Moxa Command Line Interface (FW_4.x)

Version 5.3, August 2025

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1. Command Modes

CLI (Command Line Interface)

The CLI (command line interface) for Moxa switches can be accessed through either the serial console or Telnet console. For either type of connection, access to the command line interface is generally referred to as an EXEC session.

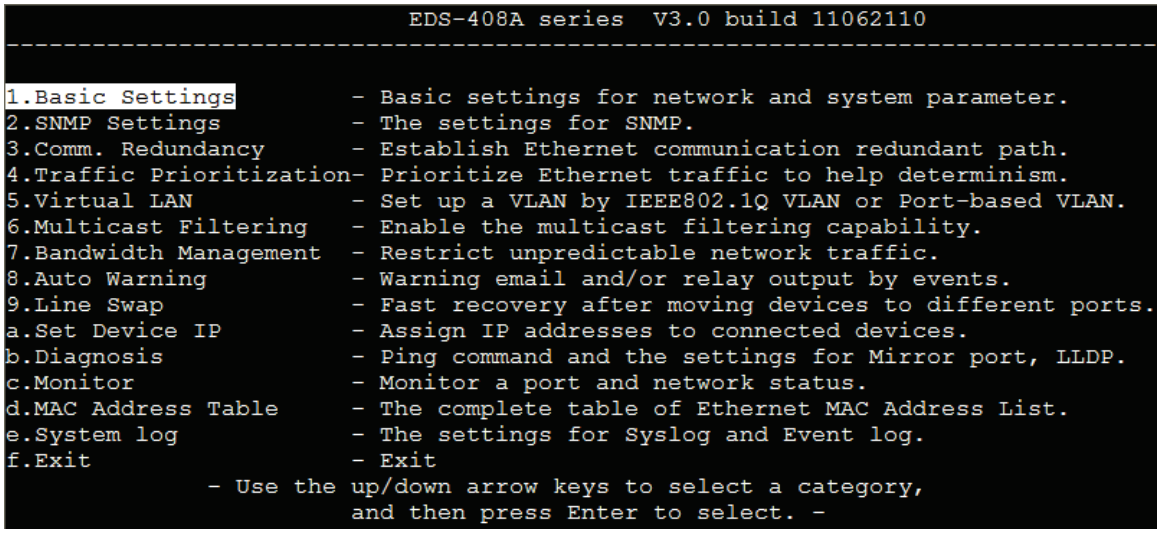
Configuring a Switch to CLI Mode

The default configuration mode for both the serial console and Telnet console is MENU mode. To change the Moxa switch to CLI configuration mode, **Login Mode** from **Basic Settings** and then press **y** to activate the change. You will then be able to view the CLI display in the console.

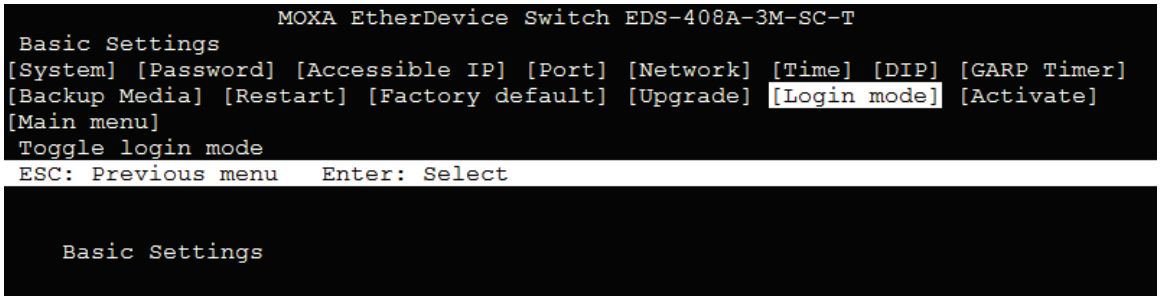
NOTE

The default login user name is **admin**, without a password.

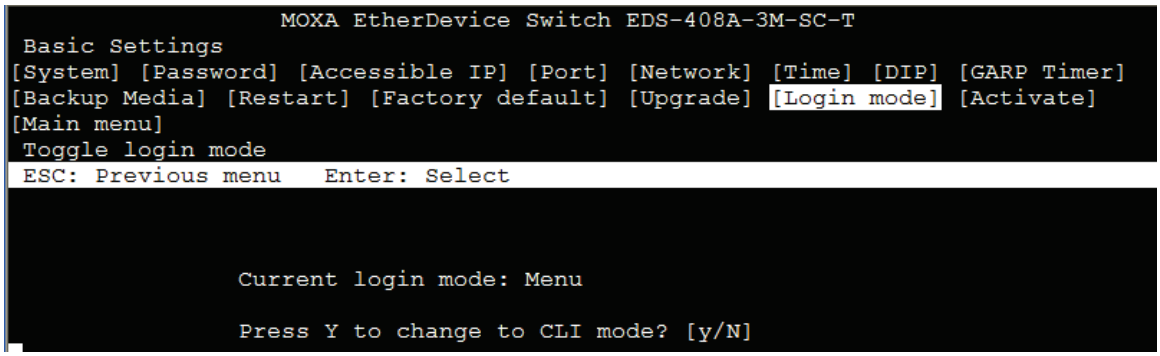
1. Select **Basic Settings**.



2. Select **Login mode**.



3. Press **y** to activate.

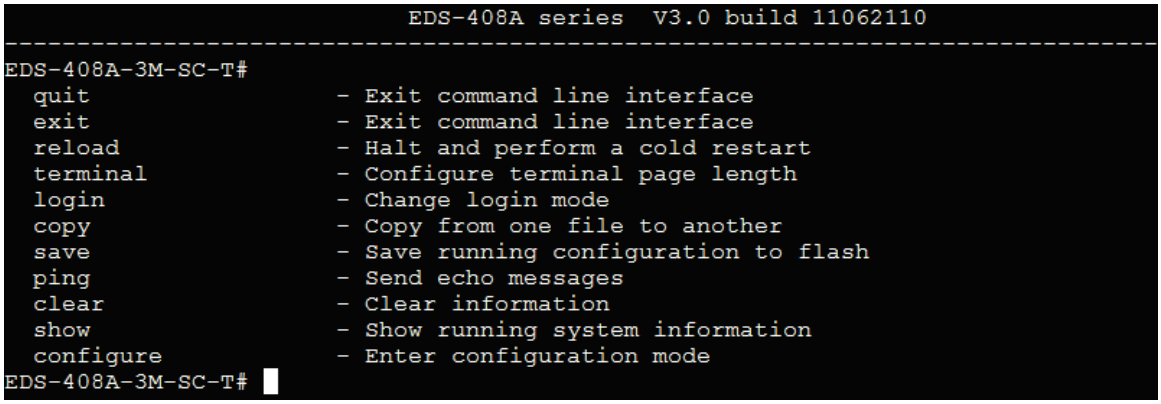


4. Now log in to access CLI display mode.

After changing to CLI mode, CLI mode will be the default setting for the next reboot.

Basic Operation

The CLI is organized in different configuration levels. When you first enter CLI mode, type **?** to view a quick help panel that shows the basic commands of the first configuration level. Type any of the commands shown on the screen to access the next configuration level. The quick help panel, accessed from any level by typing **?**, is a useful tool for understanding the commands in any level.



To enter the next level, type the commands shown in the console.

To leave access the next higher level, type **exit**.

To jump directly back to the first level, type **Ctrl + z**.

Useful Interactive "Help" Features

The CLI includes several types of interactive commands. The **Help** commands are listed in the following table:

Command	Purpose
?	Provides a brief description of the Help feature in any command level.
Partial command?	Provides a list of commands that begin with the character string (no space between the command and the question mark).
Partial command<Tab>	Completes a partial command name (no space between the command and <Tab>).
Command ?	Lists the keywords, arguments, or both associated with the command (type a space between the command and the question mark).
Command keyword ?	Lists the arguments that are associated with the keyword (type a space between the keyword and the question mark).

Understanding All Commands

To understand all the details of the commands supported in the CLI of Moxa switches, refer to the following table.

Mode	Access Method	Prompt	Exit Method	About This Mode
User EXEC	Begin a session with your switch and login with **user**.	Switch>	Enter exit or quit.	Use this mode to display system information.
Privileged EXEC	Begin a session with your switch and login with **admin**.	Switch#	Enter exit or quit.	Use this mode to verify commands that you have entered.
Global configuration	While in privileged EXEC mode, enter the configure command.	Switch(config)#	To exit to privileged EXEC mode, enter exit or press Ctrl-Z.	Use this mode to configure parameters that apply to the entire switch.
Redundancy configuration	From global configuration mode, enter the redundancy command.	Switch(config-rdnt)#	To exit to privileged EXEC mode, press Ctrl-Z. To exit to global configuration mode, enter the exit command.	Use this mode to configure Turbo Ring V1/V2, Turbo Chain, and Spanning Tree parameters.
Interface configuration	From global configuration mode, specify an interface by entering the interface command followed by an interface identification.	Switch(config-if)#	To exit to privileged EXEC mode, press Ctrl-Z. To exit to global configuration mode, enter the exit command.	
Router configuration	From global configuration mode, specify a protocol by entering the router command.	Switch(config-rip)# Switch(config-ospf)#	To exit to privileged EXEC mode, press Ctrl-Z. To exit to global configuration mode, enter the exit command.	

access-ip

Use **access-ip** in the VLAN configuration command as to restrict access to the switch to specified IP addresses. Use the **no** form of this command to disable this feature or to remove the IP addresses from access list.

Commands

access-ip *[ip-address netmask]*

no access-ip *[ip-address netmask]*

Syntax Description	**access-ip**	Enable the accessible IP list
	ip-address	IP address
	netmask	IP netmask
Defaults	The feature is disabled by default.	
Command Modes	VLAN configuration as management VLAN	
Usage Guidelines	This feature will take effect when the **access-ip** command is executed.	

Examples	`PT-7828(config)# interface mgmt`
	`PT-7828(config-vlan)# access-ip 10.10.10.10 255.255.255.0`
	`  <IPV4ADDR:ipaddr>  - IP address`
	`  <IPV4ADDR:netmask>  - IP netmask`
	`PT-7828(config-vlan)# access-ip`	

Error messages	IP or netmask invalid	
	Access IP list full	
Related commands	show interface mgmt access-ip	

acl id

NOTE

The command is supported only in Layer 3 switches.

Use **acl *id*** interface configuration commands on the switch to attach ACL to the port. Use the **no** form of this command to return to the default setting.

Commands

acl *id* **{ in | out}**

no acl *id*

Syntax Description	**acl**	Configure access control list
	id	The access list ID
	in	Inbound traffic
	out	Outbound traffic
Defaults	N/A	
Command Modes	**Interface configuration**	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# acl 10 in` `PT-7828(config-if)# no acl 10`	
Error messages	Invalid ID!	
Related commands	N/A	

acl id ip-base

NOTE

The command is supported only in Layer 3 switches.

Use the **acl id ip-base** global configuration commands on the switch to create an IP-base ACL and add rules. Use the **no** form of this command to remove the rule.

Commands

acl *id* **ip-base { permit | deny }** *srcip [dstip] [protocol] [port]*

acl id **ip-base name** *name_str*

no acl *id*

no acl *id* **rule** *ruleindex*

Syntax Description	**acl**	Configure access control list
	id	Set ACL ID
	ip-base	IP-base ACL
	permit	Forward packets
	deny	Drop packets
	srcip	Set source IP address and subnet mask. Ex: 192.168.1.1/255.255.255.0 or 192.168.127.1
	dstip	Set destination IP address and subnet mask. Ex: 192.168.1.1/255.255.255.0 or 192.168.127.1
	protocol	Set protocol number, Ex: ICMP, TCP, UDP, etc.
	port	Set TCP/UDP port number
	name_str	ACL name
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	The ACL ID is 1 ~ 16.	
Examples	`PT-7828(config)# acl 8 ip-base permit 172.3.1.1/255.255.255.0 201.16.9.7/255.255.0.0 6 23`	
Error messages	Invalid ID!	
	This ID is used by MAC-base ACL!	
	Invalid IP address format!	
	Invalid subnet mask format!	
Related commands	N/A	

acl id mac-base

NOTE

The command is supported only in Layer 3 switches.

Use the **acl *id* mac-base** global configuration commands on the switch to create an MAC-base ACL and add rules. Use the **no** form of this command to remove the rule.

Commands

acl *id* **mac-base { permit | deny }** *srcmac [dstmac] [ethertype] [vid]*

acl id **mac-base name name_str**

no acl *id*

no acl *id* **rule** *ruleindex*

Syntax Description	**acl**	Configure access control list
	id	Set ACL ID
	mac-base	MAC-base ACL
	permit	Forward packets
	deny	Drop packets
	srcmac	Set source MAC address and MAC mask. Ex: 00:90:E8:1D:24:23/FF:FF:FF:FF:00:00 or 00:90:E8:1D:24:23
	dstmac	Set destination IP address and subnet mask. Ex: 192.168.1.1/255.255.255.0 or 192.168.127.1
	ethertype	Set ether type
	vid	Set VLAN ID
	name_str	ACL name
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	The ACL ID is 1 ~ 100.	
Examples	`PT-7828(config)# acl 10 mac-base deny 00:11:22:33:44:55/ff:ff:ff:00:00:00 aa:bb:cc:dd:ee:ff/ff:ff:00:00:00:00 2048 10`	
Error messages	Invalid ID!	
	This ID is used by IP-base ACL!	
	Invalid MAC address format!	
	Invalid MAC mask format!	
Related commands	N/A	

area

Use the **area** command in Router configuration mode as OSPF to add an OSPF area and configure its type. Use the **no** form of this command to remove the area.

Commands

area *area-id* **[{ stub | nssa } metric** *value* **]**

no area *area-id*

Syntax Description	**area**	Configure OSPF Area
	area-id	OSPF Area id, format is ip address
	stub	Configure OSPF area type to stub
	nssa	Configure OSPF area type to NSSA
	metric	Configure OSPF area metric
	value	Metric value (1 to 65535)
Defaults	N/A	
Command Modes	Router configuration mode as OSPF	
Usage Guidelines	Metric value: 1 to 65535	

Examples	`PT-7828(config-ospf)# area 2.2.2.2`
	`PT-7828(config-ospf)# area 2.2.2.2 stub metric 4`
	`PT-7828(config-ospf)# area 2.2.2.2 nssa  metric 4`	

Error messages	Configuration Error!!	
	Metric value error (1 to 65535)!!	
Related commands	show ip ospf	

area range

To consolidate and summarize routes at an area boundary, use the **area range** command in router configuration mode. To disable this function, use the **no** form of this command.

Commands

area *area-id* **range** *ip-address netmask*

no area *area-id* **range** *ip-address netmask*

Syntax Description	**area**	Configure OSPF Area
	area-id	OSPF Area id, format is ip address
	range	Specify an address range for route aggregation
	ip-address	E.g., 11.22.33.44
	netmask	E.g., 255.255.255.0
Defaults	N/A	
Command Modes	Router configuration mode as OSPF	
Usage Guidelines	N/A	
Examples	`PT-7828(config-ospf)# area 1.1.1.1 range 192.0.0.0 255.0.0.0`	
Error messages	Configuration Error!!	
	IP Prefix format Error!!	
	Netmask format Error!!	
	IP format Error!!	
Related commands	show ip ospf	

area virtual-link

Use the **area virtual-link** command in Router configuration mode as OSPF to add an OSPF virtual link. Use the **no** form of this command to remove the specified OSPF virtual link.

Commands

area *area-id* **virtual-link** *router-id*

no area *area-id* **virtual-link** *router-id*

Syntax Description	**area**	Configure OSPF Area
	area-id	OSPF Area id
	virtual-link	Establish a virtual link
	router-id	Neighbor Router ID
Defaults	N/A	
Command Modes	Router configuration mode as OSPF	
Usage Guidelines	N/A	
Examples	`PT-7828(config-ospf)# area 1.1.1.1 virtual-link 0.0.0.0`	
Error messages	Configuration Error!!	
Related commands	show ip ospf	

auth tacacs+

Use the **auth tacacs+** global configuration command on the switch to enable TACACS+ authentication. Use the **no** form of this command to return to the default setting.

Commands

auth tacacs+

no auth tacacs+

Syntax Description	**auth**	Configure authentication mechanism
	tacacs+	TACACS+ authentication
Defaults	The default setting is disabled.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# auth tacacs+`	
Error messages	N/A	
Related commands	show auth tacacs+	

auth tacacs+ auth-type

Use the **auth tacacs+ auth-type** global configuration command on the switch to specify the type of TA*CACS*+ authentication. Use the **no** form of this command to return to the default setting.

Commands

auth tacacs+ auth-type { ascii | pap | chap | arap | mschap }

no auth tacacs+ auth-type

Syntax Description	**auth**	Configure authentication mechanism
	tacacs+	TACACS+ authentication
	auth-type	Specify the authentication type
	ascii	Normal ASCII code authentication
	pap	Password Authentication Protocol
	chap	Challenge-handshake authentication protocol
	arap	AppleTalk Remote Access Protocol
	mschap	Microsoft Challenge-handshake authentication protocol
Defaults	Default type is ASCII code authentication	
Command Modes	Global configuration	
Usage Guidelines	To enable the TACACS+ authentication, the command "auth tacacs+" must be executed first.	

Examples	`PT-7828(config)# auth tacacs+ auth-type`
	`  ascii  - Normal ASCII code authentication`
	`  pap  - Password Authentication Protocol`
	`  chap  - Challenge-handshake authentication protocol`
	`  arap  - AppleTalk Remote Access Protocol`
	`  mschap  - Microsoft Challenge-handshake authentication protocol`	

Error messages	N/A	
Related commands	auth tacacs+ show auth tacacs+	

auth tacacs+ server

Use the **auth tacacs+ server** global configuration command on the switch to set the TACACS+ authentication server address and the shared key information. Use the **no** form of this command to remove the settings.

Commands

auth tacacs+ server *server-address* **shared-key** *key* [**timeout** *seconds*]

no auth tacacs+ server

Syntax Description	**auth**	Configure authentication mechanism
	tacacs+	TACACS+ authentication
	server	TACACS+ authentication server
	server-address	Authentication server address
	shared-key	Configure the shared key
	key	Key string, max 15 characters
	timeout	Configure server timeout
	seconds	1 to 255 sec.
Defaults	Default timeout is 30 seconds Default tacacs+ server port is 49	
Command Modes	Global configuration	
Usage Guidelines	To enable the TACACS+ authentication, the command "auth tacacs+" must be executed first.	

Examples	`PT-7828(config)# auth tacacs+ server`
	`  <STRING:auth_server> - Authentication server address`
	`PT-7828(config)# auth tacacs+ server tacacs.server.moxa.com`
	`  shared-key            - Configure the shared key`
	`PT-7828(config)# auth tacacs+ server tacacs.server.moxa.com shared-key`
	`  <STRING:key>          - Key string, max 15 characters`
	`PT-7828(config)# auth tacacs+ server tacacs.server.moxa.com shared-key 1234`
	`  <LF>`
	`  timeout               - Configure server timeout`
	`PT-7828(config)# auth tacacs+ server tacacs.server.moxa.com shared-key 1234 timeout`
	`  <UINT:seconds>        - 1 to 255 sec.`
	`PT-7828(config)# auth tacacs+ server tacacs.server.moxa.com shared-key 1234 timeout 200`	

Error messages	Timeout value must be in the range from 1 to 255 seconds	
	Invalid IP protocol port	
Related commands	auth tacacs+ show auth tacacs+	

auto-backup

Use **auto-backup** to enable Auto load system configurations when the system boots up. To disable it, use the **no** form of this command.

Commands

auto-backup

no auto-backup

Syntax Description	**auto-backup**	Use auto backup configurator to restore configuration
Defaults	Auto-backup configuration is enabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828# configure terminal`
	`PT-7828(config)# auto-backup`
	`PT-7828(config)# no au`
	`  auto-backup  - Deactive auto-backup configurator`
	`PT-7828(config)# no auto-backup`	

Error messages	N/A	
Related commands	N/A	

bind vlan

Use the **bind vlan** configuration command on the switch to bind the management address with a specified VLAN ID. Use the **no** form of this command to return to the default.

Commands

bind vlan *VLAN-ID*

Syntax Description	**bind**	Bind VLAN as management VLAN
	vlan	VLAN parameters
	VLAN-ID	1 to 4094
Defaults	Default management VLAN ID is 1	
Command Modes	VLAN configuration mode as management VLAN	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface mgmt`
	`PT-7828(config-vlan)# bind vlan`
	`  <UINT:vlanid>  - 1 to 4094`	

Error messages	L3 interface cannot be assigned as management interface	
	VLAN id is out of range!	
Related commands	show interfaces mgmt	

clear counters

Use the **clear counters** user EXEC command on the switch to clear the switch's statistics counters.

Commands

clear counters

Syntax Description	**clear**	Clear information
	counters	Clear statistic counters
Defaults	N/A	
Command Modes	Privileged	
Usage Guidelines	N/A	
Examples	`PT-7828# clear` `  counters  - Clear statistic counters`	
Error messages	N/A	
Related commands	show interfaces counters	

clear logging event-log

Use the **clear logging event-log** user EXEC command on the switch to clear the system log of the switch.

Commands

clear logging event-log

Syntax Description	**clear**	Clear information
	logging	System event logs
	event-log	System event logs
Defaults	N/A	
Command Modes	Privileged	
Usage Guidelines	N/A	

Examples	`PT-7828# clear`
	`  logging  - System event logs`
	`PT-7828# clear logging`
	`  event-log  - System event logs`	

Error messages	N/A	
Related commands	show logging	

clock set

Use the **clock set** global configuration command on the switch to set the current switch time.

Commands

clock set *hh:mm:ss month day year*

Syntax Description	**clock**	Configure time-of-day clock
	set	Adjust the clock
	hh:mm:ss	hh:mm:ss
	month	1 to 12
	day	1 to 31
	year	2000 to 2037
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# clock set 11:11:11 1 1 2010`	
Error messages	Illegal parameters!	
Related commands	show clock	

clock summer-time

Use the **clock summer-time** global configuration command on the switch to enable the daylight saving time offset and set the apply duration. Use the **no** form of this command to disable it.

Commands

clock summer-time start-date *month week day hour*

clock summer-time end-date *month week day hour*

clock summer-time offset *offset-hour*

Syntax Description	**clock**	Configure time-of-day clock
	summer-time	Configure Summer time parameter
	start-date	The date when summer time offset start
	end-date	The date when summer time offset end
	month	From 'Jan', 'January' or '1' to 'Dec', 'December', or '12'
	week	From '1st' or '1' to 'Last' or '6'
	day	From 'Sun', 'Sunday' or '1' to 'Sat', 'Saturday' or '7'
	hour	0 to 23
	offset	Summer time offset
	offset-hour	1 to 12
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	When configuring the summer time offset, the start-date and end-date must be configured correctly first.	
Examples	`PT-7828(config)# clock timezon gmt -4`	
Error messages	Invalid parameter	
	Month must be configured as 'Jan', 'January' or a numerical '1'.	
	Week must be configured as '1st', '2nd', '3rd', '4th', '5th' or 'Last'	
	Day must be configured as 'Sun', 'Sunday' or a numerical '1'.	
	Hour must be in the range from 0 to 23.	
	Please input the correct start/end date of the summer time first!	
	Hour offset is out of range.	
Related commands	show clock	

clock timezone

Use the **clock timezone** global configuration command on the switch to set the current time zone.

Commands

clock timezone gmt *offset-hour*

Syntax Description	**clock**	Configure time-of-day clock
	timezone	Time zone hour shifting
	gmt	Greenwich Mean Time
	offset-hour	-12 to 12
	Half an hour	Only type 30
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`EDS-G516E(config)# clock timezone gmt 5 30`	
Error messages	This timezone doesn't support half an hour	
Related commands	show clock	

copy

Use the **copy** privileged command on the switch to copy an image or configuration file from a remote server to the Flash memory or copy the running configuration, startup configuration, or event log to a remote server via TFTP.

Commands

copy tftp device-firmware

copy tftp running-config

copy {running-config|event-log|startup-config} tftp *[tftp-address]*

copy tftp ssl-certificate

Syntax Description	**copy**	Copy from one file to another
	tftp	Remote server through TFTP
	device-firmware	System firmware
	running-config	Current running configuration of system
	startup-config	System startup configuration
	event-log	Event log file
	tftp-address	TFTP address. E.g., tftp://192.168.127.1/abc.txt
	ssl-certificate	SSL certificate
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# copy tftp`
	`  device-firmware  - System firmware`
	`  running-config  - Current running configuration of system`
	`PT-7828# copy tftp running-config`
	`Address or name of remote host [192.168.127.1]? 192.168.127.95`
	`Source file name ? cli.ini`
	`Save import config to flash ? [Y/n]`
	`Saving configuration ...Success`
	`PT-7828# copy tftp ssl-certificate moxa`
	`Address or name of remote host [192.168.127.1]? 192.168.127.100`	

	Source file name ? SSL_Certificate.pfx Importing SSL certificate, please wait..... Save ssl certification to flash ? [Y/n] Saving ssl certification ...Success
Error messages	Input error
	Invalid TFTP Server IP/Name !!!
	TFTP Configuration File Download Failed
	Invalid Config Files Path and Name !!!
	Invalid Firmware Files Path and Name !!!
	TFTP Firmware Download Failed !!!
	TFTP Configuration File Upload Failed !!!
	TFTP Log File Upload Failed !!!
	Importing had some error, please check password of the file.
Related commands	N/A

dot1x auth

Use the **dot1x auth** global configuration command to set dot1x authentication type and relative configurations.

Commands

dot1x auth local
dot1x auth radius server *server* **port** *port* **shared-key** *string*
dot1x auth radius-local server *server* **port** *port* **shared-key** *string*

Syntax Description	**dot1x**	802.1x setting
	auth	802.1x auth type
	local	802.1x authentication uses local database
	radius	802.1x authentication uses radius server
	radius-local	802.1x authentication uses both local and radius server
	server	802.1x radius server name/ip
	server	802.1x radius server name/ip string
	port	802.1x radius server port
	port	802.1x radius server port (default 1812)
	shared-key	802.1x Shared Key
	string	Shared Key string
Defaults	802.1x local authentication	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	PT-7828(config)# dot1x auth local PT-7828(config)# dot1x auth radius server moxanet port 1812 shared-key moxa PT-7828(config)# dot1x auth radius-local server moxanet port 1812 shared-key moxa	
Error messages	Local Database is Full !!!	
	Invalid User Name !!!	
	Invalid User Password !!!	
	Invalid User Description !!!	
Related commands	show dot1x	

dot1x auth

Use the **dot1x auth** interface configuration command on the switch to enable port 802.1x authenticate. Use the **no** form of this command to return to the default setting.

