ExtremeSwitching™

Quick Start Configuration for Ethernet Routing Switch 3600 Series

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Contents

Chapter 1: Preface

Purpose

This document provides basic instructions to perform the basic configuration of the Extreme Networks ERS 3600 Series chassis and software.

Training

Ongoing product training is available. For more information or to register, you can access the Web site at www.extremenetworks.com/education/.

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  - Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.

- GTAC Knowledge – Get on-demand and tested resolutions from the GTAC Knowledgebase, or create a help case if you need more guidance.
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- Support Portal – Manage cases, downloads, service contracts, product licensing, and training and certifications.

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- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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Procedure

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3. Type the name of your company.
4. Type your email address.
5. Type your job title.
6. Select the industry in which your company operates.
7. Confirm your geographic information is correct.
8. Select the products for which you would like to receive notifications.
9. Click **Submit**.

Chapter 2: New in this document

There are no new feature changes in this document.

Chapter 3: Fundamentals

This document includes the minimum but essential configuration steps to:

- provide a default, starting point configuration
- establish a management interface
- establish basic security on the node

The shipment includes the following:

- An installation kit
- A foldout poster (*Quick Install Guide for Ethernet Routing Switch 3600 Series*)

For more information about hardware specifications and installation procedures, see *Installing Ethernet Routing Switch 3600 Series*.

For more information about how to configure security, see *Configuring Security on Ethernet Routing Switch 3600 Series*.

System connection

Use the console cable to connect the terminal to the switch console port. The console cable and connector must match the console port on the switch (DB-9 or RJ-45, depending on your model). The following are the default communication protocol settings for the console port:

- 9600 baud
- 8 data bits
- 1 stop bit
- No parity
- No flow control
- VT100 or VT100/ANSI Terminal Protocol

To use the console port, you need the following equipment:

- A terminal or TeleTypewriter (TTY)-compatible terminal, or a portable computer with a serial port and terminal-emulation software.

- An Underwriters Laboratories (UL)-listed straight-through or null modem RS-232 cable with a female DB-9 connector for the console port on the switch. The other end of the cable must use a connector appropriate to the serial port on your computer or terminal.

You must shield the cable that connects to the console port to comply with emissions regulations and requirement

System logon

After the platform boot sequence is complete, a logon prompt displays.

The following table shows the default values for logon and password for console and Telnet sessions.

Access level	Description	Default Logon	Default Password
Read-only	Permits view-only configuration and status information. Is equivalent to Simple Network Management Protocol (SNMP) read-only community access.	RO	user
Read/write	View and change configuration and status information across the switch. You can change security and password settings. This access level is equivalent to SNMP read/write community access.	RW	secure

Password encryption

The local passwords for the switch are stored in the configuration file, encrypted with an Extreme Networks proprietary algorithm.

Important:

For security reasons, it is recommended that you configure the passwords to values other than the factory defaults.

For more information about configuring passwords, see *Configuring Security on Ethernet Routing Switch 3600 Series*.

Quick Start

You can use the `install` command in Command Line Interface (CLI) or the Quick Start menu in Enterprise Device Manager (EDM) to configure the following:

- quick start VLAN
- in-band IP address and subnet mask
- default gateway
- DHCP server configuration
- management subnet mask, management IP address and management default gateway
- read-only and read-write community strings
- IPv6 in-band address and IPv6 default gateway
- management IPV6 address and management IPV6 default gateway

Password complexity

Password complexity feature enforces complexity password rules. The rules are different when the switch is upgraded from an unsupported to a supported release for the first time. The following rules can be configured and applied when you enable this feature:

- Minimum password length and valid characters
- Number of passwords retained in password history
- Check for sequential and repeated characters in password

For more information, see *Configuring Security on Ethernet Routing Switch 3600 Series*.

Password aging and lockout policy

Passwords expire after a specified aging period. The values for aging can be configured. The default values are different when the switch is upgraded from an unsupported to a supported release for the first time.

The management passwords can be configured to comply with company security policies. The following rules can be configured and applied when you enable this feature:

- Number of days before password expiration
- Failed login attempts

For more information, see *Configuring Security on Ethernet Routing Switch 3600 Series*.

Enterprise Device Manager

Enterprise Device Manager (EDM) is an embedded graphical user interface (GUI) that you can use to manage and monitor the platform through a standard web browser. EDM is embedded in the switch software, and the switch operates as a web server, so you do not require additional client software. For more information about EDM, *Using CLI and EDM on Ethernet Routing Switch 3600 Series*.

