-timeout
login authentication default
accounting exec default
databits 8
parity none
stopbits 1
speed 9600
no media-type rj45
no usb-inactivity-timeout.
```

---



---

#### Command Modes

```
PerleSwitch(config-line)#
```

---



---

#### Hardware model

```
All models
```

---

**Usage Guidelines**

**accounting exec** - (account list or default list) - use an accounting list with the specified name.

**databits** - *s* specify the databits to use for this console.

**exec** - disables CLI mode on the console.

**exec timeout** - time in minutes, then seconds for CLI to timeout for the console session.

**history size** - specify the size of the history buffer.

**login authentication** - select the list to use for authentication requests or use default list.

**timeout login in response** - how many seconds before the users needs to attempt login else the session times out.

**media-type** - this is used on switches which support both and RJ45 and a USB console port. If the user wants the console to only be operational on the RJ45 port, he can use this command to force this behavior. Otherwise, the switch will automatically use the RJ45 or USB port, depending on which port is physically connected. The USB takes precedence.

**usb-inactivity-timeout** - how many minutes of inactivity must be detected before the console port reverts back to RJ45 port (applies after USB device was detected).

---

**Examples**

These commands will set your console to speed 38400, databits 7 and stopbits 2.

```
PerleSwitch(config-line)#speed 38400<cr>
```

```
PerleSwitch(config-line)#databits 7<cr>
```

```
PerleSwitch(config-line)#stopbits 2<cr>
```

---

**Related Commands**

*clear line*

*show line*

*vty 0-15*

**vty 0-15**

```
{access-class 1-99 in | out | 1300-1999 in | out | access-list in | out} |
{accounting exec accounting-list | default} | {exec} | {exec-timeout 0-35791
[0-2147483]} | {history size 0-256} | {length 0-512} | {login
authentication-list-name} | {monitor authentication-list-name | default}
{timeout login response default} | {transport input all | none | ssh | telnet |
output all | none | ssh | telnet} | {width 0-512}
```

Use the no form of this command to negate a command or set its defaults.

---

<b>Syntax</b>	<b>vty 0-15</b>
<b>Description</b>	

---

```
{access-class 1-99
in | out |
1300-1999 in | out
| access-list in |
out}
```

---

```
{accounting exec
accounting-list |
default}
```

---

```
{exec} |
```

---

```
{exec-timeout
0-35791
[0-2147483]} |
```

---

```
{history size
0-256} |
```

---

```
{length 0-512} |
```

---

```
{login
authentication-list-
name} |
```

---

```
{monitor
authentication-list-
name | default} |
```

---

```
{timeout login
response default} |
```

---

```
{transport input
all | none | ssh |
telnet | output all |
none | ssh | telnet
} |
```

---

```
{width 0-512}
```

---



---

<b>Command Default</b>	transport input all transport output all length 24 width 80 history size 20 terminal history no exec-timeout timeout login response 30 login authentication default account exec default
------------------------	---

---

<b>Command Modes</b>	PerleSwitch(config-line)#
----------------------	---------------------------

---

<b>Hardware model</b>	All models
-----------------------	------------

---

### Usage Guidelines

**databits** - specify the databits to use for this console.

**exec** - disables CLI mode on this vty or range of vtys.

**exec timeout** - time in minutes, then seconds for CLI to timeout for this vty session.

**history size** - specify the size of the history buffer.

**login authentication** - select the list to use for authentication requests or use default list.

**timeout login in response** - how many seconds before the users needs to attempt login else the session times out.

**transport** - define what protocols for incoming connections

**length** - length of terminal screen

**width** - width of terminal screen

**terminal history** - enable terminal history (up arrow or cntrl /P to scroll through history)

---

### Examples

This example disables CLI mode for vty 5-10.

```
PerleSwitch(config)#vty 10-5<cr>
```

```
PerleSwitch(config-line)no exec<cr>
```

---

### Related Commands

*console 0-0*

*clear line*

*show line*

## 9 Alerts

This chapter defines all alerts messages generated by the IDS switch.

<b>Error Code and Timestamp (mm/dd/yyyy hh/mm/ss)</b>	<b>Description</b>	<b>Recommendation</b>
<b>PORT_LINK_FLAP</b>	Detected lower performance on this link, possibility because of a possible duplex mismatch or a bad cable.	Change the Duplex setting of both the ports on this link to "auto" or "full-duplex". Inspect the cable and cable connector for faults.
<b>PORT_SECURE_VOLIATION</b>	Access denied to one or more connecting devices on this port.	Maximum allowed devices on this port are already connected, or an unauthorized device attempted to connect on this secure port. Disconnect the device.
<b>PORT_BPDU_GAURD_ERROR</b>	bpduguard error detected on port, putting the port in err-disable state.	Verify that the port is connected to an end station and not a switch, bridge or router.
<b>802.1X_SECURITY_VIOLATION</b>	A dot1x unauthorized device attempted to connect on a secure port	Disconnect the unauthorized device
<b>BANDWIDTH_EXCEEDED</b>	The configured traffic bandwidth has been exceeded for the port	Disconnect or reduce the source of the traffic that is being monitored.
<b>SFP_SPEED_MISMATCH</b>	Detected that the speed of the SFP inserted does not match the default SFP speed (Gigabit) or speed of the previously inserted SFP	Recycle power on the switch with the SFP still inserted.