Commands

dot1x auth
no dot1x auth

Syntax Description	**dot1x**	802.1x setting
	auth	802.1x port authentication enable/disable
Defaults	802.1x port authentication default disable	
Command Modes	interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface ethernet 1/1`
	`PT-7828(config-if)# dot1x auth`
	`PT-7828(config-if)# no dot1x auth`	

Error messages	N/A	

dot1x local-userdb

To add 802.1x local user database, use the **dot1x local-userdb** global configuration command. To remove the user database, use the **no** form of this command.

Commands

dot1x local-userdb username *user* **password** *password [***desc** *description]*

no dot1x local-userdb username *user*

Syntax Description	**dot1x**	802.1x setting
	local-userdb	Local user settings
	username	Local user
	user	Local user name (max. 30 characters)
	password	Local user password
	password	Local user password (max. 16 characters)
	desc	User description
	description	Description string
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# dot1x local-userdb username moxa password moxanet` `PT-7828(config)# no dot1x local-userdb username moxa`	
Error messages	Local Database is Full !!!	
	Invalid User Name !!!	
	Invalid User Password !!!	
	Invalid User Description !!!	
Related commands	show dot1x local-userdb	

dot1x reauth

Use the **dot1x reauth** global configuration command on the switch to globally enable periodic re-authentication of the client. Use the **no** form of this command to return to the default setting.

Commands

dot1x reauth *[***period** *period]*

no dot1x reauth *[***period** *period]*

	dot1x	802.1x setting

Syntax Description	**reauth**	802.1x reauth enable
	period	802.1x reauth period
	period	60 to 65535 seconds
Defaults	802.1x reauth default enable and period 3600 seconds	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# dot1x reauth period 3600` `PT-7828(config)# no dot1x reauth`	
Error messages	Invalid Re-Auth Period!!! Must not be smaller than 65535 or greater than 60	
Related commands	show dot1x	

dot1x reauth

Use the **dot1x reauth** interface configuration command on the switch to trigger port 802.1x re-authenticate immediately.

Commands

dot1x reauth

Syntax Description	**dot1x**	802.1x setting
	reauth	802.1x port re-authenticate immediately
Defaults	N/A	
Command Modes	interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# interface ethernet 1/1` `PT-7828(config-if)# dot1x reauth`	
Error messages	N/A	
Related commands	N/A	

dip-switch

Use the **dip-switch** command to disable/enable HW dip-switch function.

Commands

dip-switch

Syntax Description	**disable**	Disable HW dip-switch function.
	enable	Enable HW dip-switch function.
	mode turbo-ring-v1	set dip-switch function as turbo-ring-v1.
	mode turbo-ring-v2	set dip-switch function as turbo-ring-v2.
Defaults	1.Enable dip-switch. 2.set to turbo-ring-v2.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# dip-switch disable` `PT-7828(config-if)# dip-switch mode turbo-ring-v1`	
Error messages	N/A	
Related commands	N/A	

eip

Use the **eip** command to disable/enable Ethernet/IP support.

Commands

eip

no eip

Syntax Description	**eip**	Enable Ethernet/IP
Defaults	Default is disable	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# eip`	
Error messages	N/A	
Related commands	show eip	

email-warning account

Use **email-warning account** to configure the account and the password to log in to the remote Mail Server. To clear the setting, use the **no** form of this command.

Commands

email-warning account *name password*

no email-warning account

Syntax Description	**email-warning**	Email warning setting
	account	Email account on server
	name	User name
	password	User password
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# email-warning account test1 1234` `PT-7828(config)# email-warning account test1`	
Error messages	Length of SMTP User name is too long !!!	
	Invalid User name	
	Length of password is too long!!!	
Related commands	show email-warning	

email-warning event

Use the **email-warning event** global configuration command to enable the system warning events to send through the email if the event occurs. Use the **no** form of this command to disable the specified warning event notifications.

Commands

email-warning event { all | cold-start | warm-start | power-trans-off | power-trans-on | config-change | auth-fail | topology-change }

no email-warning event { cold-start | warm-start | power-trans-off | power-trans-on | config-change | auth-fail | topology-change}

Syntax Description	**email-warning**	Email warning setting
	event	System events
	all	Enable all events
	cold-start	Switch cold start
	warn-start	Switch warm start
	power-trans-off	Power transition (on->off)
	power-trans-on	Power transition (off->on)
	config-change	Configuration changed
	auth-fail	Authentication failed
	topology-change	Topology changed (from redundant protocols)
Defaults	All system events are disabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	PT-7828(config)# email-warning event
	  all - Enable all events
	  cold-start - Switch cold start
	  warm-start - Switch warm start
	  power-trans-off - Power transition (on->off)
	  power-trans-on - Power transition (off->on)
	  config-change - Configuration changed
	  auth-fail - Authentication failed
	  topology-change - Communication redundancy topology changed
	PT-7828(config)# email-warning event cold-start
	PT-7828(config)# email-warning event topology-change
	PT-7828(config)# email-warning event auth-fail
	PT-7828(config)# exit
	PT-7828# show email-warning config
	Mail Server and Email Setup
	  SMTP Server IP/Name : ms1.hinet.net
	  SMTP Port : 25
	  Account Name : test1
	  Account Password : 1234
	
	  1st email address: test2@moxa.com
	  2nd email address :
	  3rd email address: test3@hinet.net
	  4th email address :
	System Events
	  Cold Start : Enable
	  Warm Start : Disable
	  Conf. Changed : Disable
	  Power On->Off : Disable
	  Power Off->On : Disable
	  Auth. Failure : Enable
	  Topology Changed : Enable
	--More--	

Error messages	N/A	
Related commands	show email-warning	

email-warning event

Use the **email-warning event** interface configuration command to allow interface warning events to be sent through the email if the event occurs. Use the **no** form of this command to disable the specified warning event notifications.

Commands

email-warning event { link-on | link-off }

no mail-warning event { link-on | link-off }

email-warning event traffic-overload *[rxThreshold duration]*

no email-warning event traffic-overload

Syntax Description	**email-warning**	Configure email warning
	event	Port events
	link-on	Link ON
	link-off	Link OFF
	traffic-overload	Traffic overloading
	rxThreshold	0 to 100
	duration	1 to 300
Defaults	All port events are disabled by default.	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828# configure terminal`
	`PT-7828(config)# interface ethernet 3/1`
	`PT-7828(config-if)# email-warning`
	`  event                - Port events`
	`PT-7828(config-if)# email-warning event`
	`  link-on              - Link ON`
	`  link-off             - Link OFF`
	`  traffic-overload     - Traffic overloading`
	`PT-7828(config-if)# email-warning event link-on`
	`PT-7828(config-if)# email-warning event traffic-overload 80 20`
	`PT-7828(config-if)#`
	`PT-7828# show email-warning config`
	`Mail Server and Email Setup`
	`  SMTP Server IP/Name : ms1.hinet.net`
	`  SMTP Port           : 25`
	`  Account Name        : test1`
	`  Account Password    : 1234`
	
	`  1st email address: test2@moxa.com`
	`  2nd email address :`
	`  3rd email address: test3@hinet.net`
	`  4th email address :`
	`System Events`
	`  Cold Start          : Enable`
	`  Warm Start          : Disable`
	`  Conf. Changed       : Disable`
	`  Power On->Off       : Disable`
	`  Power Off->On       : Disable`
	`  Auth. Failure       : Enable`
	`  Topology Changed    : Enable`	

Error messages	Threshold should be between 0 and 100	
	Duration should be between 1 and 300	
Related commands	show email-warning	

email-warning mail-address

Use **email-warning mail-address** to configure the email address(es) to which warning messages will be sent. To clear the setting, use **no** form of this command.

Commands

email-warning mail-address *mailIndex mailAddress*

no email-warning mail-address *mailIndex*

Syntax Description	**email-warning**	Email warning setting
	mail-address	Target email address
	mailIndex	1 to 4
	mailAddress	Email address
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# email-warning mail-address`
	`  <UINT:mailIdx>       - 1 to 4`
	`PT-7828(config)# email-warning mail-address 1 test2@moxa.com`
	`PT-7828(config)# email-warning mail-address 3 test3@hinet.net`	

Error messages	Index should be between 1 and 4	
	Length of email address is too long !!!	
	Invalid Email address format	
Related commands	show email-warning	

email-warning send test email

Use **email-warning send test email** to send a test email.

Commands

switch(config)# email-warning send test email

Syntax Description	**email-warning**	Email warning setting
	send	Send test email
	test	Test email
	email	Test email address
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	The test email will be sent to the mail address that "**email-warning mail-address**" command configured.	
Examples	PT-7828(config)# email-warning server 192.168.127.95 <LF> <UINT:smtpPort> - SMTP Port PT-7828(config)# email-warning server 192.168.127.95 25 PT-7828(config)# email-warning account admin 1234 PT-7828(config)# email-warning mail-address 1 <STRING:mailAddress> - Email address PT-7828(config)# email-warning mail-address 1 alancc.wu@moxa.com PT-7828(config)# email-warning send test email Sending test email ... You may check if your dedicated email addresses have received this email! PT-7828(config)#	
Error messages	Warning !!! You must first do Email Setup before sending the test email.	
	Warning !!! You must first configure DNS Server IP Address before sending the test email.	
	Sending test email failed !!!	
Related commands	email-warning server email-warning account email-warning mail-address	

email-warning server

Use **email-warning server** to configure Mail Server IP/Name (IP address or name) for the switch. To clear the setting, use the **no** form of this command.

Commands

email-warning server *smtpServerIp [smtpPort]*

no email-warning server

Syntax Description	**email-warning**	Email warning setting
	server	Email Server
	smtpServerIp	Email Server name/address
	smtpPort	SMTP Port, 1 to 65535
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# email-warning server mail.hinet.net 25` `PT-7828(config)# email-warning server ms1.hinet.net`	
Error messages	Length of server address is too long !!!	
	Invalid SMTP server name/address	
	Invalid Mail Server Port, Range(1 to 65535) !!!	
Related commands	show email-warning	

exit

Use **exit** to exit the current configuration mode.

Commands

exit

Syntax Description	**exit**	Exit from configure mode Exit from port setting mode Exit command line interface Exit from management interface setting
Defaults	N/A	
Command Modes	N/A	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# exit` `PT-7828 #`	
Error messages	N/A	
Related commands	quit	

flowcontrol

To set the method of data flow control between the terminal or other device, use the **flowcontrol** interface configuration command. Use the **no** form of this command to disable flow control

Commands

flowcontrol

no flowcontrol

Syntax Description	**flowcontrol**	Configure flowcontrol
Defaults	The default is disable	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface ethernet 1/1`
	`PT-7828(config-if)# flowcontrol`
	
	`PT-7828(config-if)# no flowcontrol`	

Error messages	Fiber port can not be set flow control!!	
	Force speed can not be set flow control!!	
	Cannot configure on trunk member port 1/1!	
	This setting cannot be applied on trunk port!	
Related commands	show interfaces ethernet	

gmrp

Use the **gmrp** interface configuration command on the switch to active the IEEE 802.1D-1998 GMRP (GARP Multicast Registration Protocol). Use the **no** form of this command to stop this function.

Commands

gmrp

no gmrp

Syntax Description	**gmrp**	Enable GMRP (GARP Multicast Registration Protocol)
Defaults	gmrp is default disable	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface ethernet 1/1`
	`PT-7828(config-if)# gmrp`
	
	`PT-7828(config-if)# no gmrp`	

Error messages	GMRP cannot be enabled on static multicast member port!!!	
Related commands	N/A	

gvrp

Use the **gvrp** global configuration command on the switch to enable GVRP. Use the **no** form of this command to disable it.

Commands

gvrp

no gvrp

Syntax Description	**gvrp**	Enable/Disable GVRP
Defaults	The feature is enabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# gvrp` `  gvrp  - Enable GVRP`	
Error messages	N/A	
Related commands	show gvrp	

hostname

To specify or modify the host name for the network server, use the **hostname** global configuration command. To return to the default, use the **no** form of this command.

Commands

hostname *name*

no hostname

Syntax Description	**hostname**	Set system's network name (maximum 30 characters)
	name	Switch name string
Defaults	Name is the default switch name with the serial number	
Command Modes	Global configuration	
Usage Guidelines	Maximum string tokens are 5. Maximum switch name length is 30 characters.	

Examples	`PT-7828(config)# hostname MOXA Ethernet Switch PT 7828`
	`PT-7828(config)# exit`
	`PT-7828# show system`
	`System Information`
	`  System Name  : MOXA Ethernet Switch PT 7828`
	`  System Location  : Switch Location`
	`  System Description  : MOXA PT-7828`
	`  Maintainer Information  :`
	`  MAC Address  : 00:90:E8:1D:24:36`
	`  System Uptime  : 0d0h36m57s`	

Error messages	Length of switch hostname is too long	
Related commands	show system	

interface mgmt

Use the **interface mgmt** global configuration command on the switch to enter the VLAN configuration mode of Mgmt-VLAN.

Commands

interface mgmt

Syntax Description	**interface**	Select an interface to configure
	mgmt	Configure management VLAN
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface`
	`  mgmt  - Configure management VLAN`
	`PT-7828(config)# interface mgmt`
	`PT-7828(config-vlan)#`	

Error messages	N/A	
Related commands	show interfaces mgmt	

interface vlan

Use the **interface vlan** global configuration command on the switch to create or access a dynamic switch virtual interface (SVI) and to enter interface configuration mode. Use the **no** form of this command to delete an SVI.

Commands

interface vlan *vlan-id*

no interface vlan *vlan-id*

Syntax Description	**interface**	Select an interface to configure
	vlan	Configure L3 interface
	vlan-id	Configure L3 interface vlan id
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	Management vlan id cannot be same as interface vlan id.	
Examples	`PT-7828(config)# interface vlan 2` `  <UINT:vlanid>  - Configure L3 interface vlan id`	
Error messages	interface vlan 2 is not exist	
	mgmt vlan id cannot be same as interface vlan id!!	
	vlan interface full	
Related commands	show interfaces vlan	

ip address

Use the **ip address** VLAN configuration command on the switch to configure the address of a Layer 3 interface.

Commands

ip address *ip-address netmask*

Syntax Description	**ip**	Configure L3 interface ip
	address	Interface ip setting
	ip-address	IP address
	netmask	IP netmask
Defaults	N/A	
Command Modes	VLAN configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-vlan)# ip address 10.10.10.10 255.255.255.0` `  ip  - Configure L3 interface ip`	
Error messages	IP or netmask invalid	
	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interface full	
	Interface VLAN is not allowed to modify!!	
Related commands	show interfaces vlan	

ip address

Use the **ip address** VLAN configuration command on the switch to configure the IP retrieve mechanism of the switch. Use **no** form of this command to return to the default.

Commands

ip address {static *ip-address netmask* **| dhcp | bootp }**

no ip address

Syntax Description	**ip**	Configure IP paramters
	address	Congiure IP address
	static	E.g., 11.22.33.44
	ip-address	IP address
	netmask	Subnet mask
	dhcp	Use DHCP to retrieve IP setting automatically
	bootp	Use BOOTP to retrieve IP setting automatically
Defaults	N/A	
Command Modes	VLAN configuration as management VLAN	
Usage Guidelines	N/A	

Examples	`PT-7828(config-vlan)# ip address`
	`  static  - Configure static IP`
	`  dhcp  - Use DHCP to retrieve IP setting automatically`
	`  bootp  - Use BOOTP to retrieve IP setting automatically`	

Error messages	N/A	
Related commands	show interfaces mgmt	

ip auto-assign

Use the **ip auto-assign** interface configuration command on the switch to enable and set the auto IP assignment of specified interfaces. Use the **no** form of this command to remove an Ethernet port from a trunk group.

Commands

ip auto-assign *ipaddr*

no ip auto-assign

Syntax Description	**ip**	Configure IP paramters
	auto-assign	Automatic port IP assignment through DHCP/BootP/RARP
	ipaddr	E.g., 11.22.33.44
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	This specified IP address must be in the same subnet of the system IP address	
Examples (static IP)	`PT-7828(config-if)# ip auto-assign` `  <IPV4ADDR:ipaddr>  - E.g., 11.22.33.44`	
Error messages	Cannot configure on trunk member port	
	This IP address must be in the same subnet of the system IP address	
Related commands	show ip auto-assign	

ip default-gateway

Use the **ip default-gateway** VLAN configuration command on the switch to configure the IP default gateway address. Us thee **no** form of this command to return to the default.

Commands

ip default-gateway *ip-address*

no default-gateway

Syntax Description	**ip**	Configure IP paramters
	default-gateway	Configure default gateway address
	ip-address	IP address
Defaults	N/A	
Command Modes	VLAN configuration as management VLAN	
Usage Guidelines	N/A	
Examples	`PT-7828(config-vlan)# ip default-gateway 192.168.1.1`	
Error messages	Warning! IP and gateway are not in the same subnet	
Related commands	show interfaces mgmt	

ip dhcp retry

Use **ip dhcp retry** to enable the DHCP request retry for a specified period and times. Use the **no** form of this command to return to the default.

Commands

ip dhcp retry *times* **period** *seconds*

no ip dhcp retry

Syntax Description	**ip**	Global IP configuration subcommands
	dhcp	DHCP related configuration
	retry	Configure DHCP client request retry paramter
	times	0 - 65535 times, 0 means retry forever
	period	Retry period
	seconds	1 - 30 seconds
Defaults	Default retry times = 0, retry period=1	
Command Modes	VLAN configuration as management VLAN	
Usage Guidelines	N/A	

Examples	`PT-508(config-vlan)# ip dhcp retry 500 period 30`
	`PT-508# show interfaces mgmt`
	
	`IPv4`
	`  Management VLAN id  : 1`
	`  IP configuration    : DHCP`
	`  IP address          : 192.168.127.253`
	`  Subnet mask         : 255.255.255.0`
	`  Default gateway     : 0.0.0.0`
	`  DNS server           :`
	`  Dhcp Retry Periods  : 30 seconds`
	`  Dhcp Retry Times    : 500`	

Error messages	Illegal parameter!	
Related commands	show interface mgmt	

ip dhcp-relay server

Use **ip dhcp-relay server** to configure the DHCP server address that the switch will forward DHCP messages to. To remove the DHCP server address, use the **no** form of this command.

Commands

ip dhcp-relay server *serverIndex serverAddr*

no ip dhcp-relay server *serverIndex*

Syntax Description	**ip**	Global IP configuration subcommands
	dhcp-relay	Configure DHCP relay agent parameter
	server	DHCP server IP address
	serverIndex	DHCP server address index, 1 to 4
	serverAddr	DHCP server IP address
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ip dhcp-relay server 1 192.168.127.100` `PT-7828(config)# ip dhcp-relay server 3 192.168.127.200`	
Error messages	Invalid server index	
	Invalid IPv4 address	
Related commands	show ip dhcp-relay	

ip dhcp-relay option82

Use the **ip dhcp-relay option82** global and interface configuration command to enable DHCP Relay with Option 82 messages. To disable it, use the **no** form of this command.

Commands

ip dhcp-relay option82

no ip dhcp-relay option82

Syntax Description	**ip**	Configure IP parameters
	dhcp-relay	Configure DHCP relay agent parameter
	option82	Option 82
Defaults	Default is disabled.	
Command Modes	Global configuration / Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# ip dhcp-relay option82 ?`
	`  <LF>`
	`  remote-id-type  - Remote Id type`
	`  man-id  - Manual remote ID`
	`PT-7828(config)# ip dhcp-relay option82`	

Error messages	N/A	
Related commands	N/A	

ip dhcp-relay option82 remote-id-type

Use the **ip dhcp-relay option82 remote-id-type** global configuration command to select the remote ID information of DHCP option82 messages. Use **ip dhcp-relay option82 man-id** to manually set the remote id instead of the predefined ones.

Commands

ip dhcp-relay option82 remote-id-type *remoteIdType*

ip dhcp-relay option82 man-id *manualId*

Syntax Description	**ip**	Global IP configuration subcommands
	dhcp-relay	Configure DHCP relay agent parameter
	option82	Option 82
	remote-id-type	Remote Id type
	remoteIdType	ip | mac | client-id | other
	man-id	Manual remote ID
	manualId	Manual remote ID, maximum 15 characters
Defaults	DHCP-relay option82 is disable in factory default. Default remote-id-type is IP.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# ip dhcp-relay option82 remote-id-type`
	`  <STRING:remoteIdType> -  ip | mac | client-id | other`
	`PT-7828(config)# ip dhcp-relay option82 remote-id-type mac`
	
	`PT-7828(config)# ip dhcp-relay option82 remote-id-type other`
	`PT-7828(config)# ip dhcp-relay option82 man-id abcdef`	

Error messages	Invalid remote ID type	
	Manual Id is over 15 characters	
Related commands	N/A	

ip http-server

Use **ip http-server** global configuration commands on the switch to enable HTTP/HTTPs service. Use the **no** form of this command to disable HTTP/HTTPS service.

Commands

ip http-server

ip http-server secure

no ip http-sever

Syntax Description	**ip**	Global IP configuration subcommands
	http-server	Enable HTTP/HTTPS web service
	secure	HTTPS support only
Defaults	HTTP service is enabled.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# ip http-server`
	`  auto-logout  - Web auto-logout timer`
	`  <LF>`
	`  secure  - HTTPS support only`
	`PT-7828(config)# ip http-server secure`
	`PT-7828(config)# ip http-server`
	`PT-7828(config)# no ip http-server`	

Error messages	N/A	
Related commands	show ip http-server	

ip http-server auto-logout

Use **ip http-server auto-logout** global configuration commands on the switch to enable the auto-logout for the HTTP/HTTPs connections with specified seconds. Use the **no** form of this command to disable it.

Commands

ip http-server auto-logout *seconds*

Syntax Description	**ip**	Global IP configuration subcommands
	http-server	Enable HTTP/HTTPS web service
	auto-logout	Web auto-logout timer
	seconds	0 for disable, or 60 to 86400 seconds
Defaults	Auto-logout is disabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ip http-server auto-logout 120`	
Error messages	Switch Web auto-logout interval should be 0(disable) or 60 to 86400s !!!	
Related commands	show ip http-server	

ip igmp static-group

Use the **ip igmp static-group** global configuration command on the switch to add a static multicast MAC address and its member ports. Use the **no** form of this command to remove the static multicast group or just its member ports.

Commands

ip igmp static-group *MAC-address* **interface** *module/port*

no ip igmp static-group *[MAC-address] [* **interface** *module/port]*

Syntax Description	**ip**	Global IP configuration subcommands
	igmp	IGMP
	static-group	Add New Static Multicast MAC Address
	MAC-address	MAC address XX:XX:XX:XX:XX:XX
	interface	Binding ports
	module/port	Port(Trunk) ID or list. E.g., 1/1,2,4-5,2/1,Trk1,Trk2-Trk
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ip igmp static-group 01:00:00:00:00:01 interface 1/2-3` `PT-7828(config)# no ip igmp static-group`	
Error messages	Add new static multicast MAC address Fail !!! Please check the multicast mac address's type !!!	
	Add new static multicast MAC address Fail !!! Not enough space to add a new static multicast MAC address !!!	
	The member port should not be GMRP-enabled port !!!	
Related commands	show mac-address-table mcast	

ip igmp-snooping

Use the **ip igmp-snooping** global configuration command on the switch to globally enable Internet Group Management Protocol (IGMP) snooping on the switch. Use the command with keywords to enable IGMP snooping. Use the **no** form of this command to disable IGMP snooping.

Commands

ip igmp-snooping

no ip igmp-snooping

Syntax Description	**ip**	Global IP configuration subcommands
	igmp-snooping	IGMP snooping
Defaults	IGMP snooping is globally disable	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ip igmp-snooping` `PT-7828(config)# no ip igmp-snooping`	
Error messages	IGMP Function is only supported by 802.1Q VLAN mode!	
Related commands	ip igmp-snooping vlan ip igmp-snooping querier ip igmp-snooping query-interval ip igmp-snooping enhanced show ip igmp	

ip igmp-snooping enhanced

Use the **ip igmp-snooping enhanced** global configuration command on the switch to enable the enhanced mode. Use the **no** form of this command to disable the enhanced mode.

Commands

ip igmp-snooping enhanced

no ip igmp-snooping enhanced

Syntax Description	**ip**	Global IP configuration subcommands
	igmp-snooping	IGMP snooping
	enhanced	IGMP snooping enhanced mode
Defaults	Enhanced mode is globally disabled on the switch	
Command Modes	Global configuration	
Usage Guidelines	The IGMP snooping function must be enabled first.	
Examples	`PT-7828(config)# ip igmp-snooping enhanced` `PT-7828(config)# no ip igmp-snooping enhanced`	
Error messages	IGMP Function is Disabled !!!	
	IGMP Function is only supported by 802.1Q VLAN mode!	
Related commands	ip igmp-snooping ip igmp-snooping vlan ip igmp-snooping querier ip igmp-snooping query-interval show ip igmp	

ip igmp-snooping querier vlan

Use the **ip igmp-snooping querier** global configuration command to enable and configure the IGMP querier feature on a VLAN interface. Use the **no** form of this command to disable the IGMP querier feature.

Commands

ip igmp-snooping querier vlan *vlan-id*

no ip igmp-snooping querier vlan *vlan-id*

Syntax Description	**ip**	Global IP configuration subcommands
	igmp-snooping	IGMP snooping
	querier	IGMP snooping qeury enable
	vlan	VLAN parameters
	vlan-id	1 to 4094
Defaults	The IGMP snooping querier feature is globally disabled on the switch	
Command Modes	Global configuration	
Usage Guidelines	The IGMP snooping function must be enabled first.	
Examples	`PT-7828(config)# ip igmp-snooping querier vlan 1` `PT-7828(config)# no ip igmp-snooping querier vlan 1`	
Error messages	Vlan entry not found!!!	
	Vlan IGMP Function is Disabled !!!	
	IGMP Function is Disabled !!!	
	IGMP Function is only supported by 802.1Q VLAN mode!	
Related commands	ip igmp-snooping ip igmp-snooping vlan ip igmp-snooping query-interval ip igmp-snooping enhanced show ip igmp	

ip igmp-snooping querier vlan vlan-id v3

> **NOTE**
>
> The command is supported only in Layer 3 switches.