Enterprise Device Manager access

To access EDM, open `http://<deviceip>/login.html` or `https://<deviceip>/login.html` from either Microsoft Internet Explorer (minimum version 8.x), or Mozilla Firefox (minimum version 3.x).

Important:

You must enable the web server from CLI to enable HTTP access to EDM. If you want HTTP access to the device, you must also disable the web server secure-only option. The web server secure-only option is enabled by default and allows HTTPS access to the device. Take the appropriate security precautions within the network if you use HTTP.

If you experience issues while connecting to EDM, check the proxy settings. Proxy settings can affect EDM connectivity to the switch. Clear the browser cache, and do not use a proxy when connecting to the device.

Default user name and password

To log on the switch for the first time when password security is enabled, use the default password. For the standard software image, the default password for RO is *user* and *secure* for RW. For the secure software image, the default password for RO is *userpasswd* and *securepasswd* for RW.

For more information about changing the passwords, see *Configuring Security on Ethernet Routing Switch 3500 Series*.

EDM window

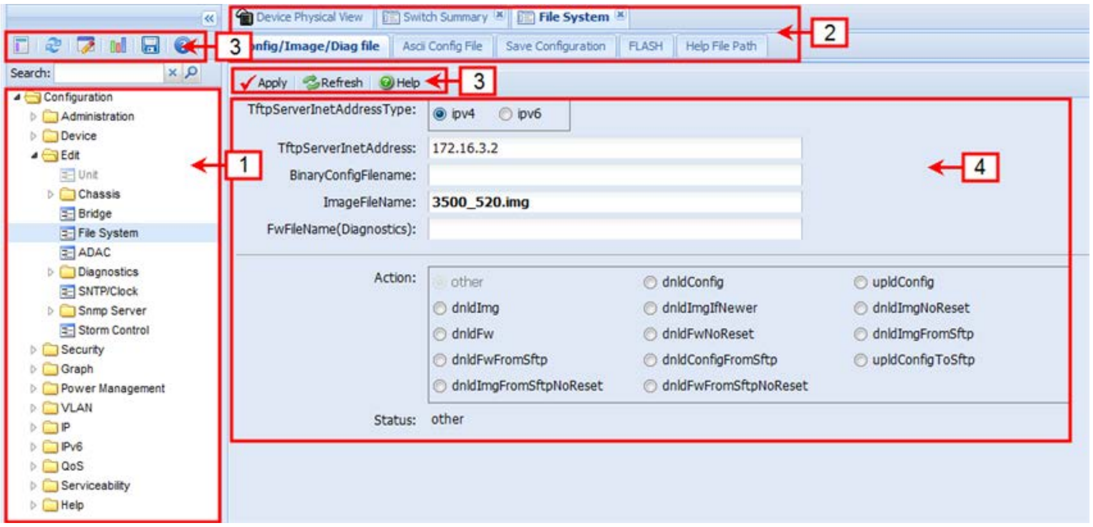
The EDM window contains the following parts:

1. navigation tree—the navigation pane on the left side of the window that displays available command folders in a tree format
2. menu bar—the area at the top of the window that displays primary and secondary tabs that you accessed during the session; the tabs remain available until you close them
3. toolbar—the area just below the menu bar that provides quick access to the most common operational commands such as **Apply**, **Refresh**, and **Help**

4. work area—the main area on the right side of the window that displays the dialog boxes where you view or configure switch parameters

Note:

Depending on your hardware model, information displayed may appear different than the figure shown in this section.



TftpServerInetAddressType: ● ipv4 ○ ipv6

TftpServerInetAddress: 172.16.3.2

BinaryConfigFilename:

ImageFileName: 3500_520.img

FwFileName(Diagnostics):

Action: ○ other ○ dnldConfig ○ upldConfig ○ dnldImg ○ dnldImgIfNewer ○ dnldImgNoReset ○ dnldFw ○ dnldFwNoReset ○ dnldImgFromSftp ○ dnldFwFromSftp ○ dnldConfigFromSftp ○ upldConfigToSftp ○ dnldImgFromSftpNoReset ○ dnldFwFromSftpNoReset

Status: other

Figure 1: EDM window

Device Physical View

When you access EDM, the first panel in the work area displays a switch summary view. The tab behind the summary view is a real-time physical view of the front panel of a device or stack called the Device Physical View.

Objects in the Device Physical View are

- a stand-alone switch, called a unit
- a switch stack, called a chassis
- a port

From the Device Physical View you can

- determine the hardware operating status
- select a switch or a port to perform management tasks on specific objects or view fault, configuration, and performance information for specific objects

To select an object, click the object. The system outlines the object in yellow, indicating that the object selected.