Use the **ip igmp-snooping querier** global configuration command to enable and configure the IGMP querier feature on a VLAN interface. Use **ip igmp-snooping querier vlan** *vlan-id* **v3** can make the switch to send IGMP V3 query, otherwise the default is V2 query.

Syntax Description	**ip**	Global IP configuration subcommands
	igmp-snooping	IGMP snooping
	querier	IGMP snooping qeury enable
	vlan	VLAN parameters
	vlan-id	1 ~ 4094
	v3	IGMPv3 mode
Defaults	The IGMP snooping querier feature is globally disabled on the switch	
Command Modes	Global configuration	
Usage Guidelines	The IGMP snooping function must be enabled first.	
Examples	`PT-7828(config)# ip igmp-snooping querier vlan 1 v3`	
Error messages	Vlan entry not found!!!	
	Vlan IGMP Function is Disabled !!!	
	IGMP Function is Disabled !!!	
	IGMP Function is only supported by 802.1Q VLAN mode!	
Related commands	ip igmp-snooping ip igmp-snooping vlan ip igmp-snooping query-interval	

ip igmp-snooping query-interval

Use the **ip igmp-snooping query-interval** global configuration command on the switch to configure the interval between IGMP queries. Use the **no** form of this command to return to the default.

Commands

ip igmp-snooping query-interval *interval*

Syntax Description	**ip**	Global IP configuration subcommands
	igmp-snooping	IGMP snooping
	query-interval	IGMP snooping query interval
	interval	20 to 600 seconds
Defaults	Query interval default value is 125 seconds	
Command Modes	Global configuration	
Usage Guidelines	The IGMP snooping function must be enabled first.	
Examples	`PT-7828(config)# ip igmp-snooping query-interval 125`	
Error messages	The range of Quierier interval value should be between 20 and 600 !!!	
	IGMP Function is Disabled !!!	
	IGMP Function is only supported by 802.1Q VLAN mode!	
Related commands	ip igmp-snooping ip igmp-snooping vlan ip igmp-snooping querier ip igmp-snooping enhanced show ip igmp	

ip igmp-snooping vlan

Use the **ip igmp-snooping vlan** global configuration command on the switch to globally enable Internet Group Management Protocol (IGMP) snooping on a VLAN. Use the **no** form of this command to disable IGMP snooping on a vlan.

Commands

ip igmp-snooping vlan *vlan-id [***mrouter** *module/port]*

no ip igmp-snooping vlan *vlan-id [***mrouter** *module/port]*

Syntax Description	**ip**	Global IP configuration subcommands
	igmp-snooping	IGMP snooping
	vlan	VLAN parameters
	vlan-id	1 to 4094
	mrouter	IGMP snooping query port enable
	module/port	Port(Trunk) ID or list. E.g., 1/1,2,4-5,2/1,Trk1,Trk2-Trk4
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	The IGMP snooping must be enabled first.	
Examples	`PT-7828(config)# ip igmp-snooping vlan 1 mrouter 1/1` `PT-7828(config)# no ip igmp-snooping vlan 1 mrouter 1/1`	
Error messages	Vlan entry not found!!!	
	IGMP Function is Disabled !!!	
	IGMP Function is only supported by 802.1Q VLAN mode!	
Related commands	ip igmp-snooping ip igmp-snooping querier ip igmp-snooping query-interval ip igmp-snooping enhanced show ip igmp	

ip filter-ip

Use the **ip filter-ip** interface configuration command on the switch to add the IP filtering address entries. Use the **no** form of this command to delete the filtering entries.

Commands

ip filter-ip allowed *ip-address*

no ip filter-ip allowed *ip-address*

Syntax Description	**ip**	Configure IP paramters
	filter-ip	IP filter
	allowed	Configured traffic allowed from specified IP
	ip-address	E.g., 11.22.33.44
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# ip filter-ip allowed 192.168.127.1` `<LF>`	
Error messages	Not a unicast IP	
	Allowed only 8 filters at most	
Related commands	show interfaces filter-ip	

ip name-server

Use the **ip name-server** VLAN configuration command on the switch to configure the DNS server for the switch. Use the **no** form of this command to return to the default.

Commands

ip name-server *dns-ip-address1* [*dns-ip-address2*]

no name-server

Syntax Description	**ip**	Configure IP paramters
	name-server	Configure DNS server address
	ip-address	IP address
Defaults	N/A	
Command Modes	VLAN configuration as management VLAN	
Usage Guidelines	N/A	
Examples	`PT-7828(config-vlan)# ip name-server 192.168.1.1`	
Error messages	Warning! IP and gateway are not in the same subnet	
Related commands	show interfaces mgmt	

ip ospf area

Use the **ip ospf area** command in VLAN configuration mode to bind the interfaces with an OSPF area. Use **no ip ospf** to unbind the OSPF area.

Commands

ip ospf area *area-id*

no ip ospf

Syntax Description	**ip**	Configure L3 interface ip
	ospf	Configure OSPF
	area	OSPF Area binding
	area-id	OSPF Area id
Defaults	This command is disabled by default.	
Command Modes	VLAN configuration	
Usage Guidelines	Auth Key lengths up to 8 characters MD5 Key ID range 1 to 255	
Examples	`PT-7828(config-vlan)# ip ospf auth md5 5 auth-key abcdabcd`	
Error messages	Auth Key lengths up to 8 characters MD5 Key ID range 1 to 255	
Related commands	show ip ospf interface	

ip ospf auth

Use the **ip ospf auth** command in VLAN configuration mode to specify the authentication type for an interface. Use the **no** form of this command to remove the authentication type for an interface.

Commands

ip ospf auth simple auth-key *key*

ip ospf auth md5 *key-id* **auth-key** *key*

no ip ospf auth

Syntax Description	**ip**	Configure L3 interface ip
	ospf	Configure OSPF
	auth	Configure OSPF authentication type
	simple	Configure OSPF authentication type to SIMPLE
	md5	Configure OSPF authentication type to MD5
	key-id	MD5 key id
	auth-key	Configure authentication key
	key	Key string
Defaults	This command is disabled by default.	
Command Modes	VLAN configuration	
Usage Guidelines	Auth Key lengths up to 8 characters MD5 Key ID range 1 to 255	
Examples	`PT-7828(config-vlan)# ip ospf auth md5 5 auth-key abcdabcd`	
Error messages	Auth Key lengths up to 8 characters MD5 Key ID range 1 to 255	
Related commands	show ip ospf interface	

ip ospf cost

Use the **ip ospf cost** command in VLAN configuration mode to explicitly specify the cost of sending a packet on a VLAN interface. Use the **no** form of this command to return to the default.

Commands

ip ospf cost *cost*

no ip ospf cost

Syntax Description	**ip**	Configure L3 interface ip
	ospf	Configure OSPF
	cost	Configure OSPF Metric
	cost	Metric value (1 to 65535)
Defaults	Default cost is 1	
Command Modes	VLAN configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-vlan)# ip ospf cost 10`	
Error messages	Metric Range 1 to 65535	
Related commands	show ip ospf interface	

ip ospf dead-interval

Use the **ip ospf dead-interval** command in interface configuration mode to set the interval at which hello packets must not be seen before neighbors declare the router down. Use the **no** form of this command to return to the default time.

Commands

ip ospf dead-interval *seconds*

no ip ospf dead-interval

Syntax Description	**ip**	Configure L3 interface ip
	ospf	Configure OSPF
	dead-interval	Configure OSPF dead interval
	seconds	Dead Interval Range 1 to 65535
Defaults	Default dead interval is 40 seconds	
Command Modes	VLAN configuration	
Usage Guidelines	Dead interval Range 1 to 65535	
Examples	`PT-7828(config-vlan)# ip ospf dead-interval 100`	
Error messages	Dead Interval Range 1 to 65535	
Related commands	show ip ospf interface	

ip ospf hello-interval

Use the **ip ospf hello-interval** command in VLAN configuration mode to specify the interval between hello packets sent on the interface. Use the **no** form of this command to return to the default.

Commands

ip ospf hello-interval *seconds*

no ip ospf hello-interval

Syntax Description	**ip**	Configure L3 interface ip
	ospf	Configure OSPF
	hello-interval	Configure OSPF hello interval
	seconds	Hello Interval Range 1 to 65535
Defaults	Default interval is 10 seconds	
Command Modes	VLAN configuration	
Usage Guidelines	Hello Interval Range 1 to 65535	
Examples	`PT-7828(config-vlan)# ip ospf hello-interval 100`	
Error messages	Hello Interval Range 1 to 65535	
Related commands	show ip ospf interface	

ip ospf priority

Use the **ip ospf priority** command in VLAN configuration mode to set the router priority for the determination of the designated router. Use the **no** form of this command to return to the default.

Commands

ip ospf priority *priority*

no ip ospf priority

Syntax Description	**ip**	Configure L3 interface ip
	ospf	Configure OSPF
	priority	Configure OSPF router priority
	priority	priority range (0 to 255)
Defaults	Default priority is 1	
Command Modes	VLAN configuration	
Usage Guidelines	priority range 0 to 255	
Examples	`PT-7828(config-vlan)# ip ospf priority 10`	
Error messages	Priority Range 0 to 255	
Related commands	show ip ospf interface	

ip pim-dm

NOTE

This command is only supported by Layer 3 switches.

Use the **ip pim-dm** command to enable the PIM-DM function.

Commands

ip pim-dm

no ip pim-dm

Syntax Description	**ip**	Configure L3 interface IP
	pim-dm	Configure PIM-DM
Defaults	This command is disabled by default	
Command Modes	VLAN interface configuration	
Usage Guidelines	N/A	
Examples	`ICS-G7852A-4XG(config-vif)# ip pim-dm` `ICS-G7852A-4XG(config-vif)# no ip pim-dm`	
Error messages	N/A	
Related commands	show ip pim-dm show ip pim-dm neighbor	

ip pim-sm

NOTE

This command is only supported by Layer 3 switches.

Use the **ip pim-sm** command to enable the PIM-SM function.

Commands

ip pim-sm

no ip pim-sm

Syntax Description	**ip**	Configure L3 interface IP
	pim-sm	Configure PIM-SM
Defaults	This command is disabled by default	
Command Modes	VLAN interface configuration	
Usage Guidelines	N/A	
Examples	`ICS-G7852A-4XG(config-vif)# ip pim-sm` `ICS-G7852A-4XG(config-vif)# no ip pim-sm`	
Error messages	N/A	
Related commands	show ip pim-sm show ip pim-sm routing show ip pim-sm neighbor show ip pim-sm rp show ip pim-sm bsr	

ip pim-sm dr-priority

NOTE

This command is only supported by Layer 3 switches.

Use **ip pim-sm dr-priority** command in VLAN interface configuration mode to setup DR priority.

Commands

ip pim-sm dr-priority *priority*

Syntax Description	**ip**	Configure L3 interface IP
	pim-sm	Configure PIM-SM
	dr-priority	Configure DR priority
	priority	Priority value
Defaults	Default priority is 0	
Command Modes	VLAN interface configuration	
Usage Guidelines	The priority range is 0 to 4294967296	
Examples	`ICS-G7852A-4XG(config-vif)# ip pim-sm dr-priority 100`	
Error messages	N/A	
Related commands	show ip pim-sm show ip pim-sm routing show ip pim-sm neighbor show ip pim-sm rp show ip pim-sm bsr	

ip pim-sm hello-interval

NOTE

This command is only supported by Layer 3 switches.

Use **ip pim-sm hello-interval** command in VLAN interface configuration mode to setup PIM-SM hello interval.

Commands

ip pim-sm hello-interval *interval*

Syntax Description	**ip**	Configure L3 interface IP
	pim-sm	Configure PIM-SM
	hello-interval	Configure hello interval
	interval	Interval value
Defaults	Default hello-interval is 30	
Command Modes	VLAN interface configuration	
Usage Guidelines	The hello interval range is 1 to 65535	
Examples	`ICS-G7852A-4XG(config-vif)# ip pim-sm hello-interval 10`	
Error messages	N/A	
Related commands	show ip pim-sm show ip pim-sm routing show ip pim-sm neighbor show ip pim-sm rp show ip pim-sm bsr	

ip pim-sm join-prune-interval

NOTE

This command is only supported by Layer 3 switches.

Use **ip pim-sm join-prune-interval** command in VLAN interface configuration mode to setup PIM-SM join-prune interval.

Commands

ip pim-sm join-prune-interval *interval*

Syntax Description	**ip**	Configure L3 interface IP
	pim-sm	Configure PIM-SM
	join-prune-interval	Configure hello interval
	interval	Interval value
Defaults	Default hello-interval is 30	
Command Modes	VLAN interface configuration	
Usage Guidelines	The join-prune interval range is 1 to 65535	
Examples	`ICS-G7852A-4XG(config-vif)# ip pim-sm join-prune-interval 10`	
Error messages	N/A	
Related commands	show ip pim-sm show ip pim-sm routing show ip pim-sm neighbor show ip pim-sm rp show ip pim-sm bsr	

ip proxy-arp

Use the **ip proxy-arp** VLAN configuration command on the switch to enable Proxy ARP. Use the **no** form of this command to disable Proxy ARP.

Commands

ip proxy-arp

no ip proxy-arp

Syntax Description	**ip**	Configure L3 interface ip
	proxy-arp	Enable L3 interface proxy arp
Defaults	N/A	
Command Modes	VLAN configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-vlan)# ip proxy-arp` `  proxy-arp  - Enable L3 interface proxy arp`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	Interface not exist! Please create interface and set ip and netmask first	
Related commands	show interfaces vlan	

ip route

Use the **ip route** command in global configuration mode to establish static routes. Use the **no** form of this command to remove the specified static routes.

Commands

ip route *prefix mask next-hop [distance]*

no ip route *prefix mask next-hop*

Syntax Description	**ip**	Global IP configuration subcommands
	route	Static routing entry
	prefix	Address prefix
	mask	Subnet mask
	next-hop	Next hop address
	distance	Distance metric
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ip route 2.2.0.0 255.0.0.0 2.2.3.1 10`	
Error messages	Route Entry Full!!!	
Related commands	show ip route show ip route static	

ipv6 address

Use the **ipv6 address** command in VLAN configuration mode as a management VLAN to set the IPv6 address for the device. Use the **no** form of the command to return to the default.

Commands

ipv6 address *ipv6_prefix*

no ipv6 address

Syntax Description	**ipv6**	Configure IPv6
	address	IPv6 address setting
	ipv6_prefix	IPv6 address prefix
Command Modes	VLAN configuration as management VLAN	
Usage Guidelines	N/A	

Examples	`PT-510(config-vlan)# ipv6 address 1::1`
	`PT-510# show interfaces mgmt`
	
	`IPv4`
	`  Management VLAN id  : 1`
	`  IP configuration    : Static`
	`  IP address          : 192.168.127.253`
	`  Subnet mask         : 255.255.255.0`
	`  Default gateway     : 0.0.0.0`
	`  DNS server           :`
	
	`IPv6`
	`  Global Unicast Address Prefix : 1:0:0:1:201:2ff:fe03`
	`  Global Unicast Address        : 1::1:201:2ff:fe03:405`
	`  Link-Local Address            : fe80::201:2ff:fe03:405`	

Error messages	Invalid prefix!	
Related commands	show interface mgmt	

line-swap-fast-recovery

Use the l**ine-swap-fast-recovery** global configuration command on the switch to enable the fast recovery feature of the MAC address table when line swapping. Use the **no** form of this command to disable it.

Commands

line-swap-fast-recovery

no line-swap-fast-recovery

Syntax Description	**line-swap-fast-recovery**	Enable Line Swap Fast Recoverty feature
Defaults	This feature is enabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# line-swap-fast-recovery` `  <LF>`	
Error messages	N/A	
Related commands	show mac-address-table	

lldp enable

Use the **lldp enable** global configuration command to enable LLDP. To stop LLDP, use the **no** form of this command.

Commands

lldp run

no lldp run

Syntax Description	**lldp**	Configure LLDP parameters
	run	Start up
Defaults	LLDP is enable in factory default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# lldp enable` `PT-7828(config)# no lldp enable`	
Error messages	N/A	
Related commands	show lldp	

lldp timer

Use the **lldp timer** global configuration command to configure the transmission frequency of LLDP messages. To reset the timer to default, use the **no** form of this command.

Commands

lldp timer *transFreq*

no lldp timer

Syntax Description	**lldp**	Configure LLDP parameters
	timer	Transmission frequency of LLDP updates
	transFreq	5 to 32768 seconds
Defaults	Transmission frequency of LLDP updates is 30 seconds.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# lldp timer`
	`  <UINT:transFreq>     - 5 to 32768 seconds`
	`PT-7828(config)# lldp timer 4`
	`% LLDP transmit frequency should be between 5 to 32768`
	`PT-7828(config)# lldp timer 50`	

Error messages	LLDP transmit frequency should be between 5 to 32768	
Related commands	show lldp	

logging

Use the **logging** global configuration command on the switch to configure the remote SYSLOG server. Use the **no** form of this command to remove the server.

Commands

logging *ip-address*

no logging *ip-address*

Syntax Description	**logging**	Syslog server setting
	ip-address	IP or DNS name w/wo. port, Ex:1.2.3.4 or 1.2.3.4:5678
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# logging 192.168.1.1` `  <LF>`	
Error messages	Logging server configurations are full!	
Related commands	show logging	

login mode

Use the **login mode** global configuration command to change the login UI mode from the console or telnet connection of the switch.

Commands

login mode { cli | menu }

Syntax Description	**login**	Change login mode
	mode	Login mode
	cli	Command line interface
	menu	Legacy Menu Mode
Defaults	Default UI mode is MENU mode	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# login mode`
	`  menu  - Legacy Menu Mode`
	`  cli  - Command line interface`
	`PT-7828(config)# login mode cli`
	`PT-7828(config)# login mode menu`	

Error messages	N/A	
Related commands	N/A	

mac-address-table aging-time

Use the **mac-address-table aging-time** global configuration command on the switch to configure the aging time of the MAC address. Use the **no** form of this command to return to the default.

Commands

mac-address-table aging-time *seconds*

no mac-address-table aging-time

Syntax Description	**mac-address-table**	Configure MAC address table
	aging-time	Aging time
	seconds	15 to 3825 seconds
Defaults	Default aging time is 300 sec	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# mac-address-table aging-time` `  <UINT:seconds>  - 15 to 3825 seconds`	
Error messages	N/A	
Related commands	show mac-address-table aging-time	

mcast-filter

Use the **mcast-filter** interface configuration command on the switch to activate the multicast filter. Use the **no** form of this command to stop this function.

Commands

mcast-filter [forward-all | forward-unknown | filter-unknown]

no mcast-filter

Syntax Description	**mcast-filter**	Multicast filter
	forward-all	Forward all
	forward-unknown	Forward unknown
	filter-unknown	Filter unknown
Defaults	Default forward unknown	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface ethernet 1/1`
	`PT-7828(config-if)# mcast-filter forward-all`
	`PT-7828(config-if)# mcast-filter forward-unknown`
	`PT-7828(config-if)# mcast-filter filter-unknown`
	`PT-7828(config-if)# no mcast-filter`	

Error messages	N/A	
Related commands	show mcast-filter	

media cable-mode

Use the **media cable-mode** interface configuration command on the switch to enable the medium-dependent interface crossover feature on the interface. Use the **no** form of this command to disable Auto-MDIX.

Commands

media cable-mode [mdi | mdix | auto]

no media cable-mode

Syntax Description	**media**	Select a media
	cable-mode	Select cable mode
	mdi	MDI
	mdix	MDIX
	auto	Auto select MDI/MDIX
Defaults	The default is **auto**	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface ethernet 1/1`
	`PT-7828(config-if)# media cable-mode auto`
	
	`PT-7828(config-if)# no media cable-mode`	

Error messages	Fiber port can not be set MDI/MDIX!!	
	This setting cannot be applied on trunk port!	
	Cannot configure on trunk member port 1/1!	
Related commands	show interface ethernet	

modbus

Use the **modbus** global configuration command on the switch to enable Modbus/TCP industrial Ethernet protocol supported. Use the **no** form of this command to disable Modbus support.

Commands

modbus

no modbus

Syntax Description	**modbus**	Enable Modbus
Defaults	Default is enable	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# modbus`	
Error messages	N/A	
Related commands	show modbus	

monitor

Use **monitor** global configuration commands to enable the monitoring of data transmitted/received by a specific port. Use the **no** form of this command to disable the monitoring.

Commands

monitor source interface *mod_port [direction]*

no monitor source interface

monitor destination interface *mod_port*

no monitor destination interface

Syntax Description	**monitor**	Configure Port mirror
	source	Monitored port
	interface	Port
	destination	Mirror port
	mod_port	Port ID. E.g., 1/3, Trk2,...
	direction	tx | rx | both
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	Traffic send/receive by a source port (Monitored port) will be mirrored to the destination port (Mirror port.	

Examples	`PT-7828(config)# monitor source interface 3/1 both`
	`Warning !!! Mirror Port don't set !`
	`PT-7828(config)# monitor destination interface`
	`  <STRING:mirrorPort>  - Port ID. E.g., 1/3, 2/1,...`
	`PT-7828(config)# monitor destination interface 3/1,2`
	`% Invalid format`
	`PT-7828(config)# monitor destination interface 3/1`
	`% Monitored Port is the same with Mirror Port !!!`
	
	`PT-7828(config)# monitor destination interface 3/2`
	`PT-7828(config)# monitor source interface 1/1-2`	

Error messages	Monitored Port is the same with Mirror Port !!!	
	Invalid parameter	
	Warning !!! Mirror Port don't set !	
	Warning !!! Monitored Port don't set !	
Related commands	show port monitor	

Management-Interface

Use the **ip** global configuration command on the switch to set management interface

Commands

ip { http-server [secure] | telnet | ssh } [port *port-number* **]**

no ip { http-server [secure] | telnet | ssh }

Syntax Description	**http-server**	Enable Http-server service
	secure	Enable SSL service
	telnet	Enable Telnet service
	ssh	Enable SSH service
	port	Port
	port-number	Listening port number
Defaults	The feature is enabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`EDS-G516E(config)# ip http-server port 80`
	`Enable HTTP server? [Y/n]`
	`EDS-G516E(config)# ip http-server secure port 443`
	`Enable HTTPS secure server? [Y/n]`
	`EDS-G516E(config)# ip telnet 23`
	`EDS-G516E(config)# ip ssh port 22`
	`EDS-G516E(config)# no ip http-server secure`	

Error messages	Assigning duplicate port numbers is not allowed	
	HTTP/SSH/Telnet/SSL port number is invalid, the interval is from 1 to 65535.	
Related commands	N/A	

name

Use the **name** interface configuration command to configure the interface name. To remove the configuration, use the **no** form of this command.

Commands

name

no name

Syntax Description	**name**	Port name
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface ethernet 1/1`
	`PT-7828(config-if)# name interface1_port1`
	
	`PT-7828(config-if)# no name`	

Error messages	The length of port name must between 1 and 63!	
	Cannot configure on trunk member port 1/1	
Related commands	show interfaces ethernet show interfaces trunk	

network

Use the **network** command in router configuration mode to enable the routing process on the specified interface. Use the **no** form of this command to disable it.

Commands

network *if-name*

no network *if-name*

Syntax Description	**network**	Enable dynamic routing on an IP network
	if-name	Interface name
Defaults	N/A	
Command Modes	Router configuration of RIP, OSPF, and Static routes	
Usage Guidelines	N/A	

Examples (for RIP settings)	PT-7828(config)# vlan create 2
	% create vlan id:2
	PT-7828(config)# interface vlan 2
	PT-7828(config-vlan)# ip address 192.168.102.1 255.255.255.0
	PT-7828(config-vlan)# name vlan2if
	PT-7828(config-vlan)# exit
	PT-7828(config)# router rip
	PT-7828(config-rip)# network
	  <STRING:ifname> - Interface name
	PT-7828(config-rip)# network vlan2if
	PT-7828(config-rip)#
	PT-7828# show ip rip
	RIP Protocol : Enable
	RIP version : V1
	Distribution
	  Connected : Enable
	  Static : Disable
	  OSPF : Disable
	
	RIP Enable Table
	Interface Name IP VID Enable
	---------- ---------- ---------- ----------
	vlan2if 192.168.102.1 2 Enable
	PT-7828#	

Error messages	No such interface existed	
Related commands	show ip rip	

ntp refresh-time

Use the **ntp refresh-time** global configuration command on the switch to configure the interval of each NTP query. Use the **no** form of this command to return to the default.

Commands

ntp refresh-time *seconds*

no ntp refresh-time

Syntax Description	**ntp**	Configure Network Time Protocol
	refresh-time	Configure NTP query intervals
	seconds	1-9999 seconds
Defaults	Default query interval is 600 sec	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ntp refresh-time 600` `<LF>`	
Error messages	Time is out of range	
Related commands	show clock	

ntp remote-server

Use the **ntp remote-server** global configuration command on the switch to configure the remote NTP server. Use the **no** form of this command to return to the default.

Commands

ntp remote-server *server-addr-1* [*server-addr-2*]

no ntp remote-server

Syntax Description	**ntp**	Configure Network Time Protocol
	remote-server	Configure NTP server for time query
	simple	Configure Simple Network Time Protocol instead of Network Time Protocol
	server-addr-1	IP address or DNS name
	server-addr-2	IP address or DNS name
Defaults	The default configuration contains one time server “time.nist.gov”.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ntp remote-server 192.168.127.1 time.stdtime.gov.tw`	
Error messages	N/A	
Related commands	show clock	

ntp server

Use the **ntp server** global configuration command on the switch to enable the switch as an NTP server. Use the **no** form of this command to return to disable it.

Commands

ntp server

no ntp server

Syntax Description	**ntp**	Configure Network Time Protocol
	server	Enable NTP server
Defaults	Default is disabled	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ntp server`	
Error messages	N/A	
Related commands	show clock	

permit

Use the **permit** ACL configuration command on the switch to add a permit rule in the current ACL for traffic with specified IPs. Use the **no** form of this command to delete the rule.

Commands

permit *ip-address*

no permit *ip-address*

Syntax Description	**permit**	Configure PERMIT filter
	ip-address	E.g., 11.22.33.44
Defaults	N/A	
Command Modes	ACL configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-acl)# permit` `  <IPV4ADDR:ipaddr>  - E.g., 11.22.33.44`	
Error messages	Invalid IPv4 address	
Related commands	Show ip access-list ip access-list	

ping

Use the **ping** user EXEC command on the switch to diagnose the remote host if it is alive.

Commands

ping *ip-address*

Syntax Description	**ping**	Send echo messages
	ip-address	E.g., 11.22.33.44
Defaults	N/A	
Command Modes	Privileged	
Usage Guidelines	N/A	

Examples	`PT-7828# ping 192.168.127.1`
	
	`PING 192.168.127.1, Send/Recv/Lost = 4/4/0`	

Error messages	N/A	
Related commands	N/A	

port-security

Use the **port-security** interface configuration command on the switch to add a static unicast MAC-address on a specified port. Use the **no** form of this command to remove the specified MAC address.

Commands

port-security *MAC-address*

no port-security *MAC-address*

Syntax Description	**port-security**	Set port security
	MAC-address	MAC address XX:XX:XX:XX:XX:XX
Defaults	N/A	
Command Modes	interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config-if)# port-security 00:00:00:00:00:01`
	
	`PT-7828(config-if)# no port-security 00:00:00:00:00:01`	

Error messages	Add new static unicast MAC address Fail !!!	
Related commands	N/A	

profinetio

Use the **profinetio** command to disable/enable PROFINET support (EDS-400A-PN series support only).

Commands

profientio

no profientio

Syntax Description	**profinetio**	Enable PROFINET IO
Defaults	Default is disabled	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`EDS-G516E(config)# profinetio` `EDS-G516E(config)# no profinetio`	
Error messages	N/A	
Related commands	Show profinetio	

ptp announce-receipt-timeout

Use the **ptp announce-receipt-timeout** configuration command on the switch to set the announce-receipt-timeout parameter.

Commands

ptp announce-receipt-timeout *interval*

Syntax Description	**ptp**	Configure PTP
	announce-receipt-timeout	Set the integral multiple of announceInterval
	interval	2 to 10
Defaults	default is 3	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp announce-receipt-timeout`	
Error messages	announceReceiptTimeout must be in the range from 2 to 10	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp arb-time

Use the **ptp arb-time** configuration command on the switch to set the arb-time parameter of the local clock.

Commands

ptp arb-time *time*

Syntax Description	**ptp**	Configure PTP
	arb-time	Set the ARB time parameter of the local clock
	time	0 to 2147483646
Defaults	default is 0	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp arb-time 0`	
Error messages	Arb time must be in the range from 0 to 2147483646	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp clockclass

Use the **ptp clockclass** configuration command on the switch to set the clockclass parameter of the local clock.

Commands

ptp clockclass *class*

Syntax Description	**ptp**	Configure PTP
	clockclass	Set the clock class parameter of the local clock
	class	0 to 255
Defaults	default is 248	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp clockclass 248`	
Error messages	clockclass must be in the range from 0 to 255	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp domain-number

Use the **ptp domain-number** configuration command on the switch to set the domain number of the local clock.

Commands

ptp domain-number *interval*

Syntax Description	**ptp**	Configure PTP
	domain-number	Set the domain number of the local clock
	interval	0 to 3
Defaults	default is 0	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp domain-number`	
Error messages	domainNum must be in the range from 0 to 3	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp enable

Use the **ptp enable** command on the switch to enable the PTP operation. Use the **no** form of this command to disable the PTP operation on the switch.

Commands

ptp enable

no ptp

Syntax Description	**ptp**	Configure PTP
	enable	Enable the ptp operation
Defaults	ptp is default disable	
Command Modes	Configuration Interface configuration mode	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# ptp enable`
	`PT-7828(config)# no ptp`
	`PT-7828(config-if)# ptp enable`
	`PT-7828(config-if)# no ptp`	

Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp leap59

Use the **ptp leap59** global configuration command on the switch to enable the PTP leap59. Use the **no** form of this command to disable the PTP leap59 on the switch.

Commands

ptp leap59

no ptp leap59

Syntax Description	**ptp**	Configure PTP
	leap59	Enable the last minute of the current UTC day contains 59 seconds
Defaults	default disable	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp leap59` `PT-7828(config)# no ptp leap59`	
Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp leap61

Use the **ptp leap61** global configuration command on the switch to enable the PTP leap61. Use the **no** form of this command to disable the PTP leap61 on the switch.

Commands

ptp leap61

no ptp leap61

Syntax Description	**ptp**	Configure PTP
	leap61	Enable the last minute of the current UTC day contains 61 seconds
Defaults	default disable	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp leap61` `PT-7828(config)# no ptp leap61`	
Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp log-sync-interval

Use the **ptp log-sync-interval** global configuration command on the switch to set the log-sync-interval parameter.

Commands

ptp log-sync-interval *interval*

Syntax Description	**ptp**	Configure PTP
	log-sync-interval	Set the logarithm to the base 2 of the mean SyncInterval
	interval	-3 to 1
Defaults	default is 0	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp log-sync-interval`	
Error messages	logSyncInterval must be in the range from -3 to 1	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp log-announce-interval

Use the **ptp log-announce-interval** global configuration command on the switch to set the log-announce-interval parameter.

Commands

ptp log-announce-interval *interval*

Syntax Description	**ptp**	Configure PTP
	log-announce-interval	Set the logarithm to the base 2 of the mean AnnounceInterval
	interval	0 to 4
Defaults	default is 1	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp log-announce-interval`	
Error messages	logAnnounceInterval must be in the range from 0 to 4	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp log-min-delay-req-interval

Use the **ptp log-min-delay-req-interval** global configuration command on the switch to set the log-min-delay-req-interval parameter.

Commands

ptp log-min-delay-req-interval *interval*

Syntax Description	**ptp**	Configure PTP
	log-min-delay-req-interval	Set the logarithm to the base 2 of the mean minDelayReqInterval
	interval	0 to 5
Defaults	default is 0	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp log-min-delay-req-interval`	
Error messages	logMinDelayReqInterval must be in the range from 0 to 5	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp log-min-pdelay-req-interval

Use the **ptp log-min-pdelay-req-interval** global configuration command on the switch to set the log-min-pdelay-req-interval parameter.

Commands

ptp log-min-pdelay-req-interval *interval*

Syntax Description	**ptp**	Configure PTP
	log-min-delay-req-interval	Set the logarithm to the base 2 of the mean minPDelayReqInterval
	interval	-1 to 5
Defaults	default is 0	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp log-min-pdelay-req-interval`	
Error messages	logMinPDelayReqInterval must be in the range from -1 to 5	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp mode

Use the **ptp mode** global configuration command on the switch to set the PTP operation mode.

Commands

ptp mode *v1-bc*

ptp mode *v2-e2e-bc*

ptp mode *v2-p2p-bc*

ptp mode *v2-e2e-2step-tc*

ptp mode *v2-p2p-2step-tc*

Syntax Description	**ptp**	Configure PTP
	mode	Set the ptp operation mode
	v1-bc	ptp v1 boundary clock mode
	v2-e2e-bc	ptp v2 end-to-end boundary clock mode
	v2-p2p-bc	ptp v2 peer-to-peer boundary clock mode
	v2-e2e-2step-tc	ptp v2 end-to-end 2-step transparent clock mode
	v2-p2p-2step-tc	ptp v2 peer-to-peer 2-step transparent clock mode
Defaults	Default setting of ptp is v1-bc mode	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp mode v1-bc`	
Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp preferred-master

Use the **ptp enable** configuration command on the switch to enable PTP operation. Use the **no** form of this command to disable PTP operation on the switch.

Commands

ptp enable

no ptp

Syntax Description	**ptp**	Configure PTP
	preferred-master	Set the local clock as the master clock (only valid in v1-bc mode)
Defaults	default disable	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples (set switch as local master clock)	`PT-7828(config)# ptp preferred-master`	
Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp priority1

Use the ptp priority1 configuration command on the switch to set the priority1 parameter of the local clock.

Commands

ptp priority1 *priority*

Syntax Description	**ptp**	Configure PTP
	priority1	Set the priority1 parameter of the local clock
	priority	0 to 255
Defaults	default is 128	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp priority1 128`	
Error messages	priority1 must be in the range from 0 to 255	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp priority2

Use the **ptp priority2** configuration command on the switch to set the priority2 parameter of the local clock.

Commands

ptp priority2 *priority*

Syntax Description	**ptp**	Configure PTP
	Priority2	Set the priority2 parameter of the local clock
	priority	0 to 255
Defaults	default is 128	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp priority2 128`	
Error messages	priority2 must be in the range from 0 to 255	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp timescale

Use the **ptp timescale** configuration command on the switch to set the transport type of the ptp domain.

Commands

ptp timescale [arb|ptp]

Syntax Description	**ptp**	Configure PTP
	timescale	Set the timescale parameter of the local clock
	arb	Set the timescale parameter of the local clock to ARB
	ptp	Set the timescale parameter of the local clock to PTP
Defaults	default is ptp	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp timescale arb` `PT-7828(config)# ptp timescale ptp`	
Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp transport

Use the **ptp transport** configuration command on the switch to set the transport type of the ptp domain.

Commands

ptp transport [802_3|ipv4]

Syntax Description	**ptp**	Configure PTP
	transport	Set the transport type of the ptp doman
	802_3	Set the transport type of the PTP domain to 802.3/Ethernet
	Ipv4	Set the transport type of the PTP domain to IPv4
Defaults	default is ipv4	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp transport 802_3` `PT-7828(config)# ptp transport ipv4`	
Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp utc-offset

Use the **ptp utc-offset** configuration command on the switch to set the PTP utc-offset field.

Commands

ptp utc-offset *interval*

Syntax Description	**ptp**	Configure PTP
	utc-offset	sets the offset between TAI and UTC
	interval	0 to 65535
Defaults	default is 0	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp utc-offset 0`	
Error messages	utc_offset must be in the range from 0 to 65535	
Related commands	Show ptp settings Show ptp status Show ptp port	

ptp utc-offset-valid

Use the **ptp utc-offset-valid** configuration command on the switch to enable the PTP utc-offset field. Use the **no** form of this command to disable the PTP utc-offset field on the switch.

Commands

ptp utc-offset-valid

no ptp utc-offset-valid

Syntax Description	**ptp**	Configure PTP
	utc-offset-valid	UTC Offset field is valid
Defaults	default disable	
Command Modes	configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# ptp utc-offset-valid` `PT-7828(config)# no ptp utc-offset-valid`	
Error messages	N/A	
Related commands	Show ptp settings Show ptp status Show ptp port	

qos highest-priority

Use the **qos highest-priority** interface configuration command on the switch to set the Port Priority of the ingress frames to "High" queues of the Ethernet ports/Trunks. Use the **no** form of this command to return to the default.

Commands

qos highest-priority

no qos highest-priority

Syntax Description	**qos**	Configure QoS
	highest-priority	Enable port highest priority queue
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`EDS-518A(config-if)# qos highest-priority`	
Error messages	Cannot configure on trunk member port 1/1!	
Related commands	show qos	

qos default-cos

Use the **qos default-cos** interface configuration command on the switch to configure the default CoS priority of the Ethernet ports/Trunks. Use the **no** form of this command to return to the default.

Commands

qos default-cos *cos-value*

no qos default-cos

Syntax Description	**qos**	Configure QoS
	default-cos	Configure Default CoS of each port
	cos-value	CoS value (0 to 7)
Defaults	Default CoS value is 3	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# qos default-cos` `  <UINT:cos>  - CoS value (0 to 7)`	
Error messages	Cannot configure on trunk member port 1/1!	
Related commands	show qos	

qos inspect

Use the **qos inspect** global/interface configuration command on the switch to enable the inspect criteria. Use the **no** form of this command to disable it.

Commands

qos inspect dscp *module_id*

no qos inspect dscp *module_id*

qos inspect cos

no qos inspect cos

Syntax Description	**qos**	Configure QoS
	Inspect	Configure inspection criteria
	dscp	Enable DSCP inspection
	module_id	Module ID from 1 to 4
	cos	Enable CoS inpsection of each port
Defaults	N/A	
Command Modes	Global configuration Interface configuration	
Usage Guidelines	In product with 88E6095, the "qos inspect dscp" command is configured in interface configuration mode. In product with BCM5650, the "qos inspect dscp" command is configured in global configuration mode with module index.	

Examples	`PT-7828(config)# qos inspect`
	`  dscp                  - Enable DSCP inspection`
	`PT-7828(config-if)# qos inspect`
	`  cos                   - Enable CoS inpsection of each port`	

Error messages	Cannot configure on trunk member port 1/1!	
Related commands	show qos	

qos mapping

Use the **qos mapping** global configuration command on the switch to configure the CoS and DSCP mappings. Use the **no** form of this command to return to the default.

Commands

qos mapping cos-to-queue *cos-value queue*

no qos mapping cos-to-queue

qos mapping dscp-to-cos *dscp-value cos-value*

no qos mapping dscp-to-cos

qos mapping dscp-to-queue *dscp-value queue*

no qos mapping dscp-to-queue

Syntax Description	**qos**	Configure QoS
	mapping	Configure QoS mapping
	cos-to-queue	CoS to traffic queue
	cos-value	CoS value (0 to 7)
	queue	Traffic queue
	dscp-to-cos	DSCP to CoS mapping
	dscp-value	DSCP value (0 to 63)
	dscp-to-queue	DSCP to traffic queue
Defaults	Cos (queue): 0 (0), 1(0), 2(1), 3(1), 4(2), 5(2), 6(3), 7(3) DSCP(Cos): 0-7(0), 8-15(1), 16-23(2), 24-31(3), 32-39(4), 40-47(5), 48-55(6), 56-63(7)	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# qos mapping cos-to-queue 7`
	`  <UINT:queue>  - Traffic queue`
	`PT-7828(config)# qos mapping cos-to-queue 7 3`
	`PT-7828(config)# qos mapping dscp-to-cos 23`
	`  <UINT:cos>  - CoS value (0 to 7)`
	`PT-7828(config)# qos mapping dscp-to-cos 23 7`	

Error messages	Invalid parameter. CoS value must be 0 to 7 and queue number must be 0 to 3 Invalid parameter. CoS value must be 0 to 7 and DSCP value must be 0 to 63	
Related commands	show qos	

qos mode

Use the **qos mode** global configuration command on the switch to configure the current QoS strategy. Use the **no** form of this command to return to the default.

Commands

qos mode { weighted-fair | strict }

no qos mode

Syntax Description	**qos**	Configure QoS
	mode	Configure queuing mechanism
	weighted-fair	Weighted fair queuing
	strict	Strict queuing
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# qos mode`
	`  weighted-fair  - Weighted fair queuing`
	`  strict  - Strict queuing`	

Error messages	N/A	
Related commands	show qos	

quit

Use **quit** to quit the current configuration mode.

Commands

quit

Syntax Description	**quit**	Exit command line interface
Defaults	N/A	
Command Modes	N/A	
Usage Guidelines	N/A	
Examples	`PT-7828 # quit`	
Error messages	N/A	
Related commands	Exit	

rate-limit

Use the **rate-limit** interface configuration command on the switch to configure the traffic rate allowed for the specified port. Use the **no** form of this command to return to the default. For Marvell 88E6095 chipsets, use **rate-limit ingress rate** to set the ingress rate limiting; for Broadcom chipsets, use **rate-limit ingress percentage** to set the ingress rate limiting.

Commands

rate-limit { ingress | egress } percentage *percentage*
no rate-limit { ingress | egress }

rate-limit ingress rate { none | 128k | 256k | 512k | 1M | 2M | 4M | 8M }
rate-limit ingress mode { bcast | bcast-mcast | bcast-mcast-dlf | all }

rate-limit mode {normal | port-disable}

rate-limit normal { ingress | egress } percentage *percentage*
no rate-limit normal { ingress | egress }

rate-limit normal ingress rate { none | 128k | 256k | 512k | 1M | 2M | 4M | 8M }
rate-limit normal ingress mode { bcast | bcast-mcast | bcast-mcast-dlf | all }

rate-limit port-disable period *period*
rate-limit port-disable ingress rate { none | 44640 | 74410 | 148810 | 223220 | 372030 | 20840 | 744050 }

Syntax Description	**rate-limit**	Rate limiting
	normal	Rate limiting normal mode
	port-disable	Rate limiting port-disable mode
	ingress	Ingress rate limiting
	egress	Egress rate limiting
	percentage	Percentage correspond to current port speed
	percentage	Limit percentage, and will take effect at the percentage 0/3/5/10/15/25/35/50/65/85
	rate	Specify the rate
	mode	Specify the mode
	bcast	Limit broadcast frames
	bcast-mcast	Limit broadcast and multicast frames
	bcast-mcast-dlf	Limit broadcast, multicast and DLF frames
	all	All traffic
	period	Port disable period
	period	Seconds
Defaults	0 or none means unlimiting.	
Command Modes	Interface configuration	
Usage Guidelines	The percentage will only take effect at the 0/3/5/10/15/25/35/50/65/85 %. For port disable mode, the port will be disabled when the ingress rate reach the specified packet rate.	

Examples	`PT-7828(config-if)# rate-limit percentage`
	`  <UINT:percent>       - Limit percentage, and will take effect at the percentage`
	`  0/3/5/10/15/25/35/50/65/85`
	`EDS-408A-1M2S-SC(config-if)# rate-limit ingress rate none none none none`
	
	`PT-7828(config-if)# rate-limit port-disable ingress period 30`
	`EDS-408A-1M2S-SC(config-if)# rate-limit port-disable ingress rate 148810`	

Error messages	Cannot configure on trunk member port 1/1!	
	This setting cannot be applied on trunk port!	
Related commands	show interfaces rate-limit	

redistribute

Use the **redistribute** commands to enable learning routes from another IP routing protocol. Use the **no** form of this command to disable it.

Commands

redistribute connected
no redistribute connected

redistribute static
no redistribute static

redistribute rip
no redistribute rip

resitribute ospf
no redistribute ospf

Syntax Description	**redistribute**	Enable the switch's import routes learned through another IP routing protocol
	connected	Import routes learned through directly connected
	Static	Import routes learned through static route
	rip	Import routes learned through RIP
	ospf	Import routes learned through OSPF
Defaults	N/A	
Command Modes	Router configuration mode as OSPF / RIP	
Usage Guidelines	N/A	
Examples	`PT-7828(config-ospf)# redistribute rip` `PT-7828(config-rip)# redistribute ospf`	
Error messages	N/A	
Related commands	show ip ospf show ip rip	

redundancy

Use the **redundancy** global configuration command on the switch to enter the redundancy configuration mode.

Commands

redundancy

Syntax Description	**redundancy**	Enter redundancy configuration mode
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# redundancy` `PT-7828(config-rdnt)#`	
Error messages	N/A	
Related commands	N/A	

redundancy mode

Use the **redundancy mode** global configuration command on the switch to change the redundancy protocol mode.

Commands

redundancy mode { mst | rstp | turbo-ring-v1 | turbo-ring-v2 | turbo-chain }

Syntax Description	**redundancy**	Enter redundancy configuration mode
	mode	Specify the redundancy protocol
	mst	MSTP
	rstp	Rapid Spanning Tree
	turbo-ring-v1	Turbo ring version 1
	turbo-ring-v2	Turbo ring version 2
	turbo-chain	Turbo chain
Defaults	The default redundancy protocol mode is RSTP.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# redundancy mode`
	`  rstp  - Rapid Spanning Tree`
	`  turbo-ring-v1  - Turbo ring version 1`
	`  turbo-ring-v2  - Turbo ring version 2`
	`  turbo-chain  - Turbo chain`
	`  mst  - MSTP`	

Error messages	N/A	
Related commands	show redundancy mode	

relay-warning config relay

Use **relay-warning config relay** to select relay to trigger when a warning event occurs.

Commands

relay-warning config relay *[relayId]*

Syntax Description	**relay-warning**	Configure relay warning
	config	Choose which relay to configure
	relay	Relay
	relayId	Relay's ID = 1 or 2
Defaults	N/A	
Command Modes	Global configuration / Interface configuration	
Usage Guidelines	These commands only existed in device with multiple relays.	
Examples	N/A	
Error messages	Please designate the relay ID Invalid relay ID	
Related commands	show relay-warning	

relay-warning event

Use **relay-warning event** global configuration commands to enable the warning events trigger to the relay. Use the **no** form of this command to disable it.

Commands

relay-warning event { power-input1-fail | power-input2-fail | turbo-ring-break }

no relay-warning event { power-input1-fail | power-intput2-fail | turbo-ring-break }

Syntax Description	**relay-warning**	Configure relay warning
	event	System events
	power-input1-fail	Power input 1 failure (On->Off)
	power-input2-fail	Power input 2 failure (On->Off)
	turbo-ring-break	Turbo Ring break
Defaults	All system events are disabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828# configure terminal`
	`PT-7828(config)# relay-warning`
	`  override  - Override the relay warning setting`
	`  event  - System events`
	`PT-7828(config)# relay-warning event`
	`  power-input1-fail  - Power input 1 failure (ON->Off)`
	`  power-input2-fail  - Power input 2 failure (ON->Off)`
	`  turbo-ring-break  - Turbo Ring break`
	`PT-7828(config)# relay-warning event turbo-ring-break`	

Error messages	N/A	
Related commands	show relay-warning	

relay-warning event

Use **relay-warning event** interface configuration commands to enable the warning events trigger to the relay. Use the **no** form of this command to disable it.

Commands

relay-warning event { link-on | link-off }
relay-warning event traffic-overload *[rxThreshold duration]*
no relay-warning event { link | traffic-overload }

Syntax Description	**relay-warning**	Configure relay warning
	event	Port events
	link-on	Link ON
	link-off	Link OFF
	traffic-overload	Traffic overloading
	rxThreshold	0 to 100
	duration	1 to 300
	link	All link events
Defaults	All interface events are disabled by default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# interface ethernet 3/1`
	`PT-7828(config-if)# relay-warning event ?`
	`  link-on  - Link ON`
	`  link-off  - Link OFF`
	`  traffic-overload  - Traffic overloading`
	`PT-7828(config-if)# relay-warning event link-off`
	`PT-7828(config-if)# relay-warning event traffic-overload`	

Error messages	Threshold should be between 0 and 100	
	Duration should be between 1 and 300	
Related commands	show relay-warning	

relay-warning override

Use **relay-warning override** relay to override the relay warning setting temporarily. Releasing the relay output will allow administrators to fix any problems with the warning condition. Use the no form of this command to disable the override.

Commands

relay-warning override relay *[relayId]*
no relay-warning override relay *[relayId]*

Syntax Description	**relay-warning**	Configure relay warning
	override	Override the relay warning setting
	relay	Relay
	relayId	Relay's ID = 1 or 2
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	relayId will only be used on the product that have multiple relays.	
Examples	`PT-7828(config)# relay-warning override relay`	
Error messages	Please designate the relay ID Invalid relay ID	
Related commands	show relay-warning	

reload

Use the **reload** privileged command on the switch to restart the Moxa Switch. Use the **reload factory-default** privileged command to restore the switch configuration to the factory default values.

Commands

reload [factory-default]

Syntax Description	**reload**	Halt and perform a cold restart
	factory-default	Halt and perform a cold restart with factory default
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# reload`
	`  <LF>`
	`  factory-default  - Halt and perform a cold restart with factory default`
	`PT-7828# rel`
	`  reload  - Halt and perform a cold restart`
	`PT-7828# reload factory-default`
	`  <LF>`
	`PT-7828# reload`
	`Proceed with reload ? [Y/n]`
	`PT-7828# reload factory-default`
	`Proceed with reload to factory default? [Y/n]`	

Error messages	N/A	
Related commands	N/A	

router ospf

To configure an Open Shortest Path First (OSPF) routing process, use the **router ospf** command in global configuration mode. To terminate an OSPF routing process, use the **no** form of this command.

Commands

router ospf *[router-id]*

no router ospf

Syntax Description	**router**	Enable a routing process
	ospf	Enable OSPF routing, and enter router configuration mode
	router-id	OSPF routing ID has a unique value
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	Use **router ospf** commands to enable OSPF routing process. Use **router ospf** router-id to entering the Router configuration mode as OSPF.	

Examples	`PT-7828(config)# router ospf`
	`PT-7828(config)# router ospf 0.0.1.1`
	`PT-7828(config-ospf)#`	

Error messages	Invalid parameters!	
Related commands	show ip ospf	

router rip

Use the **router rip** global configuration command to Enable a RIP routing process, and enter router configuration mode. To turn off the RIP routing process, use the **no** form of this command.

Commands

router rip

no router rip

Syntax Description	**router**	Enable a routing process
	rip	Enable RIP (Routing Information Protocol)
Defaults	RIP is disabled in factory default.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# router rip` `PT-7828(config-rip)#`	
Error messages	N/A	
Related commands	show ip rip	

router vrrp

To enable Virtual Router Redundancy Protocol (VRRP), use the **router vrrp** command in global configuration mode. To disable the VRRP, use the no form of this command

Commands

router vrrp

no router vrrp

Syntax Description	**router**	Enable a routing process
	vrrp	Enable VRRP (Virtual Router Redundancy Protocol)
Defaults	VRRP is not default disabled.	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# router vrrp`
	
	`PT-7828(config)# no router vrrp`	

Error messages	N/A	
Related commands	show ip vrrp	

router vrrp adver-interval

> **NOTE**
>
> This command is only supported by Layer 3 switches.

Use **router vrrp adver-interval** command in global configuration mode to setup VRRP advertisement interval.

Commands

router vrrp adver-interval *interval*

Syntax Description	**router**	Enable a routing process
	vrrp	Enable VRRP (Virtual Router Redundancy Protocol)
	adver-interval	Configure advertisement interval
	interval	Interval value
Defaults	Default VRRP adver-interval is 1000 ms	
Command Modes	Global configuration	
Usage Guidelines	The join-prune interval range is 25 to 1000 ms	
Examples	`ICS-G7852A-4XG(config)# router vrrp adver-interval 25`	
Error messages	N/A	
Related commands	show ip vrrp	

save config

Use the **save config** command to save the running configuration to the startup configuration on flash.

Commands

save config

Syntax Description	**save**	Save running configuration to flash
	config	Save running configuration to flash
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# save config`
	
	`Saving configuration ...Success`	

Error messages	N/A	
Related commands	N/A	

show acl

> **NOTE**
>
> The command is supported only in Layer 3 switches.

Use the **show acl** user EXEC command to display the ACL configuration.

Commands

show acl [*id*]

show acl summary

Syntax Description	**show**	Show running system information
	acl	Display ACL information
	id	The access list ID
	summary	Display active ACL status
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	**PT-7828# show acl 10** ACL ID : 10 Name : Type : MAC-base Rule Index : 1 Action : deny Source MAC Address : 00:11:22:33:44:55/FF:FF:FF:00:00:00 Destination MAC Address : AA:BB:CC:DD:EE:FF/FF:FF:FF:00:00:00 Ether Type : 2048 VLAN ID : 10 Ingress Port Map : 0 Egress Port Map : 0 ---------- **PT-7828# show acl summary** Type ID Attached Port Name -------- ----- ------------------------- -------------------- MAC-base 1 test_acl1 MAC-base 10	
Error messages	Invalid ID!	
Related commands		

show auth tacacs+

Use the **show auth tacacs+** user EXEC command to display the setting of TACACS+ authentication traffic statistic information of interfaces.

Commands

show auth tacacs+

Syntax Description	**auth**	Display authentication settings
	tacacs+	Tacacs+ authentication
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show auth tacacs+ Tacacs+ information: Status : Disabled Auth server : tacacs.server.moxa.com, port:49 Shared key : Auth type : ASCII Server Timeout : 23 sec.	
Error messages	N/A	
Related commands	auth tacacs+ auth tacacs+ server auth tacacs+ auth-type	

show clock

Use the **show clock** user EXEC command to display time-related settings.

Commands

show clock

Syntax Description	**clock**	Display the system clock
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show clock Current Time : Fri Jan 01 08:38:28 2010 Daylight Saving Start Date : End Date : Offset : Time Zone : GMT-4:00 Time Server : Query Period : 600 sec NTP/SNTP Server : Disabled	
Error messages	N/A	
Related commands	clock set clock summer-time clock timezone ntp refresh-time ntp remote-server ntp server	

show dot1x

To check the 802.1x setting, use the **show dot1x** command.

Commands

show dot1x

Syntax Description	**dot1x**	Display 802.1x settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show dot1x Database Option: Local Radius Server : localhost Server Port : 1812 Shared Key : Re-Auth : Enable Re-Auth Period : 3600 Port 802.1X Enable ---- ------------- 1-1 Disable 1-2 Enable 1-3 Disable 1-4 Disable	
Error messages	N/A	
Related commands	dot1x auth dot1x reauth	

show dot1x local-userdb

To check the 802.1x local user database, use the show **dot1x local-userdb** command.

Commands

show dot1x local-userdb

Syntax Description	**dot1x**	Display 802.1x settings
	local-userdb	Display current local database
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show dot1x local-userdb Index User Name Description ----- ------------------------------ ------------------------------ 1 moxanet moxanet	
Error messages	N/A	
Related commands	dot1 local-userdb	

show eip

Commands

show eip

Syntax Description	**eip**	Display Ethernet/IP configuration
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	`PT-7828# show eip` `eip disable`	
Error messages	N/A	
Related commands	eip	

show PROFINETIO

Use the **show profinetio** *user EXEC command to display PROFINET configuration*

Commands

show profinetio

Syntax Description	**show**	Show running system information
	profinetio	Display PROFINET configuration
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	
Examples	`EDS-G516E> show profinetio` `profinet io disable`	
Error messages	N/A	
Related commands	profinetio	

show email-warning config

Commands

show email-warning config

Syntax Description	**show**	Show running system information
	email-warning	Display Email warning configuration
	config	Email warning configuration
Defaults	N/A	
Command Modes	Privileged EXEC /User EXEC	
Usage Guidelines	N/A	

Examples

```
PT-7828# show email-warning config
Mail Server and Email Setup
  SMTP Server IP/Name  :
  SMTP Port            : 25
  Account Name         :
  Account Password     :
  1st email address :
  2nd email address :
  3rd email address :
  4th email address :
System Events
  Cold Start           : Disable
  Warm Start           : Disable
  Conf. Changed        : Disable
  Power On->Off        : Disable
  Power Off->On        : Disable
  Auth. Failure        : Disable
  Topology Changed     : Disable
--More--
Port Events Setting
        Link       Link       Traffic    RX                Traffic
Port    ON         OFF        Overload   Threshold(%)      Duration(s)
------- ---------- ---------- ---------- ----------------- ------------
1-1     Disable    Disable    Disable    0                 1
1-2     Disable    Disable    Disable    0                 1
1-3     Disable    Disable    Disable    0                 1
1-4     Disable    Disable    Disable    0                 1
1-5     Disable    Disable    Disable    0                 1
1-6          Disable    Disable    Disable    0                 1
1-7          Disable    Disable    Disable    0                 1
1-8          Disable    Disable    Disable    0                 1
3-1          Disable    Disable    Disable    0                 1
3-2          Disable    Disable    Disable    0                 1
3-3          Disable    Disable    Disable    0                 1
3-4          Disable    Disable    Disable    0                 1
3-5          Disable    Disable    Disable    0                 1
3-6          Disable    Disable    Disable    0                 1
3-7          Disable    Disable    Disable    0                 1
3-8          Disable    Disable    Disable    0                 1
PT-7828#
```

Error messages	N/A
Related commands	email-warning event email-warning account email-warning server email-warning mail-address

show gmrp

Use the **show gmrp** user EXEC command to display the GMRP table of the switch.

Commands

show gmrp

Syntax Description	**gmrp**	Show GMRP Settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show gmrp`
	`Index Multicast Address Fixed Ports Learned Ports`
	`----- ----------------- ----------------------- -----------------`	

Error messages	N/A	
Related commands	gmrp	

show gvrp

Use the **show gvrp** user EXEC command to display GVRP state information.

Commands

show gvrp

Syntax Description	**show**	Show running system information
	gvrp	Display GVRP configuration
Defaults	N/A	
Command Modes	Privileged EXEC / User Exec	
Usage Guidelines	N/A	
Examples	`PT-7828# show gvrp` `gvrp enable`	
Error messages	N/A	
Related commands	gvrp	

show interfaces acl

NOTE

The command is supported only in Layer 3 switches.

Use the **show interfaces acl** user EXEC command to display ACL configurations by port.

Command

show interfaces ethernet *[module/port]* **acl**

Syntax Description	**show**	Show running system information
	interfaces	Interface status and configuration
	ethernet	IEEE 802.3/IEEE 802.3z
	module/port	Port ID or list. Ex. 1/1,2,3,2/1-3,5,...
	acl	Display ACL configurations by port
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show interfaces ethernet 2/1 acl`
	
	`Type ID Direction Index`
	`-------- ------- ---------- ------`
	`IP-base 2 Inbound 1`
	`MAC-base 4 Inbound 2`
	`IP-base 7 Inbound 3`
	`MAC-base 11 Outbound 4`	

Error messages	Invalid ID!	
Related commands		

show interfaces counters

Use the **show interfaces couters** user EXEC command to display traffic statistics information of interfaces.

Commands

show interfaces counters

show interfaces ethernet *port-id* **counters**

show interfaces trunk *trunk-id* **counters**

Syntax Description	**interfaces**	Interface status and configuration
	counters	Display counters
	port-id	Port ID or list. E.g., 1/1,2,3,2/1-3,5,...
	trunk-id	Trunk ID (or list)
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	Detail counter information will contain the differences information from last query.	
Examples		

```
PT-7828# show interfaces counters
  Port      Tx Packets(Load%)       Rx Packets(Load%)
  ---- ---------------------- ----------------------
  1/ 5                662( 0)                 364( 0)
  1/ 6                  0( 0)                   0( 0)
  Trk1               1608( 0)                1608( 0)
  Trk2                  0( 0)                   0( 0)

PT-7828# show interfaces ethernet 1/5 counters
Port 1/5 (last sample time: 16577 sec. ago)
  - TX -
    Unicast Packets     : 108             +108
    Multicast Packets   : 553             +553
    Broadcast Packets   : 2               +2
    Collision Packets   : 0               +0
  - RX -
    Unicast Packets     : 109             +109
    Multicast Packets   : 0               +0
    Broadcast Packets   : 255             +255
    Pause Packets       : 0               +0
  - Error -
    TX Late             : 0               +0
    TX Excessive        : 0               +0
    RX CRC error        : 0               +0
    RX Discard          : 0               +0
    RX Undersize        : 0               +0
    RX Fragments        : 0               +0
    RX Oversize         : 0               +0
    RX Jabber           : 0               +0
```

Error messages	N/A
Related commands	N/A

show interfaces ethernet

To check the status of interfaces, use the **show interfaces ethernet** command.

Commands

show interfaces ethernet [*module/port* **[config]]**

Syntax Description	**interfaces**	Interface status and configuration
	ethernet	IEEE 802.3/IEEE 802.3z
	module/port	Port ID or list. E.g., 1/1,2,3,2/1-3,5,...
	config	Show interface module/port settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show interfaces ethernet Port Link Description Speed FDX Flow Ctrl MDI/MDIX ---- ------- ---------- ---------- ------------ -------- 1-1 Down 100TX,RJ45. -- -- -- 1-2 Down 100TX,RJ45. -- -- -- 1-3 Down 100TX,RJ45. -- -- -- 1-4 Down 100TX,RJ45. -- -- -- 1-5 Up 100TX,RJ45. 100M-Full Off MDI 1-6 Down 100TX,RJ45. -- -- -- 1-7 Down 100TX,RJ45. -- -- -- 1-8 Down 100TX,RJ45. -- -- -- PT-7828# show interfaces ethernet 1/1-3 config Port Enable Description Speed FDX Flow Ctrl MDI/MDIX ---- ------ ---------- --------- ------------ -------- 1-1 Yes 100FX,SC,Single,40. 100M-Full Disable Auto 1-2 Yes 100FX,SC,Single,40. 100M-Full Disable Auto 1-3 Yes 100TX,RJ45. Auto Disable Auto	
Error messages	N/A	
Related commands	N/A	

show interfaces filter-ip

Use the **show interfaces filter-ip** user EXEC command to display the setting of IP filtering entries.

Commands

show interfaces ethernet *module/port* **filter-ip**

Syntax Description	**interfaces**	Interface status and configuration
	ethernet	IEEE 802.3/IEEE 802.3z
	module/port	Port ID or list. E.g., 1/1,2,3,2/1-3,5,...
	filter-ip	Rate limiting configuration
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show interfaces ethernet 1/1-6 filter-ip`
	`Allowed IP in Port 1/1:`
	`    192.168.127.1`
	`    192.168.127.2`
	`    192.168.127.3`
	`    192.168.127.4`
	`    192.168.127.5`
	`    192.168.127.6`
	`    192.168.127.7`
	`    192.168.127.8`
	
	`Allowed IP in Port 1/2:`
	
	`Allowed IP in Port 1/3:`
	
	`Allowed IP in Port 1/4:`
	
	`--More--`
	`Allowed IP in Port 1/5:`
	`    192.168.127.1`
	
	`Allowed IP in Port 1/6:`	

Error messages	N/A	
Related commands	ip filter-ip	

show interfaces mgmt

Use the **show interfaces mgmt** user EXEC command to display the Mgmt-VLAN settings.

Commands

show interfaces mgmt

Syntax Description	**interfaces**	Interface status and configuration
	mgmt	Display management VLAN information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show interfaces mgmt`
	
	`IPv4`
	`  Management VLAN id  : 1`
	`  IP configuration    : Static`
	`  IP address          : 192.168.127.253`
	`  Subnet mask         : 255.255.255.0`
	`  Default gateway     : 0.0.0.0`
	`  DNS server           :`	

Error messages	N/A	
Related commands	ip address ip default-gateway ip name-server bind vlan	

show interfaces mgmt access-ip

Use the **show interfaces mgmt access-ip** user EXEC command to display the settings of accessible IP list.

Commands

show interfaces mgmt access-ip

Syntax Description	**show**	Show running system information
	interfaces	Interface status and configuration
	mgmt	Display management VLAN information
	access-ip	Display accessible IP list
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show interfaces mgmt access-ip`
	`Accessible IP List: Enable`
	`Index   IP / Netmast`
	`1       192.168.127.253 / 255.255.255.0`	

Error messages	N/A	
Related commands	access-ip	

show interfaces rate-limit

Use the **show interfaces rate-limit** user EXEC command to display the setting of Rate-limiting.

Commands

show interfaces ethernet *module/port* **rate-limit**

Syntax Description	**interfaces**	Interface status and configuration
	ethernet	IEEE 802.3/IEEE 802.3z
	module/port	Port ID or list. E.g., 1/1,2,3,2/1-3,5,...
	rate-limit	Rate limiting configuration
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-508# show interfaces ethernet 1/1-3 rate-limit`
	
	`Port 1/1:`
	`  Ingress Limit Mode: Broadcast, Multicast, DLF`
	`  Ingress Limit Rate: 8M`
	`  Egress Limit Rate : Not Limited`
	`Port 1/2:`
	`  Ingress Limit Mode: Broadcast`
	`  Ingress Limit Rate: 8M`
	`  Egress Limit Rate : Not Limited`
	`Port 1/3:`
	`  Ingress Limit Mode: Broadcast`
	`  Ingress Limit Rate: 8M`
	`  Egress Limit Rate : Not Limited`	

Error messages	N/A	
Related commands	rate-limit	

show interfaces trunk

Use the **show interfaces trunk** user EXEC command to display spanning-tree state information

Commands

show interfaces trunk [*trunk-id-list*]

Syntax Description	**interfaces**	Interface status and configuration
	trunk	Show interface trunk information
	trunk-id-list	Trunk ID (or list)
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show interfaces trunk Trk# Type Enable Description Speed ---- ------ ------ ---------- --------- 1 Static Yes 100M-Full 2 Static Yes 100M-Full PT-7828# show interfaces trunk 1-2 Trunk-1 (Static): Member Status ------ ---------- 1/1 Success 1/2 Success Trunk-2 (Static): Member Status ------ ---------- 1/3 Fail 1/4 Fail	
Error messages	There is no member in Trunk 1	
Related commands	trunk-mode trunk-group	

show interfaces vlan

Use the **show interfaces vlan** user EXEC command to display vlan ip interface information.

Commands

show interfaces vlan *[vlan-id-list]*

Syntax Description	**show**	Show running system information
	interfaces	Interface status and configuration
	vlan	Display layer3 IP interface settings
	vlan-id-list	1 to 4094
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show interfaces vlan`
	
	`Interface Name: VLAN2`
	`IP Address: 10.10.10.10`
	`Subnet Mask: 255.255.255.0`
	`VLAN ID: 2`
	`Proxy ARP: Disable`	

Error messages	N/A	
Related commands	Interface vlan	

show interfaces mgmt trusted-access

Same as **show interfaces mgmt access-ip**.

Commands

show interfaces mgmt trusted-access

Syntax Description	**show**	Show running system information
	interfaces	Interface status and configuration
	mgmt	Display management VLAN information
	trusted-access	Display trusted access IP list
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show interfaces mgmt trusted-access`
	`Trusted Access IP List: Enable`
	`Index  IP / netmask`
	`1  192.168.127.253 / 255.255.255.0`	

Error messages	N/A	
Related commands	trusted-access	

show ip auto-assign

Use the **show ip auto-assign** user EXEC command to display the setting of the Auto IP Assignment feature.

Commands

show ip auto-assign

Syntax Description	**ip**	Display IP information
	auto-assign	Display automatic ip asignment settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show ip auto-assign Port Device's Current IP Active Function Desired IP ---- ------------------- ---------------- --------------- 1/ 6 NA -- 192.168.127.8 Trk1 NA -- 192.168.127.7	
Error messages	N/A	
Related commands	ip auto-assign	

show ip dhcp-relay config

Use the **show ip dhcp-relay config** user EXEC command to display the setting of the DHCP relay feature.

Commands

show ip dhcp-relay config

Syntax Description	**show**	Show running system information
	ip	Display IP information
	dhcp-relay	Display DHCP relay configuration
	config	DHCP relay configuration
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	

Examples	PT-7828# show ip dhcp-relay config
	DHCP Relay Agent Setting
	  1st server IP :
	  2nd server IP :
	  3rd server IP :
	  4th server IP :
	DHCP Relay Option 82: Enable
	  Remote ID type : Other
	  Remote ID value : 1234567890123
	  Remote ID display: 313233343536373839303132 33
	--More--
	DHCP Function Table
	Port Circuit-ID Option 82
	----- ---------- ----------
	1-1 01000101 Disable
	1-2 01000102 Disable
	1-3 01000103 Disable
	1-4 01000104 Disable
	1-5 01000105 Disable
	1-6 01000106 Disable
	1-7 01000107 Disable
	1-8 01000108 Disable
	3-1 01000111 Disable
	3-2 01000112 Disable
	3-3 01000113 Disable
	3-4 01000114 Disable
	3-5 01000115 Disable
	3-6 01000116 Disable
	3-7 01000117 Disable
	3-8 01000118 Disable
	PT-7828#	

Error messages	N/A	
Related commands	N/A	

show ip http-server status

Use **show ip http-server status** to display HTTP server related settings.

Commands

show ip http-server status

Syntax Description	**show**	Show running system information
	ip	Display IP information
	http-server	HTTP server information
	status	Status
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show ip http-server status HTTP service is enable HTTP server capability: Present HTTPS secure server capability: Present Auto-logout: disable	
Error messages	N/A	
Related commands	N/A	

show ip igmp

Use the **show ip igmp** user EXEC command to display the Internet Group Management Protocol (IGMP) snooping configuration and IGMP table of the switch.

Commands

show ip igmp

Syntax Description	**ip**	Display IP information
	igmp	Show IGMP snooping settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show ip igmp IGMP Snooping :Enable IGMP Snooping Enhanced Mode :Enable Query Interval :125(sec) VID |Static(S) / Learned(L) |Active IGMP Groups |Multicast Querier Port & |IP |MAC |Members Port |Querier(Q) connected Port| | | --- 1 1-1(S) 224.1.1.8 01-00-5E-01-01-08 1-1 239.255.255.250 01-00-5E-7F-FF-FA 1-1	
Error messages	N/A	
Related commands	ip igmp ip igmp snooping	

show ip ospf

Use the **show ip ospf** user EXEC command to display general information about OSPF routing processes.

Commands

show ip ospf

Syntax Description	**show**	Show running system information
	ip	Display IP information
	ospf	Display OSPF configurations
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show ip ospf OSPF Golbal Configuration ---------- OSPF Enabled Router ID 192.168.1.1 Current Router ID 192.168.1.1 Redistribute [Connected] OSPF Area Configuration Idx Area ID Area Type Metric ---------- 1 192.168.1.1 Normal 0 OSPF Virtual Link Configuration Idx Transit Area ID Neighbor Router ID ---------- 1 192.168.1.1 192.168.0.0 OSPF Aggregation Configuration Idx Area ID Network Address Network Mask ----------	
Error messages	N/A	
Related commands	area area virtual-link network area redistribute	

show ip ospf database

Use the **show ip ospf database** user EXEC command to display information related to the OSPF database for a specific router.

Commands

show ip ospf database

Syntax Description	**show**	Show running system information
	ip	Display IP information
	ospf	Display OSPF configurations
	database	OSPF database
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	`PT-7828# show ip ospf database`	
Error messages	N/A	
Related commands	ip ospf area	

show ip ospf interface

Use the **show ip ospf interface** user EXEC command to display the OSPF related interfaces information.

Commands

show ip ospf interface

Syntax Description	**show**	Show running system information
	ip	Display IP information
	ospf	Display OSPF configurations
	interface	OSPF routing interface
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	`PT-7828# show ip ospf interface`	
Error messages	N/A	
Related commands	ip ospf area ip ospf priority ip ospf hello-interval ip ospf dead-interval ip ospf cost	

show ip ospf neighbor

Use the **show ip ospf neighbor** user EXEC command to display OSPF neighbor information.

Commands

show ip ospf neighbor

Syntax Description	**show**	Show running system information
	ip	Display IP information
	ospf	Display OSPF configurations
	neighbor	OSPF neighbor information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	`PT-7828# show ip ospf neighbor`	
Error messages	N/A	
Related commands	ip ospf area	

show ip pim-dm

> **NOTE**
>
> This command is only supported by Layer 3 switches.

Use show **ip pim-dm** command to display the settings of PIM-DM.

Commands

show ip pim-dm

Syntax Description	**show**	Show running system information
	ip	Display IP information
	pim-dm	Display PIM-DM information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`ICS-G7852A-4XG# show ip pim-dm`
	`PIM-DM: Enable`
	`Interface  Address  VID  Enable  Mode`
	`----------`
	`V100  172.100.1.2  100  V`
	`V200  172.200.1.2  200  V`
	`V10  172.10.1.2  10  V`
	`V20  172.20.1.2  20  V`	

Error messages	N/A	
Related commands	ip pim-dm no ip pim-dm	

show ip pim-dm neighbor

> **NOTE**
>
> This command is only supported by Layer 3 switches.

Use **show ip pim-dm neighbor** command to display PIM-DM neighbor information.

Commands

show ip pim-dm neighbor

Syntax Description	**show**	Show running system information
	ip	Display IP information
	pim-dm	Display PIM-DM information
	neighbor	PIM-DM neighbor information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`ICS-G7852A-4XG# show ip pim-dm neighbor`
	`PIM Neighbor Table`
	`Index Neighbor Address  Interface        Uptime     Expire`
	`-----------------------------------------------------------`
	`1      172.100.1.4        V100             89         ---`
	`2      172.100.1.1        V100             89         ---`
	`3      172.200.1.3        V200             75         ---`	

Error messages	N/A	
Related commands	ip pim-dm no ip pim-dm	

show ip pim-sm

NOTE

This command is only supported by Layer 3 switches.

Use **show ip pim-sm** command to display the settings of PIM-SM.

Commands

show ip pim-sm

Syntax Description	**show**	Show running system information
	ip	Display IP information
	pim-sm	Display PIM-SM information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`ICS-G7852A-4XG# show ip pim-sm`
	`PIM-SM: Enable`
	`Interface  Address  VID  Enable  Mode`
	`---`
	`V100  172.100.1.2  100  V`
	`V200  172.200.1.2  200  V`
	`V10  172.10.1.2  10  V`
	`V20  172.20.1.2  20  V`	

Error messages	N/A	
Related commands	ip pim-sm no ip pim-sm ip pim-sm dr-priority ip pim-sm hello-interval ip pim-sm join-prune-interval	

show ip pim-sm bsr

> **NOTE**
>
> This command is only supported by Layer 3 switches.

Use **show ip pim-sm bsr** command to display PIM-SM BSR information.

Commands

show ip pim-sm bsr

Syntax Description	**show**	Show running system information
	ip	Display IP information
	pim-sm	Display PIM-SM information
	bsr	PIM-SM BSR information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`ICS-G7852A-4XG# show ip pim-sm bsr`
	`PIM BSR`
	`  BSR Address  Priority  Hash Mask Length`
	`----------------------------------------`
	`172.230.1.1         0           4`	

Error messages	N/A	
Related commands	ip pim-sm no ip pim-sm ip pim-sm dr-priority ip pim-sm hello-interval ip pim-sm join-prune-interval	

show ip pim-sm neighbor

NOTE

This command is only supported by Layer 3 switches.

Use **show ip pim-sm neighbor** command to display PIM-SM neighbor information.

Commands

show ip pim-sm neighbor

Syntax Description	**show**	Show running system information
	ip	Display IP information
	pim-sm	Display PIM-SM information
	neighbor	PIM-SM neighbor information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`ICS-G7852A-4XG# show ip pim-sm neighbor`
	`PIM Neighbor Table`
	`Index Neighbor Address  Interface        Uptime     Expire`
	`-----------------------------------------------------------`
	`1      172.100.1.4        V100             89         ---`
	`2      172.100.1.1        V100             89         ---`
	`3      172.200.1.3        V200             75         ---`	

Error messages	N/A	
Related commands	ip pim-sm no ip pim-sm ip pim-sm dr-priority ip pim-sm hello-interval ip pim-sm join-prune-interval	

show ip pim-sm routing

> **NOTE**
>
> This command is only supported by Layer 3 switches.

Use **show ip pim-sm routing** command to display current PIM-SM routing table entries.

Commands

show ip pim-sm routing

Syntax Description	**show**	Show running system information
	ip	Display IP information
	pim-sm	Display PIM-SM information
	routing	Display routing entries
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	ICS-G7852A-4XG# show ip pim-sm routing PIM-SM Routing Multicast Group Address | Source Address | RP Address | VID | Left time (Second) | Downstream Interface VID 0.0.0.0 * 0.0.0.0 local - NULL 232.0.0.1 172.20.2.1 0.0.0.0 20 38s 100 200 10 0 232.0.0.1 * 0.0.0.0 local - NULL 232.0.0.2 172.20.2.1 0.0.0.0 20 48s 100 200 10 0	
Error messages	N/A	
Related commands	ip pim-sm no ip pim-sm ip pim-sm dr-priority ip pim-sm hello-interval ip pim-sm join-prune-interval	

show ip pim-sm rp

> **NOTE**
>
> This command is only supported by Layer 3 switches.

Use **show ip pim-sm rp** command to display PIM-SM RP information.

Commands

show ip pim-sm rp

Syntax Description	**show**	Show running system information
	ip	Display IP information
	pim-sm	Display PIM-SM information
	rp	PIM-SM RP information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`ICS-G7852A-4XG# show ip pim-sm rp`
	`PIM-SM RP Set`
	`Group Address |R| RP Address | Holdtime | Priority | Hash`
	`==========`
	`224.0.0.0/4 172.230.1.4 112 0 7331bd32`
	`224.0.0.0/4 172.230.1.1 78 0 2a523511`
	`224.0.0.0/4 *172.200.1.3 86 0 7d18d1eb`
	`224.0.0.0/4 172.200.1.2 112 0 3edf2058`	

Error messages	N/A	
Related commands	ip pim-sm no ip pim-sm ip pim-sm dr-priority ip pim-sm hello-interval ip pim-sm join-prune-interval	

show ip rip

Use the **show ip rip** command to display the settings of RIP.

Commands

show ip rip

Syntax Description	**show**	Show running system information
	ip	Display IP information
	rip	Display RIP configurations
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show ip rip RIP Protocol : Enable RIP version : V2 Distribution Connected : Enable Static : Disable OSPF : Disable RIP Enable Table Interface Name IP VID Enable ---------- ---------- ---------- ---------- vlan2if 192.168.102.1 2 Enable	
Error messages	N/A	
Related commands	N/A	

show ip route

Use the **show ip route** user EXEC command to display current routing table entries.

Commands

show ip route [static]

Syntax Description	**show**	Show running system information
	ip	Display IP information
	route	Display routing entries
	static	Static routing entries
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show ip ospf neighbor	
Error messages	N/A	
Related commands	N/A	

show ip vrrp

To display a detailed status of all Virtual Router Redundancy Protocol (VRRP) virtual routers, use the **show ip vrrp** command in EXEC mode.

Commands

show ip vrrp

Syntax Description	**ip**	Display IP information
	vrrp	Display VRRP information
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show ip vrrp VRRP Enable Enable VRRP Interface Table Interface Name IP Address VID Status 1 1.1.1.1 2 Init VRRP Basic Setting VRRP Entry Enable :Enable Virtual IP :0.0.0.0 Virtual Router ID :0 Priority :100 Preemption Mode :Enable ---------- Interface Name IP Address VID Status 2 2.2.2.2 3 Init VRRP Basic Setting VRRP Entry Enable :Disable Virtual IP :0.0.0.0 Virtual Router ID :0 Priority :100 Preemption Mode :Enable ----------	
Error messages	N/A	
Related commands	router vrrp vrrp vrrp preempt vrrp priority	

show lldp

Use the **show lldp** command to display the LLDP settings and the LLDP neighbor information.

Commands

show lldp

show lldp entry

Syntax Description	**show**	Show running system information
	lldp	Display LLDP information
	entry	LLDP entries
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show lldp LLDP Enable : Enable Message Transmit Interval: 30 seconds PT-7828# show lldp entry Port : 23 Neighbor ID : 00:90:e8:0a:0a:0a Neighbor Port : 3 Neighbor Port Descript : 100TX,RJ45. Neighbor System : Managed Redundant Switch 00000 Port : 19 Neighbor ID : 00:90:e8:0a:0a:0a Neighbor Port : 2 Neighbor Port Descript : 100TX,RJ45. Neighbor System : Managed Redundant Switch 00000 Port : 24 Neighbor ID : 00:90:e8:0a:0a:0a Neighbor Port : 1 Neighbor Port Descript : 100TX,RJ45. Neighbor System : Managed Redundant Switch 00000	
Error messages	N/A	
Related commands	lldp timer lldp run	

show logging

Use the **show logging** user EXEC command to display the setting of the IP filter feature.

Commands

show logging [event-log]

Syntax Description	**logging**	Display syslog information
	event-log	Display system event logs
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show logging Syslog server #1: Syslog server #2: 192.168.1.2, port: 514 Syslog server #3: 192.168.1.3, port: 514 PT-7828# show logging event-log Idx Boot Time or Uptime Log --- ---- ---------- ---------- 1 337 2037/06/23, 20:46:08 192.168.127.1 admin Auth. ok 2 337 2037/06/23, 20:52:47 Authentication fail 3 338 2037/06/23, 21:51:59 Port 1-1(Trk1) link on 4 338 2037/06/23, 21:51:59 Port 1-2 link on 5 338 2037/06/23, 21:51:59 Port 1-5 link on 6 338 2037/06/23, 21:52:03 Port 1-5 link off 7 338 2037/06/23, 21:52:03 Warm start by Firmware Upgrade 8 338 2037/06/23, 21:52:04 Port 1-5 link on 9 338 2037/06/23, 22:03:43 192.168.127.1 admin Auth. ok 10 338 2037/06/23, 22:04:04 192.168.127.1 admin Auth. ok 11 338 2037/06/24, 00:02:47 Port 1-5 link off 12 338 2037/06/24, 00:02:48 Port 1-5 link on	
Error messages	N/A	
Related commands	logging	

show mac-address-table

Use the **show mac-address-table** user EXEC command to display MAC addresses in the MAC address table.

Commands

show mac-address-table [static | learned | mcast]

show mac-address-table [interface{ ethernet *module/port* **| trunk** *trunk-id* **}]**

Syntax Description	**mac-address-table**	Display MAC address forwarding table
	static	Retrieve static MAC addresses
	learned	Retrieve learned MAC addresses
	mcast	Retrieve Multicast address
	interface	Retrieve MAC address by interface
	ethernet	Ethernet Port interface
	module/port	Port ID. E.g., 1/3, 2/1,...
	trunk	Trunk interface
	trunk-id	Trunk ID. From 1 to 4
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show mac-address-table`
	`  Line Swap Fast Recovery : Enabled`
	`       MAC           Type   VLAN    Port`
	`----------------- -------- ---- ------------------------`
	`00-40-F4-8D-0D-F7 ucast(l)    1    1/5`
	
	`PT-7828# show mac-address-table learned`
	`       MAC           Type   VLAN    Port`
	`----------------- -------- ---- -------------------------`
	`00-40-F4-8D-0D-F7 ucast(l)    1    1/5`	

Error messages	N/A	
Related commands	N/A	

show mac-address-table aging-time

Use the **show mac-address-table aging-time** user EXEC command to display the aging time setting of the MAC address table.

Commands

show mac-address-table aging-time

Syntax Description	**mac-address-table**	Display MAC address forwarding table
	aging-time	MAC entry aging time
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show mac-address-table`
	`aging-time  - MAC entry aging time`
	
	`PT-7828# show mac-address-table aging-time`
	`MAC address aging time: 300 sec`	

Error messages	N/A	
Related commands	mac-address-table aging-time	

show mcast-filter

Use the **show mcast-filter** user EXEC command to display the multicast filter configuration.

Commands

show mcast-filter *[module/port]*

Syntax Description	**mcast-filter**	Multicast Filtering Behavior
	module/port	Port(Trunk) ID or list. E.g., 1/1,2,4-5,2/1,Trk1,Trk2-Trk4
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show mcast-filter`
	`Port Multicast Filtering Behavior`
	`---- ----------------------------`
	`1-1  Forward All`
	`1-2  Forward Unknown`
	`1-3  Filter Unknown`	

Error messages	N/A	
Related commands	mcast-filter	

show modbus

Use the **show modbus** user EXEC command to display Modbus configuration.

Commands

show modbus

Syntax Description	**modbus**	Display Modbus configuration
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	`PT-7828# show modbus` `Modbus enable`	
Error messages	N/A	
Related commands	modbus	

show port monitor

Use the **show port monitor** EXEC command to display the port mirror settings.

Commands

show port monitor

Syntax Description	**show**	Show running system information
	port	Display Port configuration
	monitor	Display Port mirror configuration
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show port monitor`
	`Port Being Monitored  Direction  Mirror Port`
	`---------- ---------- ----------`
	`1-1 1-2  both  3-2`
	
	`PT-7828#`	

Error messages	N/A	
Related commands	monitor	

show port-security

To check the port access control table, use the **show port-security** command.

Commands

show port-security *[module/port]*

Syntax Description	**port-security**	Display port access control table
	module/port	Port ID or list. E.g., 1/1,2,3,2/1-3,5,...
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show port-security Port Index Mac Address Status ---- ------ ----------------- -------------- 1-2 1 00-00-00-00-00-01 static lock	
Error messages	N/A	
Related commands	port-security	

show qos

Use the **show qos** user EXEC command to display QoS related settings.

Commands

show qos [cos-to-queue | dscp-to-cos | dscp-to-queue]

Syntax Description	**qos**	Display QoS configuration
	cos-to-queue	CoS to traffic queue mappings
	dscp-to-cos	DSCP to CoS mappings
	dscp-to-queue	DSCP to traffic queue mappings
Defaults	N/A	
Command Modes	Privileged	
Usage Guidelines	N/A	
Examples	PT-7828# show qos Queuing Mechanism : Weighted Fair (1:2:4:8) Tos Inspection Module 1 : Disabled Module 3 : Disabled Int# CoS Inspection CoS ---- -------------- --- 1/3 Enabled 3 1/4 Enabled 3 1/5 Enabled 3 1/6 Enabled 3 3/1 Enabled 3 3/2 Enabled 3 3/3 Enabled 3 3/4 Enabled 3 3/5 Enabled 3 3/6 Enabled 3 3/7 Enabled 3	

```
    3/8          Enabled   3
    Trk1         Enabled   3

PT-7828# show qos cos-to-queue

CoS Queue #
--- -------
  0 Q0
  1 Q0
  2 Q1
  3 Q1
  4 Q2
  5 Q2
  6 Q3
  7 Q3
PT-7828# show qos dscp-to-cos

DSCP Cos DSCP Cos DSCP Cos DSCP Cos
---- --- ---- --- ---- --- ---- ---
   0   0    1   0    2   0    3   0
   4   0    5   0    6   0    7   0
   8   1    9   1   10   1   11   1
  12   1   13   1   14   1   15   1
  16   2   17   2   18   2   19   2
  20   2   21   2   22   2   23   2
  24   3   25   3   26   3   27   3
  28   3   29   3   30   3   31   3
  32   4   33   4   34   4   35   4
  36   4   37   4   38   4   39   4
  40   5   41   5   42   5   43   5
  44   5   45   5   46   5   47   5
  48   6   49   6   50   6   51   6
  52   6   53   6   54   6   55   6
  56   7   57   7   58   7   59   7
  60   7   61   7   62   7   63   7
```

Error messages	N/A
Related commands	qos mode qos inspect qos mapping qos default-cos

show redundancy mst configure

Use the **show redundancy mst configure** user EXEC command to display settings of Multiple Spanning Tree (MSTP).

Commands

show redundancy mst configuration

Syntax Description	**show**	Show running system information
	redundancy	Display redundancy protocol status
	mst	Display multiple spanning tree settings
	configure	Display multiple spanning tree global settings
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show redundancy mst configuration`
	`MSTP global setting:`
	`Forwarding Delay: 15`
	`Hello Time: 2`
	`Max Hops: 20`
	`Max Age: 20`
	`Revision Level: 0`
	`Region Name: MSTP`	

Error messages	N/A	
Related commands	spanning-tree mst	

show redundancy mst instance

Use the **show redundancy mst instance** user EXEC command to display Multiple Spanning Tree (MSTP) instance state information.

Commands

show redundancy mst instance *instance-id*

Syntax Description	**show**	Show running system information
	redundancy	Display redundancy protocol status
	mst	Display multiple spanning tree settings
	instance	Display MSTP msti status
	instance-id	MSTP instance ID
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show redundancy mst instance 1`
	`MSTP msti root status:`
	
	`MSTI Root: ---`
	`MSTP msti 1 bridge status:`
	`  Vlan Mapping:`
	`  Birdge Priority: 32768`
	
	`Int#  Enable  Prio  Cost  Oper Cost  Edge  State  Role`
	`---- -------- ------- ------- ------------ -------- -------- ---------`	

Error messages	N/A	
Related commands	spanning-tree mst instance	

show redundancy spanning-tree

Use the **show redundancy spanning-tree** user EXEC command to display spanning-tree state information

Commands

show redundancy spanning-tree

Syntax Description	**redundancy**	Display redundancy protocol status
	spanning-tree	Display spanning tree settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show redundant spanning-tree Spanning tree status: Enabled Role : Root Bridge priority : 32768 Hello time : 2 sec Forwarding delay: 30 sec Max age time : 20 sec Int# Enable Edge Port Prio Cost Status ---- -------- --------- -------- -------- --------------- 1/1 Disabled Auto 128 200000 --- 1/2 Disabled Auto 128 200000 --- 1/3 Disabled Auto 128 200000 --- 1/4 Disabled Auto 128 200000 --- 1/5 Disabled Auto 128 200000 --- 1/6 Disabled Auto 128 200000 ---	
Error messages	N/A	
Related commands	spanning-tree forward-delay spanning-tree hello-time spanning-tree max-age spanning-tree priority spanning-tree spanning-tree cost spanning-tree edge-port spanning-tree priority show redundancy spanning-tree	

show redundancy turbo-chain

Use the **show redundancy turbo-chain** user EXEC command to display turbo-chain state information

Commands

show redundancy turbo-chain

Commands	**redundancy**	Display redundant settings
	turbo-chain	Display turbo chain status
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show redundancy turbo-chain`
	`      Role              :HEAD`
	
	`----------------------------------------`
	`Port Role         Port Number    Port Status`
	`--------------- -----------    --------------`
	`      Head Port   1-1             Forwarding`
	`    Member Port   1-2             Forwarding`	

Error messages	N/A	
Related commands	turbo-chain	

show redundancy turbo-ring-v1

Use the **show redundancy turbo-ring-v1** user EXEC command to display Turbo Ring v1 configure and state information.

Commands

show redundancy turbo-ring-v1

Syntax Description	**show**	Show running system information
	redundancy	Display redundancy protocol status
	turbo-ring-v1	Display turbo ring v1 status
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	`PT-7828# show redundancy turbo-ring-v1`
	
	`Turbo Ring V1 settings:`
	`  Set as master:  Disabled`
	`  1st port:  4-3`
	`  2nd port:  4-4`
	`  Ring Coupling:  Disabled`
	`  Coupling Port:  4-1`
	`  Coupling Control Port:  4-2`
	
	`Turbo Ring V1 status:`
	`  Master/Slave:  ---`
	`  Redundant Ports Status:`
	`  1st port:  ---`
	`  2nd port:  ---`
	`  Ring Coupling Ports Status:  ---`
	`  Coupling Port:  ---`
	`  Coupling Control Port:  ---`	

Error messages	N/A	
Related commands	turbo-ring-v1	

show redundancy turbo-ring-v2

Use the **show spanning-tree turbo-ring-v2** user EXEC command to display Turbo Ring v2 configuration and state information.

Commands

show redundancy turbo-ring-v2

Syntax Description	**show**	Show running system information
	redundancy	Display redundancy protocol status
	turbo-ring-v2	Display turbo ring v2 status
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show redundancy turbo-ring-v2 Turbo Ring V2 settings: Ring 1: Enabled Set as master: Disabled 1st port: 4-3 2nd port: 4-4 Ring 2: Disabled Set as master: Disabled 1st port: 4-1 2nd port: 4-2 Ring Coupling: Disabled Primary Port:4-1 Backup Port:4-2 Turbo Ring V2 status: Ring 1: Status:--- Master/Slave:--- 1st Ring Port Status:--- 2nd Ring Port Status:--- Ring 2: Status:--- Master/Slave:--- 1st Ring Port Status:--- 2nd Ring Port Status:--- Coupling: Mode:--- Coupling Port Status: ---	
Error messages	N/A	
Related commands	turbo-ring-v2	

show relay-warning

Use the **show relay-warning** command to display the Relay Warning settings.

Commands

show relay-warning config

show relay-warning status

Syntax Description	**show**	Show running system information
	relay-warning	Display relay warning configuration
	config	Relay warning configuration
	status	Current relay warning list
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	

Examples

```
PT-7828# show relay-warning config
System Events Setting
  Override Relay Warning Settings     : Disable
  Power Input 1 failure(On->Off)      : Disable
  Power Input 2 failure(On->Off)      : Disable
  Turbo Ring Break                    : Disable
--More--
Port Events Setting
                          Traffic         RX                Traffic
Port      Link            Overload        Threshold(%)      Duration(s)
--------- --------------- --------------- ----------------- ------------
1-1       Ignore          Disable         1                 1
1-2       Ignore          Disable         1                 1
1-3       Ignore          Disable         1                 1
1-4       Ignore          Disable         1                 1
1-5       Ignore          Disable         1                 1
1-6       Ignore          Disable         1                 1
1-7       Ignore          Disable         1                 1
1-8       Ignore          Disable         1                 1
3-1       Ignore          Disable         1                 1
3-2       Ignore          Disable         1                 1
3-3       Ignore          Disable         1                 1
3-4       Ignore          Disable         1                 1
3-5       Ignore          Disable         1                 1
3-6       Ignore          Disable         1                 1
3-7       Ignore          Disable         1                 1
3-8       Ignore          Disable         1                 1
PT-7828#
```

Error messages	N/A
Related commands	N/A

show running-config

Use **show running-config** to display the current running configuration of the switch.

Commands

show running-config

Syntax Description	**show**	Show running system information
	running-config	Current operating configuration
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show running-config Building configuration ... ! ip telnet ip http-server ip http-server auto-logout 120 ! ntp remote-server time.nist.gov ! ! vlan mode 1qvlan gvrp ! snmp-server version v1-v2c snmp-server community public ro snmp-server community private rw snmp-server trap-mode trap ! lldp run lldp timer 30 ! ! dhcp-relay option82 dhcp-relay option82 remote-id-type other dhcp-relay option82 man-id 1234567890123 ! ! interface ethernet 1/1 no shutdown speed-duplex Auto no flowcontrol media cable-mode auto --More--	
Error messages	N/A	
Related commands	show startup-config	

show startup-config

Use **show startup-config** to display the system startup configuration of the switch.

Commands

show running-config

Syntax Description	**show**	Show running system information
	startup-config	Contents of startup configuration
Defaults	N/A	
Command Modes	Privileged EXEC / User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show startup-config Building configuration ... ! ip telnet ip http-server ip http-server auto-logout 120 ! ntp remote-server time.nist.gov ! ! vlan mode 1qvlan gvrp ! snmp-server version v1-v2c snmp-server community public ro snmp-server community private rw snmp-server trap-mode trap ! lldp run lldp timer 30 ! ! dhcp-relay option82 dhcp-relay option82 remote-id-type other dhcp-relay option82 man-id 1234567890123 ! ! interface ethernet 1/1 no shutdown speed-duplex Auto no flowcontrol media cable-mode auto --More--	
Error messages	N/A	
Related commands	show running-config	

show snmp

To check the status of Simple Network Management Protocol (SNMP) communications, use the **show snmp** command.

Commands

show snmp

Syntax Description	**snmp**	Display SNMP configuration
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	

Examples	PT-7828# show snmp
	SNMP Read/Write Settings
	  SNMP Versions : v1-v2c
	  V1,V2c Read Community : public
	  V1,V2c Write/Read Community: private
	Trap Settings
	  1st Trap Server IP/Name :
	  1st Trap Community : public
	  2nd Trap Server IP/Name :
	  2nd Trap Community : public
	Trap Mode
	  Mode : Trap
	Private MIB information
	  Switch Object ID : enterprise.8691.7.15	

Error messages	N/A	
Related commands	snmp-server community snmp-server host snmp-server trap-mode snmp-server user snmp-server version	

show storm-control

Use the **show storm-control** user EXEC command to display the setting of storm protection.

Commands

show storm-control

Syntax Description	**stom-control**	Display storm protection settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show storm-control Storm Supress: Broadcast,DLF	
Error messages	N/A	
Related commands	storm-control	

show system

Use the **show system** command to display system identification settings.

Commands

show system

Syntax Description	**show**	Show running system information
	system	System hardware and software status
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	PT-7828# show system System Information System Name : Managed Redundant Switch 09458 System Location : Xidian No. 135 6F Taiwan System Description : MOXA PT Series Maintainer Information : 8860289191230 MAC Address : 00:90:E8:1D:24:36 System Uptime : 0d0h6m46s	
Error messages	N/A	
Related commands	snmp-server description snmp-server contact snmp-server location	

show users

Use the **show users** user EXEC command to display the username/password configuration.

Commands

show users

Syntax Description	**show**	Show running system information
	users	Display login user settings
Defaults	N/A	
Command Modes	Privileged EXEC/ User EXEC	
Usage Guidelines	N/A	
Examples	EDS-G516E# show users Login account information: Name Authority ---------- ---------- admin admin user user	
Error messages	N/A	
Related commands	username	

show vlan

Use the **show vlan** user EXEC command to display VLAN status information.

Commands

show vlan

Syntax Description	**show**	Show running system information
	vlan	Display VLAN status
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	

Examples	PT-7828# show vlan
	vlan mode: 802.1Q vlan
	mgmt vlan: 1
	
	VLAN 1:
	  Access Ports: 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8,
	  Trunk Ports:
	  Hybrid Ports:
	PT	

Error messages	N/A	
Related commands	N/A	

show vlan config

Use the **show vlan config** user EXEC command to display VLAN configuration information.

Commands

show vlan config

Syntax Description	**show**	Show running system information
	vlan	Display VLAN status
	config	Display VLAN configuration
Defaults	N/A	
Command Modes	Privileged EXEC	
Usage Guidelines	N/A	
Examples	vlan mode: 802.1Q vlan VLAN Ports(Type) ----- ------------------------------ 1 1-1(A), 1-2(A), 1-3(A), 1-4(A), 1-5(A), 1-6(A), 1-7(A), 1-8(A), Port Trunk Native vlan Port Fixed VLAN (Tagged) Port Forbidden VLAN Port Fixed VLAN (Untagged) Current VLAN interface vid: 1, 2,	
Error messages	N/A	
Related commands	interface vlan	

shutdown

To disable an interface, use the **shutdown** interface configuration command. To restart a disabled interface, use the **no** form of this command.

Commands

shutdown

no shutdown

Syntax Description	**shutdown**	Shutdown the selected interface
Defaults	None	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config-if)# shutdown`
	
	`PT-7828(config-if)# no shutdown`	

Error messages	Cannot configure on trunk member port 1/1!	
Related commands	show interfaces ethernet show interfaces trunk	

snmp-server community

To set up the community access string to permit access to the Simple Network Management Protocol (SNMP), use the **snmp-server community** global configuration command.

Commands

snmp-server community *text mode*

Syntax Description	**snmp-server**	Configure SNMP server
	community	SNMP community setting
	text	SNMP community string
	mode	ro | rw
Defaults	Public community is ro Private community is rw	
Command Modes	Global configuration	
Usage Guidelines	Specifies read-only access. Authorized management stations are only able to retrieve MIB objects. Specifies read-write access. Authorized management stations are able to both retrieve and modify MIB objects	
Examples	`PT-7828(config)# snmp-server community public ro`	
Error messages	SNMP community mode must be (ro|rw)!!	
	The longest snmp community string length is 30!!	
Related commands	show snmp	

snmp-server contact

To set the system contact string, use the **snmp-server contact** global configuration command. To remove the contact string, use the **no** form of this command.

Commands

snmp-server contact *text*

no snmp-server contact

Syntax Description	**snmp-server**	Configure SNMP server
	contact	Switch maintainer contact information
	text	Maintainer contact information
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	"*text*" parameter can be set as string separated by space. Maximum string tokens are 5. Maximum length of switch maintainer contact info is 40.	

Examples	`PT-7828(config)# snmp-server contact`
	`  <STRING:token1>      - Maintainer contact information`
	
	`PT-7828(config)# no snmp-server contact`	

Error messages	Length of maintainer info is too long	
Related commands	show snmp	

snmp-server description

To set the system description string, use the **snmp-server description** global configuration command. To remove the description string, use the **no** form of this command.

Commands

snmp-server description *text*

no snmp-server description

Syntax Description	**snmp-server**	Configure SNMP server
	description	Switch description
	text	Description string
Defaults	The default description is the model name.	
Command Modes	Global configuration	
Usage Guidelines	"*text*" parameter can be set as string separated by space. Maximum string tokens are 5. Maximum length of switch maintainer contact info is 40.	

Examples	`PT-7828(config)# snmp-server description MOXA PT Series`
	`PT-7828(config)# exit`
	`PT-7828# show system`
	`System Information`
	`  System Name              : Managed Redundant Switch 09458`
	`  System Location          : Xidian No. 135 6F Taiwan`
	`  System Description       : MOXA PT Series`
	`  Maintainer Information  : 8860289191230`
	`  MAC Address             : 00:90:E8:1D:24:36`
	`  System Uptime            : 0d0h6m46s`	

Error messages	Length of system description is too long	
Related commands	show snmp	

snmp-server host

To specify the recipient of a Simple Network Management Protocol (SNMP) notification operation, use the **snmp-server host** global configuration command. To remove the specified host, use the **no** form of this command

Commands

snmp-server host *host-addr community-string*

no snmp-server host *[host-addr]*

Syntax Description	**snmp-server**	Configure SNMP server
	host	SNMP host setting
	host-addr	SNMP host address
	community-string	SNMP Community string
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# snmp-server host 192.168.127.253 moxacli`
	
	`PT-7828(config)# no snmp-server host`	

Error messages	Trap server are full, please remove at least one first!!!	
Related commands	show snmp	

snmp-server location

To set the system location string, use the **snmp-server location** global configuration command. To remove the location string, use the **no** form of this command.

Commands

snmp-server location *text*

no snmp-server location

Syntax Description	**snmp-server**	Configure SNMP server
	location	Switch location
	text	Location string
Defaults	The default text is Switch Location	
Command Modes	Global configuration	
Usage Guidelines	"*text*" parameter can be set as string separated by space. Maximum string tokens are 5. Maximum length of switch location is 80.	

Examples	`PT-7828(config)# snmp-server location`
	`  <STRING:token1>      - Location string token 1`
	
	`PT-7828(config)# no snmp-server location`	

Error messages	Length of location is too long	
Related commands	show snmp	

snmp-server trap-mode

To enable all Simple Network Management Protocol (SNMP) notifications (traps or informs) available on your system, use the **snmp-server trap-mode** global configuration command. To disable all available SNMP notifications, use the **no** form of this command

Commands

snmp-server trap-mode trap

snmp-server trap-mode trap-v2c

snmp-server trap-mode inform [retry *times* **timeout** *seconds***]**

no snmp-server trap-mode

Syntax Description	**snmp-server**	Configure SNMP server
	trap-mode	SNMP Trap/Inform mode setting
	trap	SNMP Trap
	trap-v2c	SNMP Trap v2c instead of v1
	inform	SNMP Inform
	retry	Inform retries times
	times	1 to 99
	timeout	Timeout timer
	seconds	1 to 300 seconds
Defaults	The default mode is "trap"	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# snmp-server trap-mode trap`
	`PT-7828(config)# snmp-server trap-mode inform retry 3 timeout 10`
	
	`PT-7828(config)# no snmp-server trap-mode`	

Error messages	Invalid inform retries value !!!	
	Invalid inform timeout value !!!	
Related commands	show snmp	

snmp-server user

To configure a user and its authentication type and password to a Simple Network Management Protocol (SNMP), use the **snmp-server user** global configuration command.

Commands

snmp-server user *username* **auth** *auth-type password*

Syntax Description	**snmp-server**	Configure SNMP server
	user	SNMP user setting
	user-privilege	SNMP user privilege
	auth	Specifies which authentication level should be used
	auth-type	no-auth | md5 | sha
	password	Password (maximum 30 characters)
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	username is only allowed to be set as "admin" or "user" auth-type is only allowed to be set as "no-auth", "md5" or "sha"	
Examples	`PT-7828(config)# snmp-server user admin auth md5 moxacli`	
Error messages	SNMP user must be (admin | user)!!	
	SNMP authtype must be (no-auth | md5 | sha)!!	
	Admin/User Password must be at least 8 bytes !!!	
	Admin/User Data Encryption must be at least 8 bytes !!!	
Related commands	show snmp	

snmp-server version

To set up the snmp version, use the **snmp-server version** global configuration command.

Commands

snmp-server version [v1-v2c-v3 | v1-v2c | v3]

Syntax Description	**snmp-server**	Configure SNMP server
	version	SNMP version setting
	v1-v2c-v3	Version 1, 2C and 3 support
	v1-v2c	Version 1 and 2C support
	v3	Only version 3 support
Defaults	Default version is v1-v2c	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# snmp-server version`
	`  v1-v2c-v3  - Version 1, 2C and 3 support`
	`  v1-v2c  - Version 1 and 2C support`
	`  v3  - Only version 3 support`	

Error messages	N/A	
Related commands	show snmp	

spanning-tree forward-delay

Use the **spanning-tree forward-delay** redundancy configuration command on the switch to set the forward-delay time for the spanning-tree. The forwarding time specifies how long each of the listening and learning states last before the interface begins forwarding. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree forward-delay *seconds*

no spanning-tree forward-delay

Syntax Description	**spanning-tree**	Configure spanning tree
	forward-delay	Configure spanning tree BPDU forward delay
	seconds	Range from 4 to 30 seconds
Defaults	Forward delay = 15 sec.	
Command Modes	Redundancy configuration	
Usage Guidelines	2*(hello-time + 1.0 sec) <= max-age <= 2*(forward-delay - 1.0 sec)	
Examples	`PT-7828(config-rdnt)# spanning-tree forward-delay` `  <UINT:seconds>  - Range from 4 to 30 seconds`	
Error messages	The BPDU forward delay time must be in the range from 4 to 30 sec.	
	The formula must be obeyed: 2 x (Hello Time + 1 sec) <= Max age <= 2 x (Forward Delay - 1 sec)	
Related commands	spanning-tree hello-time spanning-tree max-age show redundancy spanning-tree	

spanning-tree hello-time

Use the **spanning-tree hello-time** redundancy configuration command on the switch to set the interval between hello bridge protocol data units (BPDUs) sent by root switch configuration messages. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree hello-time *seconds*

no spanning-tree hello-time

Syntax Description	**spanning-tree**	Configure spanning tree
	hello-time	Configure spanning tree BPDU hello time
	seconds	Range from 1 to 2 seconds
Defaults	Hello time = 2 sec.	
Command Modes	Redundancy configuration	
Usage Guidelines	2*(hello-time + 1.0 sec) <= max-age <= 2*(forward-delay - 1.0 sec)	
Examples	`PT-7828(config-rdnt)# spanning-tree hello-time` `  <UINT:seconds>  - Range from 1 to 2 seconds`	
Error messages	BPDU hello time must be in the range from 1 to 2 sec.	
	The formula must be obeyed: 2 x (Hello Time + 1 sec) <= Max age <= 2 x (Forward Delay - 1 sec)	
Related commands	spanning-tree forward-delay spanning-tree max-age show redundancy spanning-tree	

spanning-tree max-age

Use the **spanning-tree max-age** redundancy configuration command on the switch to set the interval between messages that the spanning tree receives from the root switch. If a switch does not receive a bridge protocol data unit (BPDU) message from the root switch within this interval, it recomputes the spanning-tree topology. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree max-age *seconds*

no spanning-tree max-age

Syntax Description	**spanning-tree**	Configure spanning tree
	max-age	Configure spanning tree max age
	seconds	Range from 6 to 40 seconds
Defaults	Forward delay = 20 sec.	
Command Modes	Redundancy configuration	
Usage Guidelines	2*(hello-time + 1.0 sec) <= max-age <= 2*(forward-delay - 1.0 sec)	
Examples	`PT-7828(config-rdnt)# spanning-tree max-age` `  <UINT:seconds>  - Range from 6 to 40 seconds`	
Error messages	The BPDU forward delay time must be in the range from 4 to 30 sec.	
	The formula must be obeyed: 2 x (Hello Time + 1 sec) <= Max age <= 2 x (Forward Delay - 1 sec)	
Related commands	spanning-tree forward-delay spanning-tree max-age show redundancy spanning-tree	

spanning-tree mst cist cost

Use the **spanning-tree mst cist cost** interface configuration command on the switch to set the port cost of the Multiple Spanning Tree (MSTP). Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst cist cost *cost*

no spanning-tree mst cist cost

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	cist	Configure mstp cist port
	cost	Configure mstp cist port path cost
	cost	Configure mstp cist port path cost
Defaults	cost = 0	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# spanning-tree mst cist cost 2000000` `  <UINT:time>  - Set mstp forwarding delay`	
Error messages	MSTP port path cost must be in the range from 0 to 200000000	
	MSTP port 2/1 path cost set error	
Related commands	show redundancy mst configuration	

spanning-tree mst cist port-priority

Use the **spanning-tree mst cist port-priority** interface configuration command on the switch to set the port priority for the Multiple Spanning Tree (MSTP). Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst cist port-priority *priority*

no spanning-tree mst cist port-priority

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	cist	Configure mstp cist port
	port-priority	Configure mstp cist port priority
	priority	Configure mstp cist port priority
Defaults	priority = 128	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# spanning-tree mst cist port-priority 128` `  <UINT:priority>  - Configure mstp cist port priority`	
Error messages	MSTP port priority must be in the range from 0 to 240	
	MSTP port %s priority set error	
	MSTP port priority should be 16 times the value	
Related commands	show redundancy mst configuration	

spanning-tree mst cist priority

Use the **spanning-tree mst cist priority** redundancy configuration command on the switch to set the switch priority for the Multiple Spanning Tree (MSTP). Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst cist priority *priority*

no spanning-tree mst cist priority

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	cist	Configure mstp cist
	priority	Set mstp cist bridge priority
	priority	Set mstp cist bridge priority
Defaults	priority = 32768	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-rdnt)# spanning-tree mst cist priority 32768` `  <UINT:priority>  - Set mstp cist bridge priority`	
Error messages	MSTP bridge priority must be in the range from 0 to 61140	
	MSTP cist bridge priority set error	
	CIST bridge priority should be 4096 times the value	
Related commands	show redundancy mst cist	

spanning-tree mst edge-port

Use the **spanning-tree mst edge-port** interface configuration command on the switch to enable the Edge port feature for the Multiple Spanning Tree (MSTP). Use the **no** form of this command to disable the setting.

Commands

spanning-tree mst edge-port

no spanning-tree mst edge-port

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	edge-port	Enable mstp edge port
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# spanning-tree mst edge` `  <edge>  - Enable mstp edge port`	
Error messages	MSTP edge port enable set error	
Related commands	show redundancy mst configuration	

spanning-tree mst enable

Use the **spanning-tree mst enable** interface configuration command on the switch to enable the Multiple Spanning Tree (MSTP) feature on the port. Use the **no** form of this command to disable the setting.

Commands

spanning-tree mst enable

no spanning-tree mst

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	enable	Enable mstp port
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# spanning-tree mst enable` `  <enable>  - Enable mstp port`	
Error messages	MSTP port 2-1 enable set error	
Related commands	show redundancy mst configuration	

spanning-tree mst forward-time

Use the **spanning-tree mst forward-time** redundancy configuration command on the switch to set the forward delay of Multiple Spanning Tree (MSTP). Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst forward-time *time*

no spanning-tree mst forward-time

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	forward-time	Set mstp forwarding delay
	time	Set mstp forwarding delay
Defaults	time=15	
Command Modes	Redundancy configuration	
Usage Guidelines	2*(hello-time + 1.0 sec) <= max-age <= 2*(forward-delay - 1.0 sec)	
Examples	`PT-7828(config-rdnt)# spanning-tree mst forward-time 15` `  <UINT:time>  - Set mstp forwarding delay`	
Error messages	MSTP forward delay must be in the range from 4 to 30	
	MSTP forward delay set error	
Related commands	show redundancy mst configuration	

spanning-tree mst hello-time

Use the **spanning-tree mst hello-time** redundancy configuration command on the switch to set the hello time of Multiple Spanning Tree (MSTP). Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst hello-time *time*

no spanning-tree mst hello-time

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	hello-time	set mstp hello time
	time	set mstp hello time
Defaults	time=2	
Command Modes	Redundancy configuration	
Usage Guidelines	2*(hello-time + 1.0 sec) <= max-age <= 2*(forward-delay - 1.0 sec)	
Examples	`PT-7828(config-rdnt)# spanning-tree mst hello-time 1` `  <UINT:time>  - set mstp hello time`	
Error messages	MSTP hello time must be in the range from 1 to 10	
	MSTP hello time set error	
Related commands	show redundancy mst configuration	

spanning-tree mst instance

Use the **spanning-tree mst instance** redundancy configuration command on the switch to setting the MSTP instances. Use the **no** form of this command to remove the setting.

Commands

spanning-tree mst instance *instance-id* **vlan** *vlan-id-list*

no spanning-tree mst instance *instance-id* **vlan** *vlan-id-list*

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	instance	Configure mstp msti
	instance-id	MSTP instance ID
	vlan	Configure mstp msti vlan mapping
	vlan-id-list	Configure mstp msti vlan mapping
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# spanning-tree mst instance 1 vlan 2`
	`  <STRING:instids>  - Configure mstp msti`
	`  <STRING:vidlist>  - Configure mstp msti vlan mapping`	

Error messages	The instance id must be in the range from 1 to 16.	
	vlan 4097 is invalid!! should be range from 1 to 4094	
	The maximum VLAN mapping is 64.	
	The vlan id 2 setting is exist in another instance.	
	MSTI 1 vlan id 2 set error	
Related commands	show redundancy mst instance	

spanning-tree mst instance cost

Use the **spanning-tree mst instance cost** interface configuration command on the switch to set the port cost of the MSTP instances. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst instance *instance-id-list* **cost** *cost*

no spanning-tree mst instance *instance-id-list* **cost**

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	instance	Configure mstp msti port
	instance-id-list	MSTP instance IDs
	cost	Configure mstp msti port path cost
	cost	Configure mstp msti port path cost
Defaults	cost = 0	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# spanning-tree mst cist cost 0` `  <UINT:cost>  - Configure mstp msti port path cost`	
Error messages	MSTP port path cost must be in the range from 0 to 200000000	
	MSTP forward delay set error	
Related commands	show redundancy mst configuration	

spanning-tree mst instance port-priority

Use the **spanning-tree mst instance port-priority** interface configuration command on the switch to set the port priority for the MSTP instances. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst instance *instance-id-list* **port-priority** *priority*

no spanning-tree mst instance *instance-id-list* **port-priority**

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	instance	Configure mstp msti port
	instance-id-list	MSTP instance ID
	port-priority	Configure mstp msti port priority
	priority	Configure mstp msti port priority
Defaults	priority = 128	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config-if)# spanning-tree mst instance 1 port-priority 128`
	`  <STRING:instids>  - Configure mstp msti port priority`
	`  <UINT:priority>  - Configure mstp msti port priority`	

Error messages	MSTP port priority must be in the range from 0 to 240	
	MSTI 2 port 2-1 priority set error	
	MSTI 2 port priority should be 16 times the value	
Related commands	show redundancy mst configuration	

spanning-tree mst instance priority

Use the **spanning-tree mst instance priority** redundancy configuration command on the switch to set the switch priority for the MSTP instances. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst instance *instance-id-list* **priority** *priority*

no spanning-tree mst instance *instance-id-list* **priority**

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	instance	Configure mstp msti
	instance-id	MSTP instance ID
	priority	Set mstp msti bridge priority
	priority	Set mstp msti bridge priority
Defaults	priority = 32768	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-rdnt)# spanning-tree mst instance 1 priority 32768` `  <UINT:priority>  - Set mstp msti bridge priority`	
Error messages	MSTP bridge priority must be in the range from 0 to 61140	
	MSTP cist bridge priority set error	
	MSTI bridge priority should be 4096 times the value	
Related commands	show redundancy mst instance	

spanning-tree mst max-age

Use the **spanning-tree mst max-age** redundancy configuration command on the switch to set the switch maximum age time for Multiple Spanning Tree (MSTP). Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst max-age *age*

no spanning-tree mst max-age

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	max-age	Set mstp max age
	age	Set mstp max age
Defaults	age = 20	
Command Modes	Redundancy configuration	
Usage Guidelines	2*(hello-time + 1.0 sec) <= max-age <= 2*(forward-delay - 1.0 sec)	
Examples	`PT-7828(config-rdnt)# spanning-tree mst max-age 10` `  <UINT:age>  - Set mstp max age`	
Error messages	MSTP max age must be in the range from 6 to 40	
	MSTP max age set error	
Related commands	show redundancy mst configuration	

spanning-tree mst max-hops

Use the **spanning-tree max-hops** redundancy configuration command on the switch to set the switch maximum hop number for Multiple Spanning Tree (MSTP). Use the **no** form of this command to return to the default setting.

Commands

spanning-tree mst max-hops *hops*

no spanning-tree mst max-hops

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	max-hops	Set mstp max hops
	hops	Set mstp max hops
Defaults	hops = 20	
Command Modes	Redundancy configuration	
Usage Guidelines	2*(hello-time + 1.0 sec) <= max-age <= 2*(forward-delay - 1.0 sec)	
Examples	`PT-7828(config-rdnt)# spanning-tree mst max-hops 10` `  <UINT:hops>  - Set mstp max hops`	
Error messages	MSTP max hops must be in the range from 6 to 40	
	MSTP max hops set error	
Related commands	show redundancy mst configuration	

spanning-tree mst name

Use the **spanning-tree mst name** redundancy configuration command on the switch stack to set the name of MSTP region for the spanning-tree.

Commands

spanning-tree mst name *region-name*

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	name	Set mstp regional name
	region-name	Set mstp regional name
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-rdnt)# spanning-tree mst name mstp` `  <STRING:region>  - Set mstp reginal name`	
Error messages	The length of mstp regional name should be smaller than 32	
	MSTP regional name set error	
Related commands	show redundancy mst instance	

spanning-tree mst revision

Use the **spanning-tree mst revision** redundancy configuration command on the switch to set revision level for Multiple Spanning Tree (MSTP).

Commands

spanning-tree mst revision *revision-level*

Syntax Description	**spanning-tree**	Configure spanning tree
	mst	Configure mstp
	revision	Set mstp revision level
	revision-level	Set mstp revision level
Defaults	revision-level = 0	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-rdnt)# spanning-tree mst revision 1` `  <UINT:level>  - Set mstp revision level`	
Error messages	MSTP revision level must be in the range from 0 to 65535	
	MSTP revision level set error	
Related commands	show redundancy mst configuration	

spanning-tree priority

Use the **spanning-tree priority** redundancy configuration command on the switch to set the switch priority for the spanning-tree. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree priority *priority*

no spanning-tree priority

Syntax Description	**spanning-tree**	Configure spanning tree
	priority	Configure spanning tree bridge priority
	priority	Range from 0 to 61440, and must be the multiples of 4096
Defaults	priority = 32768	
Command Modes	Redundancy configuration	
Usage Guidelines	0 <= priority <= 61440, and must be multiples of 4096.	
Examples	`PT-7828(config-rdnt)# spanning-tree priority` `  <UINT:prio>  - Range from 0 to 61440, in steps of 4096`	
Error messages	The bridge priority must be in the range from 0 to 61440	
	The bridge priority must be the multiples of 4096	
Related commands	show redundancy spanning-tree	

spanning-tree

Use the **spanning-tree** interface configuration command on the switch to enable the spanning-tree feature of the specified interfaces. Use the **no** form of this command to disable it.

Commands

spanning-tree

no spanning-tree

Syntax Description	**spanning-tree**	Enable spanning tree
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# spanning-tree`	
Error messages	Cannot configure on trunk member port 1/1!	
Related commands	redundancy mode show redundancy spanning-tree	

spanning-tree cost

Use the **spanning-tree cost** interface configuration command on the switch to set the path cost for spanning-tree algorithms calculations. If a loop occurs, spanning tree considers the path cost when selecting an interface to put in the forwarding state. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree cost *cost*

no spanning-tree cost

Syntax Description	**spanning-tree**	Enable spanning tree
	cost	Configure port path cost
	cost	Range from 1 to 200000000
Defaults	cost = 200000	
Command Modes	Interface configuration	
Usage Guidelines	1 <= Cost <= 200000000	
Examples	`PT-7828(config-if)# spanning-tree cost` `  <UINT:cost>  - Range from 1 to 200000000`	
Error messages	Cost value must be in the range 1 to 200000000	
	Cannot configure on trunk member port 1/1!	
Related commands	show redundancy spanning-tree	

spanning-tree edge-port

Use the **spanning-tree edge-port** interface configuration command on the switch to enable the Edge Port feature on an interface in all its associated VLANs. When the Edge Port feature is enabled, the interface changes directly from a blocking state to a forwarding state without making the intermediate spanning-tree state changes. Use the **no** form of this command to disable the feature.

Commands

spanning-tree edge-port { auto | force }

no spanning-tree edge-port

Syntax Description	**spanning-tree**	Enable spanning tree
	edge-port	Configure as edge port
	auto	Auto determine as edge port
	force	Force the port as edge port
Defaults	port-fast = auto	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config-if)# spanning-tree edge-port`
	`  auto  - Auto determine as edge port`
	`  force  - Force the port as edge port`	

Error messages	Cannot configure on trunk member port 1/1!	
Related commands	show redundancy spanning-tree	

spanning-tree priority

Use the **spanning-tree priority** interface configuration command on the switch to set the interfaces priority for the spanning-tree. Use the **no** form of this command to return to the default setting.

Commands

spanning-tree priority *prioriy*

no spanning-tree priority

Syntax Description	**spanning-tree**	Enable spanning tree
	priority	Configure port priority
	priority	Range from 0 to 240, in steps of 16
Defaults	priority = 128	
Command Modes	interface configuration	
Usage Guidelines	0 <= priority <= 240, and must be multiples of 16.	
Examples	`PT-7828(config-rdnt)# spanning-tree priority` `  <UINT:prio>  - Range from 0 to 61440, in steps of 4096`	
Error messages	The bridge priority must be in the range from 0 to 240	
	The bridge priority must be multiples of 16	
Related commands	show redundancy spanning-tree	

speed-duplex

Use the **speed-duplex** interface configuration command to specify the speed of the interface and its duplex mode. Use the **no** form of this command to return the interface to its default value.

Commands

speed-duplex {10M-Full | 10M-Half | 100M-Full| 100M-Half | 1G-Full | Auto}

no speed-duplex

Syntax Description	**speed-duplex**	Configure speed and duplex operation
	10M-Full	Speed 10M-full
	10M-Half	Speed 10M-Half
	100M-Full	Speed 100M-Full
	100M-Half	Speed 100M-Half
	1G-Full	Speed 1G-Full
	Auto	Speed Auto
Defaults	The default is **Auto**	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config)# interface ethernet 1/1` `PT-7828(config-if)# speed-duplex 100M-Full`	
Error messages	Fiber port can not be set speed-duplex!!!	
	This port can not be set to 1G!!!	
	Parameter does not be defined!!!	
	Cannot configure on trunk member port 1/1	
	This setting cannot be applied on trunk port!	
Related commands	show interfaces ethernet	

storm-control

Use the **storm-control** global configuration command on the switch to enable the storm protection. Use the **no** form of this command to disable it or return to the default.

Commands

storm-control { bcast | mcast }

no storm-control bcast

no storm-control mcast

no storm-control

Syntax Description	**storm-control**	Storm protection
	bcast	Storm protection for broadcast traffic
	mcast	Storm protection for Multicast traffic
Defaults	The broadcast storm protection is default enabled.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	storm-control bcast - Storm protection for broadcast traffic mcast - Storm protection for Multicast traffic	
Error messages	N/A	
Related commands	show storm-control	

switchport access vlan

Use the **switchport access vlan** interface configuration command on the switch to configure a port as a static-access or dynamic-access port. If the switchport mode is set to access, the port operates as a member of the specified VLAN. If set to dynamic, the port starts discovery of VLAN assignment based on the incoming packets it receives. Use the **no** form of this command to reset the access mode to the default VLAN for the switch.

Commands

switchport access vlan *vlan-id*

no switchport access vlan

Syntax Description	**switchport**	Set switching mode characteristics
	access	Set access mode characteristics of the interface
	vlan	Set (default) pvid in access mode
	vlan-id	1 to 4094
Defaults	vlan-id = 1	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	PT-7828(config-if)# switchport access vlan 2 <UINT:vlanid> - 1 to 4094	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
Related commands	show vlan show vlan config	

switchport hybrid fixed vlan add

Use the **switchport hybrid fixed vlan add** interface configuration command on the switch to add the trunk hybrid characteristics when the interface is in hybrid mode. Use the **no** form of this command to reset to the default.

Commands

switchport hybrid fixed vlan add *vlan-id-list* **tag**

switchport hybrid fixed vlan add *vlan-id-list* **untag**

no switchport hybrid fixed vlan tag

no switchport hybrid fixed vlan untag

Syntax Description	**switchport**	Set switching mode characteristics
	hybrid	Set hybrid mode characteristics of the interface
	fixed	Set fixed VLAN characteristics
	vlan	1 to 4094
	add	Add VLANs to the current list
	vlan-id-list	VLAN IDs of the VLANs
	untag	Configure egress traffic as VLAN untagged traffic
	tag	Configure egress traffic as VLAN tagged traffic
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport hybrid fixed vlan add 1,3-5,7 tag` `  <STRING:vlanids>     - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan show vlan config switchport trunk hybrid vlan remove	

switchport hybrid forbidden vlan add

Use the **switchport hybrid forbidden vlan add** interface configuration command on the switch to add the trunk forbidden characteristics when the interface is in hybrid mode. Use the **no** form of this command to reset to the default.

Commands

switchport hybrid forbidden vlan add *vlan-id-list*

no switchport hybrid forbidden vlan

Syntax Description	**switchport**	Set switching mode characteristics
	hybrid	Set hybrid mode characteristics of the interface
	forbidden	Set forbidden VLAN characteristics
	vlan	1 to 4094
	add	Add VLANs to the current list
	vlan-id-list	VLAN IDs of the VLANs
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport hybrid forbidden vlan add 1,3-5,7` `  <STRING:vlanids>     - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan show vlan config switchport hybrid forbidden vlan remove	

switchport hybrid forbidden vlan remove

Use the **switchport hybrid forbidden vlan remove** interface configuration command on the switch to remove the trunk forbidden characteristics when the interface is in hybrid mode. Use the **no** form of this command to reset to the default.

Commands

switchport hybrid forbidden vlan remove *vlan-id-list*

no switchport hybrid forbidden vlan

Syntax Description	**switchport**	Set switching mode characteristics
	hybrid	Set hybrid mode characteristics of the interface
	forbidden	Set forbidden VLAN characteristics
	vlan	1 to 4094
	remove	Remove VLANs from the current list
	vlan-id-list	VLAN IDs of the VLANs
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport hybrid forbidden vlan remove 1,3-5,7` `  <STRING:vlanids>     - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan show vlan config switchport hybrid forbidden vlan add	

switchport hybrid native vlan

Use the **switchport hybrid native vlan** interface configuration command on the switch to configure PVID of a port. Use the **no** form of this command to return to the default PVID.

Commands

switchport hybrid native vlan *vlan-id*

no switchport hybrid native vlan

Syntax Description	**switchport**	Set switching mode characteristics
	hybrid	Set hybrid mode characteristics of the interface
	native	Set trunking native characteristics
	vlan	Set pvid vlanid in hybrid mode
	vlan-id	1 to 4094
Defaults	vlan-id = 1	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport hybrid native vlan 2` `  <UINT:vlanid>  - 1 to 4094`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
Related commands	show vlan show vlan config	

switchport pvlan

Use the **switchport pvlan** interface configuration command on the switch stack to define a port-based VLAN association for an isolated or community port or a mapping for a promiscuous port. Use the **no** form of this command to remove the port-based VLAN association or mapping from the port.

Commands

switchport pvlan *vlan-groups*

no switchport pvlan *vlan-groups*

Syntax Description	**switchport**	Set switching mode characteristics
	pvlan	Configure port-based vlan
	vlan-groups	Set/unset port-based vlan group
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# switchport pvlan 2,3,4` `  <STRING:groups>  - set port-based vlan group`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
Related commands	show vlan show vlan config	

switchport trunk fixed vlan add

Use the **switchport trunk fixed vlan add** interface configuration command on the switch to add the trunk characteristics when the interface is in trunking mode. Use the **no** form of this command to reset a trunking characteristic to the default.

Commands

switchport trunk fixed vlan add *vlan-id-list*

no switchport trunk fixed vlan

Syntax Description	**switchport**	Set switching mode characteristics
	trunk	Set trunking mode characteristics of the interface
	fixed	Set fixed VLAN characteristics
	vlan	1 to 4094
	add	Add VLANs to the current list
	vlan-id-list	VLAN IDs of the VLANs
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport trunk fixed vlan add 1,3-5,7` `  <STRING:vlanids>  - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan show vlan config switchport trunk fixed vlan remove	

switchport trunk fixed vlan remove

Use the **switchport trunk fixed vlan remove** configuration command on the switch stack to remove the trunk characteristics when the interface is in trunking mode. Use the **no** form of this command to reset a trunking characteristic to the default.

Commands

switchport trunk fixed vlan remove *vlan-id-list*

no switchport trunk fixed vlan

Syntax Description	**switchport**	Set switching mode characteristics
	trunk	Set trunking mode characteristics of the interface
	fixed	Set fixed VLAN characteristics
	vlan	1 to 4094
	remove	Remove VLANs from the current list
	vlan-id-list	VLAN IDs of the VLANs
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport trunk fixed vlan remove 1,3-5,7` `  <STRING:vlanids>  - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan show vlan config switchport trunk fixed vlan add	

switchport trunk forbidden vlan add

Use the **switchport trunk forbidden vlan add** configuration command on the switch to add the trunk forbidden characteristics when the interface is in trunking mode. Use the **no** form of this command to reset a trunking characteristic to the default.

Commands

switchport trunk forbidden vlan add *vlan-id-list*

no switchport trunk forbidden vlan

Syntax Description	**switchport**	Set switching mode characteristics
	trunk	Set trunking mode characteristics of the interface
	forbidden	Set forbidden VLAN characteristics
	vlan	1 to 4094
	add	Add VLANs to the current list
	vlan-id-list	VLAN IDs of the VLANs
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport trunk forbidden vlan add 1,3-5,7` `  <STRING:vlanids>     - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan show vlan config switchport trunk forbidden vlan remove	

switchport trunk forbidden vlan remove

Use the **switchport trunk forbidden vlan remove** configuration command on the switch stack or on a standalone switch to remove the trunk forbidden characteristics when the interface is in trunking mode. Use the **no** form of this command to reset a trunking characteristic to the default.

Commands

switchport trunk forbidden vlan remove *vlan-id-list*

no switchport trunk forbidden vlan

Syntax Description	**switchport**	Set switching mode characteristics
	trunk	Set trunking mode characteristics of the interface
	forbidden	Set forbidden VLAN characteristics
	vlan	1 to 4094
	remove	Remove VLANs from the current list
	vlan-id-list	VLAN IDs of the VLANs
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport trunk forbidden vlan remove 1,3-5,7` `  <STRING:vlanids>     - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan show vlan config switchport trunk forbidden vlan add	

switchport trunk native vlan

Use the **switchport trunk native vlan** interface configuration command on the switch to configure PVID of a port as a trunking port. Use the **no** form of this command to return to the default.

Commands

switchport trunk native vlan *vlan-id*

no switchport trunk native vlan

Syntax Description	**switchport**	Set switching mode characteristics
	trunk	Set trunking mode characteristics of the interface
	native	Set trunking native characteristics
	vlan	Set pvid vlanid in trunk mode
	vlan-id	1 to 4094
Defaults	vlan-id = 1	
Command Modes	Interface configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config-if)# switchport trunk native vlan 2` `  <UINT:vlanid>  - 1 to 4094`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
Related commands	show vlan show vlan config	

trunk-group

Use the **trunk-group** interface configuration command on the switch to assign an Ethernet port to a trunk group. Use the **no** form of this command to remove an Ethernet port from a trunk group.

Commands

trunk-group *trunk_id*

no trunk-group

Syntax Description	**trunk-group**	Join trunk group as members
	trunk_id	Trunk ID. From 1 to 4
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-if)# trunk-group` `  <UINT:trunk_id>  - Trunk ID. From 1 to 4`	
Error messages	This setting cannot be applied on trunk port!	
	Trunk ID is only allowed from 1 to 4	
Related commands	show interfaces trunk	

trunk-mode

Use the **trunk-mode** interface configuration command on the switch to set the trunk mode of the specified trunk group. Use the **no** form of this command to return to the default setting.

Commands

trunk-mode { static | lacp }

no trunk-mode

Syntax Description	**trunk-mode**	Trunk mode configuration
	static	Configure as static trunk
	lacp	Configure as LACP trunk
Defaults	The default trunk mode of creating trunk manually is static.	
Command Modes	Interface configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config-if)# trunk-mode`
	`  static  - Configure as static trunk`
	`  lacp  - Configure as LACP trunk`	

Error messages	This setting cannot be applied on normal port!	
Related commands	show interfaces trunk	

turbo-chain

Use the **turbo-chain** redundancy configuration command on the switch stack or on a standalone switch to configure Turbo Chain.

Commands

turbo-chain role {head | member | tail} primary interface *module/port* **secondary interface** *module/port*

Syntax Description	**turbo-chain**	Configure turbo chain
	role	Turbo chain role setting
	head	Turbo chain role head setting
	member	Turbo chain role member setting
	tail	Turbo chain role tail setting
	primary	Turbo chain primary port setting
	interface	Turbo chain port interface setting
	secondary	Turbo chain secondary port setting
	module/port	Port ID. E.g., 1/3, 2/1,...
Defaults	N/A	
Command Modes	redundancy configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-rdnt)# turbo-chain role head primary interface 1/1 secondary interface 1/2`	
Error messages	N/A	
Related commands	show redundancy turbo-chain	

turbo-ring-v1

Use the **turbo-ring-v1** redundancy configuration command on the switch to enable the Turbo Ring v1 with specified Ring ports.

Commands

turbo-ring-v1 primary interface *primary-port* **secondary interface** *secondary-port*

Syntax Description	**turbo-ring-v1**	Configure turbo ring v1
	primary	Turbo ring v1 ring ports setting
	interface	Turbo ring v1 ring ports setting
	primary-port	Port ID. E.g., 1/3, Trk2,...
	secondary	Turbo ring v1 ring ports setting
	interface	Turbo ring v1 ring ports setting
	secondary-port	Port ID. E.g., 1/3, Trk2,...
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config-rdnt)# turbo-ring-v1 primary interface 2/1 secondary interface 2/2`
	`  <STRING:pri_port>  - Port ID. E.g., 1/3, Trk2,...`
	`  <STRING:sec_port>  - Port ID. E.g., 1/3, Trk2,...`	

Error messages	Interface 2-1 not exist	
	One port is the same in ring ports or coupling ports	
Related commands	show turbo-ring-v1	

turbo-ring-v1 coupling

Use the **turbo-ring-v1 coupling** redundancy configuration command on the switch to set the coupling for Turbo Ring v1. Use the **no** form of this command to disable it.

Commands

turbo-ring-v1 coupling interface *primary-port* **coupling-control-port interface** *secondary-port*

no turbo-ring-v1 coupling

Syntax Description	**turbo-ring-v1**	Configure turbo ring v1
	coupling	Configure ring coupling
	interface	Turbo ring v1 ring ports setting
	primary-port	Primary port ID. E.g., 1/3, Trk2,...
	coupling-control-port	Turbo ring v1 coupling ports setting
	interface	Turbo ring v1 ring ports setting
	secondary-port	Secondary port ID. E.g., 1/3, Trk2,...
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config-rdnt)# turbo-ring-v1 coupling interface 2/1 coupling-control-port interface 2/2`
	`  <STRING:pri_port>  - Port ID. E.g., 1/3, Trk2,...`
	`  <STRING:sec_port>  - Port ID. E.g., 1/3, Trk2,...`	

Error messages	Interface 2-1 not exist	
	One port is the same in ring ports or coupling ports	
Related commands	show turbo-ring-v1	

turbo-ring-v1 master

Use the **turbo-ring-v1 master** redundancy configuration command on the switch to set the switch as the Turbo Ring v1 Master. Use the **no** form of this command to return to the normal Turbo Ring v1 member.

Commands

turbo-ring-v1 master

no turbo-ring-v1 master

Syntax Description	**turbo-ring-v1**	Configure turbo ring v1
	master	Set ring as master
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-rdnt)# turbo-ring-v1 master` `  master  - Set ring as master`	
Error messages	N/A	
Related commands	show turbo-ring-v1	

turbo-ring-v2

Use the **turbo-ring-v2** redundancy configuration command on the switch to configure the Turbo Ring v2 with specified Ring ports. Use the **no** form of this command to disable the specified ring.

Commands

turbo-ring-v2 *ring-id* **primary interface** *primary-port* **secondary interface** *secondary-port*

no turbo-ring-v2 *ring-id*

Syntax Description	**turbo-ring-v2**	Configure turbo ring v2
	ring-id	Turbo ring v2 ring id
	primary	Turbo ring v2 ring ports setting
	interface	Turbo ring v2 ring ports setting
	primary-port	Port ID. E.g., 1/3, 2/1,...
	secondary	Turbo ring v2 ring ports setting
	interface	Turbo ring v2 ring ports setting
	secondary-port	Port ID. E.g., 1/3, 2/1,...
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	At least enable one turbo-ring domain or coupling. But cannot enable two turbo-ring domains and coupling in the same time.	

Examples	`PT-7828(config-rdnt)# turbo-ring-v2 1 primary interface 2/1 secondary interface 2/2`
	`  <STRING:pri_port>    - Port ID. E.g., 1/3, Trk2,...`
	`  <STRING:sec_port>    - Port ID. E.g., 1/3, Trk2,...`	

Error messages	Turbo ring v2 only supports maximum 2 ring domains	
	Interface 2-1 not exist	
	Ring1: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Ring2: One port couldn't be set as Ring1 redundant port simultaneously !!!	
	Coupling: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Primary port couldn't be set as Ring2 redundant port simultaneously !!!	
	Backup port couldn't be set as Ring2 redundant port simultaneously !!!	
	Coupling port couldn't be set as Ring2 redundant port simultaneously !!!	
	Please select at least one Ring!!!	
	Ring1, ring2, coupling couldn't be enabled simultaneously!!!	
	Please enable one Ring in "Ring Coupling" mode!!!	
Related commands	show turbo-ring-v2	

turbo-ring-v2 coupling backup

Use the **turbo-ring-v2 coupling** redundancy configuration command on the switch to configure the backup port of Ring coupling for Turbo Ring v2. Use the **no** form of this command to disable the coupling.

Commands

turbo-ring-v2 coupling backup interface *backup-port*

no turbo-ring-v2 coupling

Syntax Description	**turbo-ring-v2**	Configure turbo ring v2
	coupling	Configure ring coupling
	backup	Configure ring coupling mode
	interface	Turbo ring v2 coupling ports setting
	backup-port	Port ID. E.g., 1/3, 2/1,...
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	At least enable one turbo-ring domain or coupling. But cannot enable two turbo-ring domains and coupling in the same time.	
Examples	`PT-7828(config-rdnt)# turbo-ring-v2 coupling backup interface 2/1` `  <STRING:pri_port>    - Port ID. E.g., 1/3, Trk2,...`	
Error messages	Turbo ring v2 only supports maximum 2 ring domains	
	Ring1: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Ring2: One port couldn't be set as Ring1 redundant port simultaneously !!!	
	Coupling: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Primary port couldn't be set as Ring2 redundant port simultaneously !!!	
	Backup port couldn't be set as Ring2 redundant port simultaneously !!!	
	Coupling port couldn't be set as Ring2 redundant port simultaneously !!!	
	Please select at least one Ring!!!	
	Ring1, ring2, coupling couldn't be enabled simultaneously!!!	
	Please enable one Ring in "Ring Coupling" mode!!!	
Related commands	show turbo-ring-v2	

turbo-ring-v2 coupling dual-homing

Use the **turbo-ring-v2 coupling dual-homing** redundancy configuration command on the switch to enable dual homing feature of Ring coupling for the Turbo Ring v2. Use the **no** form of this command to disable it.

Commands

turbo-ring-v2 coupling dual-homing primary interface *primary-port* **backup interface** *secondary-port*

no turbo-ring-v2 coupling

Syntax Description	**turbo-ring-v2**	Configure turbo ring v2
	coupling	Configure ring coupling
	dual-homing	Configure dual homing mode
	primary	Turbo ring v2 ring ports setting
	interface	Turbo ring v2 ring ports setting
	primary-port	Port ID. E.g., 1/3, 2/1,...
	backup	Turbo ring v2 ring ports setting
	interface	Turbo ring v2 ring ports setting
	secondary-port	Port ID. E.g., 1/3, 2/1,...
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	At least enable one turbo-ring domain or coupling. But cannot enable two turbo-ring domains and coupling in the same time.	

Examples	`PT-7828(config-rdnt)# turbo-ring-v2 coupling dual-homing primary interface 2/1 secondary interface 2/2`
	`<STRING:pri_port> - Port ID. E.g., 1/3, Trk2,...`
	`<STRING:sec_port> - Port ID. E.g., 1/3, Trk2,...`	

Error messages	Turbo ring v2 only supports maximum 2 ring domains	
	Ring1: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Ring2: One port couldn't be set as Ring1 redundant port simultaneously !!!	
	Coupling: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Primary port couldn't be set as Ring2 redundant port simultaneously !!!	
	Backup port couldn't be set as Ring2 redundant port simultaneously !!!	
	Coupling port couldn't be set as Ring2 redundant port simultaneously !!!	
	Please select at least one Ring!!!	
	Ring1, ring2, coupling couldn't be enabled simultaneously!!!	
	Please enable one Ring in "Ring Coupling" mode!!!	
Related commands	show turbo-ring-v2	

turbo-ring-v2 coupling primary

Use the **turbo-ring-v2 coupling primary** redundancy configuration command on the switch to configure the primary port of Ring coupling for Turbo Ring v2. Use the **no** form of this command to return to the default setting.

Commands

turbo-ring-v2 coupling primary interface *primary-port*

no turbo-ring-v2 coupling

Syntax Description	**turbo-ring-v2**	Configure turbo ring v2
	coupling	Configure ring coupling
	primary	Configure ring coupling mode
	interface	Turbo ring v2 coupling ports setting
	primary-port	Port ID. E.g., 1/3, 2/1,...
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	At least enable one turbo-ring domain or coupling. But cannot enable two turbo-ring domains and coupling in the same time.	
Examples	`PT-7828(config-rdnt)# turbo-ring-v2 coupling primary interface 2/1` `  <STRING:pri_port>    - Port ID. E.g., 1/3, Trk2,...`	
Error messages	Turbo ring v2 only supports maximum 2 ring domains	
	Ring1: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Ring2: One port couldn't be set as Ring1 redundant port simultaneously !!!	
	Coupling: One port couldn't be set as 1st and 2nd redundant port simultaneously !!!	
	Primary port couldn't be set as Ring2 redundant port simultaneously !!!	
	Backup port couldn't be set as Ring2 redundant port simultaneously !!!	
	Coupling port couldn't be set as Ring2 redundant port simultaneously !!!	
	Please select at least one Ring!!!	
	Ring1, ring2, coupling couldn't be enabled simultaneously!!!	
	Please enable one Ring in "Ring Coupling" mode!!!	
Related commands	show turbo-ring-v2	

turbo-ring-v2 master

Use the t**urbo-ring-v2 master** redundancy configuration command on the switch to configure the switch as the Ring Master of specified ring for Turbo Ring v2. Use the **no** form of this command to configure the switch as the normal member of specified ring for Turbo Ring v2.

Commands

turbo-ring-v2 *ring-id* **master**

no turbo-ring-v2 *ring-id* **master**

Syntax Description	**turbo-ring-v2**	Configure turbo ring v2
	ring-id	Turbo ring v2 ring id
	master	Set turbo ring v2 ring id as master
Defaults	N/A	
Command Modes	Redundancy configuration	
Usage Guidelines	N/A	
Examples	`PT-7828(config-rdnt)# turbo-ring-v2 1 master` `  master                - Set turbo ring v2 ring id as master`	
Error messages	Turbo ring v2 only supports maximum 2 ring domains	
Related commands	show turbo-ring-v2	

trusted-access

Same as **access-ip**.

Commands

trusted-access *[ip-address netmask]*

no trusted-access *[ip-address netmask]*

Syntax Description	**trusted-access**	Enable the trusted IP list for access
	ip-address	IP address
	netmask	IP netmask
Defaults	The feature is disabled by default.	
Command Modes	VLAN configuration as management VLAN	
Usage Guidelines	This feature will take effect when the "**trusted-access**" command is executed.	

Examples	`PT-7828(config)# interface mgmt`
	`PT-7828(config-vlan)# trusted-access 10.10.10.10 255.255.255.0`
	`  <IPV4ADDR:ipaddr>  - IP address`
	`  <IPV4ADDR:netmask>  - IP netmask`
	`PT-7828(config-vlan)# trusted-access`	

Error messages	Trusted access ip list full	
	IP: IP-format mask: mask-format does not exist in trusted access IP list	
Related commands	show interface mgmt trusted-access	

username

Use the **username** global configuration command on the switch to set the username and password of the local login user. Use the **no** form of this command will clear the password setting of the specified user.

Commands

username { admin | user } password *password*

no username { admin | user } password

Syntax Description	**username**	Configuration for login account authentication
	username	User name
	privilege	Privilege for account
	privilege-level	3 values, "admin" and "user" for account leve, "no login" indicates account as non-login user
	password	Specify the password
	password	Password string (Length of password should be from 4 to 16, and empty password is no longer allowed)
Defaults	There is no password for each user	
Command Modes	Global configuration	
Usage Guidelines	N/A	

Examples	`PT-7828(config)# username admin password 1234`
	`  <LF>`
	`PT-7828(config)# username user password 5678`
	`  <LF>`	

Error messages	N/A	
Related commands	show users	

version

Use the **version** command in router configuration mode as RIP on the switch to change the version of the current running RIP.

Commands

version *version*

Syntax Description	**version**	Set RIP version
	version	1 | 2 | 1c
Defaults	Default is 1 (i.e. RIP version 1)	
Command Modes	Router configuration as RIP	
Usage Guidelines	N/A	

Examples	`PT-7828# configure terminal`
	`PT-7828(config)# router rip`
	`PT-7828(config-rip)# version 2`
	`PT-7828(config-rip)#`
	`PT-7828# show ip rip`
	`RIP Protocol : Enable`
	`RIP version : V2`
	`Distribution`
	`Connected : Enable`
	`Static : Disable`
	`OSPF : Disable`
	
	`RIP Enable Table`
	`Interface Name IP VID Enable`
	`vlan2if 192.168.102.1 2 Enable`	

Error messages	Invalid version	
Related commands	N/A	

vlan create

Use the **vlan create** global configuration command on the switch to create a VLAN in the VLAN database. Use the **no** form of this command to delete a VLAN.

Commands

vlan create *vlan-id-list*

no vlan create *vlan-id-list*

Syntax Description	**vlan**	Configure VLAN parameters
	create	Configure VLAN parameters
	vlan-id-list	VLAN IDs of the VLANs
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	You can only use this command mode for configuring normal-range VLANs, that is, VLAN IDs 1 to 4094.	
Examples	`PT-7828(config)# vlan create 1,3-5,7` `<STRING:vlanids> - VLAN IDs of the VLANs`	
Error messages	vlan 4097 is invalid!! should be range from 1 to 4094	
	vlan interfaces are full, total vlan interface is 64 !!	
Related commands	show vlan config	

vlan mode

Use the **vlan mode** configuration command on the switch to change current VLAN mode operated on the switch. Use the **no** form of this command to return to the default.

Commands

vlan mode { 1qvlan | pvlan | unaware }

no vlan mode

Syntax Description	**vlan**	Configure VLAN parameters
	mode	Set (default) vlan mode
	1qvlan	IEEE 802.1Q
	pvlan	Port-based vlan
	unaware	Unaware vlan
Defaults	The default mode is 802.1Q mode in the product with 802.1Q supported; otherwise is port-based VLAN mode.	
Command Modes	Global configuration	
Usage Guidelines	N/A	
Examples	PT-7828(config)# vlan mode 1qvlan 1qvlan - IEEE 802.1Q pvlan - Port-based vlan unaware - Unaware vlan	
Error messages	N/A	
Related commands	show vlan	

vrrp

To configure the Virtual Router Redundancy Protocol (VRRP) on an interface, use the **vrrp** command in VRRP interface configuration mode. To disable the VRRP configuration, use the **no** form of this command

Commands

vrrp

vrrp *vrid* **vrip** *ip-address*

no vrrp

Syntax Description	**vrrp**	VRRP interface setting
	vrid	VRRP interface virtual router ID
	vrip	set virtual router ID and virtual IP
	ip-address	virtual IP(IPv4 address)
Defaults	VRRP is not configured	
Command Modes	VRRP interface configuration	
Usage Guidelines	Use **vrrp** command in VLAN configuration mode to enable vrrp in the VLAN interface.	

Examples	`PT-7828(config-vlan)# vrrp 1 vrip 1.1.1.1`
	
	`PT-7828(config-vlan)# no vrrp`	

Error messages	Entry not Found!	
Related commands	vrrp preempt vrrp priority show ip vrrp	

vrrp preempt

VRRP preempt is enabled by default. This means that a VRRP router with higher priority than the master VRRP router will take over as master router. To disable this feature, use the **no** form of this command.

Commands

vrrp preempt

no vrrp preempt

Syntax Description	**vrrp**	VRRP interface setting
	preempt	VRRP preemption mode enable VRRP preemption mode disable
Defaults	VRRP preempt is enable	
Command Modes	VRRP interface configuration	
Usage Guidelines	Use **vrrp** command in VLAN configuration mode to enable vrrp in the VLAN interface.	

Examples	`PT-7828(config-vlan)# vrrp preempt`
	
	`PT-7828(config-vlan)# no vrrp preempt`	

Error messages	Entry not Found!	
Related commands	vrrp vrrp priority	

vrrp priority

To set the priority of the virtual router, use the **vrrp priority** command in VRRP interface configuration mode. To remove the priority of the virtual router, use the **no** form of this command.

Commands

vrrp priority

no vrrp priority

Syntax Description	**vrrp**	VRRP interface setting
	priority	VRRP priority (1 to 254) Set VRRP priority to default(100)
Defaults	priority 100	
Command Modes	VRRP interface configuration	
Usage Guidelines	Use **vrrp** command in VLAN configuration mode to enable vrrp in the VLAN interface.	

Examples	`PT-7828(config-vlan)# vrrp priority 100`
	
	`PT-7828(config-vlan)# no vrrp priority`	

Error messages	Entry not Found!	
	Invalid parameters!	
Related commands	vrrp vrrp preempt	

warning-notification port-event

Use **warning-notification port-event** interface configuration commands to enable the port warning events trigger to email, relay, syslog or trap. Use **no** form of this command to disable it.

Commands

warning-notification port-event {event { link-on | link-off | traffic-overload *rx-threshold duration*} **| action** *action-index* **|severity** *severity-level* **| active}**

no warning-notification port-event {event { link-on | link-off | traffic-overload} | active}

Syntax Description	**warning-notification**	Warning notification
	port-event	Port event setting
	event	Select and configure event
	link-on	Link ON
	link-off	Link OFF
	traffic-overload	Traffic overloading
	rx-threshold	0 ~ 100
	duration	1 ~ 300
	action	Enable Action setting
	action-index	0 ~ 31
	severity	Severity setting
	severity-level	0 ~ 7
	active	Activate
Defaults	N/A	
Command Modes	Interface configuration	
Usage Guidelines	action-index as follow, Trap only(1), Email only(2), Trap+Email(3), Syslog only(4), Trap+Syslog(5), Email+Syslog(6), Trap+Email+Syslog(7), Relay1 only(8), Trap+Relay1(9), Email+Relay1(10), Trap+Email+Relay1(11), Syslog+Relay1(12), Trap+Syslog+Relay1(13), Email+Syslog+Relay1(14), Trap+Email+Syslog+Relay1(15), Relay2 only(16), Trap+Relay2(17), Email+Relay2(18), Trap+Email+Relay2(19), Syslog+Relay2(20), Trap+Syslog+Relay2(21), Email+Syslog+Relay2(22), Trap+Email+Syslog+Relay2(23), Relay1+Relay2(24), Trap+Relay1+Relay2(25), Syslog+Relay1+Realy2(28), Email+Syslog+Relay1+Relay2(30), Trap+Email+Syslog+Relay1+Relay2(31), None(0) severity-level as follow, Emergency(0), Alert(1), Critical(2), Error(3), Warning(4), Notice(5), Information(6), Debug(7)	
Examples	`EDS-G516E(config-if)#warning-notification port-event event traffic-overload 30 150` `EDS-G516E(config-if)#no warning-notification port-event event link-on`	
Error messages	Invalid action value or non-support this combination action Invalid severity type	
Related commands	show relay-warning config	

warning-notification system-event

Use **warning-notification system-event** global configuration commands to enable the system warning events trigger to email, relay, syslog or trap. Use **no** form of this command to disable it.

Commands

warning-notification system-event { cold-start | warm-start | config-changed | pwr1-trans-on | pwr2-trans-on | pwr1-trans-off | pwr2-trans-off | auth-fail | password-changed | tacacs-auth-fail | radius-auth-fail | topology-changed | coupling-changed | master-changed | rstp-admin-changed | rstp-topology-changed | turbo-ring-break | di1-trans-on|di1-trans-off } {action *action-index* **| severity** *severity-level* **| active}**

no warning-notification system-event { cold-start | warm-start | config-changed | pwr1-trans-on | pwr2-trans-on | pwr1-trans-off | pwr2-trans-off | auth-fail | password-changed | tacacs-auth-fail | radius-auth-fail | topology-changed | coupling-changed | master-changed | rstp-admin-changed | rstp-topology-changed | turbo-ring-break | di1-trans-on|di1-trans-off } active}

Syntax Description	**warning-notification**	Configure warning-notification
	system-event	System event
	cold-start	Power is cut off and then reconnected.
	warm-start	The Moxa switch is rebooted, such as when network parameters are changed (IP address, subnet mask, etc.).
	config-changed	Any configuration item has been changed.
	pwr1-trans-on	The Moxa switch power 1 is powered on.
	pwr2-trans-on	The Moxa switch power 2 is powered on.
	pwr1-trans-off	The Moxa switch power 1 is powered down.
	pwr2-trans-off	The Moxa switch power 2 is powered down.
	auth-fail	An incorrect password was entered.
	password-changed	User changes the account password
	tacacs-auth-fail	Incorrect authentication details were entered
	radius-auth-fail	Incorrect authentication details were entered
	topology-changed	If the Master of the Turbo Ring has changed or the backup path is activated
	coupling-changed	If the Turbo Ring path is disconnected
	master-changed	If the MSTP topology has changed
	rstp-admin-changed	If the RSTP root has changed
	rstp-topology-changed	If any Rapid Spanning Tree Protocol switches have changed their position(applies only to the root of the tree)
	turbo-ring-break	Turbo Ring path is disconnected
	di1-trans-on	Digital Input 1 is triggered by an off to on transition
	di1-trans-off	Digital Input 1 is triggered by an on to off transition
	action	Action
	action-index	Action option
	severity	Severity
	severity-level	Severity option
	active	active
Defaults	N/A	
Command Modes	Global configuration	
Usage Guidelines	action-index as follow, Trap only(1), Email only(2), Trap+Email(3), Syslog only(4), Trap+Syslog(5), Email+Syslog(6), Trap+Email+Syslog(7), Relay1 only(8), Trap+Relay1(9), Email+Relay1(10), Trap+Email+Relay1(11), Syslog+Relay1(12), Trap+Syslog+Relay1(13), Email+Syslog+Relay1(14), Trap+Email+Syslog+Relay1(15), Relay2 only(16), Trap+Relay2(17), Email+Relay2(18), Trap+Email+Relay2(19), Syslog+Relay2(20), Trap+Syslog+Relay2(21), Email+Syslog+Relay2(22), Trap+Email+Syslog+Relay2(23), Relay1+Relay2(24), Trap+Relay1+Relay2(25), Syslog+Relay1+Realy2(28), Email+Syslog+Relay1+Relay2(30), Trap+Email+Syslog+Relay1+Relay2(31), None(0) severity-level as follow,	

	Emergency(0), Alert(1), Critical(2), Error(3), Warning(4), Notice(5), Information(6), Debug(7)

Examples	`EDS-G516E(config)# warning-notification system-event cold-start action 5`
	`EDS-G516E(config)# warning-notification system-event cold-start severity 3`
	`EDS-G516E(config)# no warning-notification system-event cold-start active`

Error messages	Invalid action value or non-support this combination action Invalid severity type
Related commands	show relay-warning config