The conventions on the device view are similar to the actual switch appearance except that LEDs in Device Physical View do not blink. The LEDs and the ports are color-coded to reflect hardware status. Green indicates the port is up and running; red indicates that the port is disabled.

From the menu bar you can click the Device Physical View tab to open the Device Physical View any time during a session.

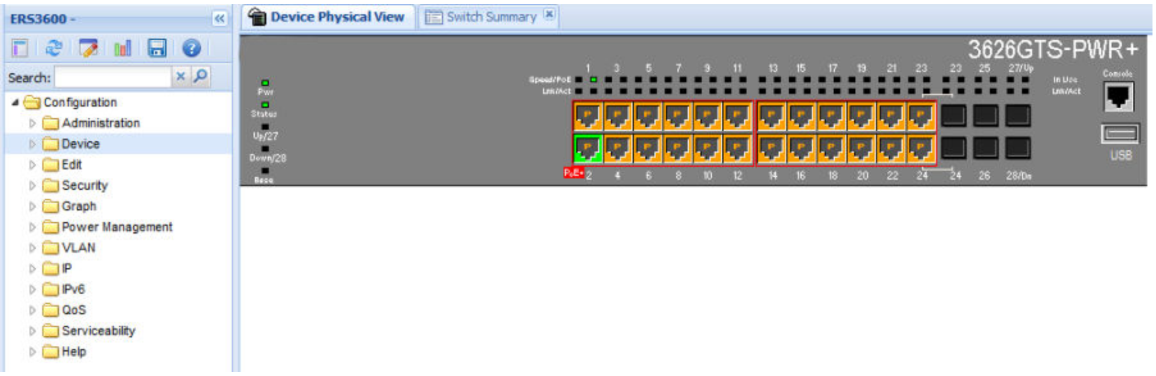


Figure 2: Device Physical View

Note:

Depending on your hardware model, your switch may appear different than the figure shown in this section.

Chapter 4: Connecting to the switch

Connecting a terminal to the switch

This procedure describes the steps to connect a terminal to the console port on the switch.

Before you begin

To use the console port, you need the following equipment:

- Terminal with AC power cord and keyboard. Any terminal or PC with an appropriate terminal emulator can be used as the management station. For more information, see *Quick Install Guide for Ethernet Routing Switch 3600 Series* for a list of the terminal emulation settings that must be used with any terminal emulation software used to connect to the switch.
- Use the RJ-45 console cable to connect the switch console port to your management terminal. The maximum length for the console port cable is 25 feet (8.3 meters).

  For more information, see *Installing Ethernet Routing Switch 3600 Series* for console port pin-out information. You can use the pin-out information to verify or create a console cable for use with your maintenance terminal.

Procedure

1. Connect one end of the serial cable to the connector on the terminal or PC.
2. Connect the other end of the serial cable to the console port on the switch.
3. Turn the terminal or PC on.
4. Set the terminal protocol on the terminal or terminal emulation program to VT100 or VT100/ANSI.
5. Connect to the switch using the terminal or terminal emulation application. The switch banner appears when you connect to the switch through the console port.
6. Press `Ctrl+Y` and type the following CLI commands:

   ```
   enable
   ```

   ```
   install
   ```

   The setup utility prompts you to enter the information requested as shown below.

   ```
   #########################################################################
            Welcome to the ERS3600 setup utility.
   You will be requested to provide the switch basic connectivity settings.
   After entering the requested info, the configuration will be applied and
   stored into the switch NVRAM.

   Once the basic connectivity settings are applied, additional configuration
   ```

```
can be done using the available management interfaces.
Use Ctrl+C to abort the configuration at any time.

#########################################################################

Please provide the Quick Start VLAN <1-4094> [1]:
Please provide the in-band IP Address[192.168.1.1]:
Please provide the in-band sub-net mask[255.255.255.0]:
Please provide the Default Gateway[0.0.0.0]:
Please provide the Read-Only Community String[**********]:
Please provide the Read-Write Community String[**********]:
Please provide the in-band IPV6 Address/Prefix_length[::/0]:
Please provide the in-band IPV6 Default Gateway[::]:
Do you want to enable the DHCP server? y/n [n]:


#########################################################################
Basic stack parameters have now been configured and saved.

#########################################################################
```

Configuring with Quick Start using CLI

The **`Install`** script consists of a series of prompts that are used to set up the minimum configuration information.

You must enter the following information when prompted:

- IP address
- Subnet mask
- Default gateway
- Read-only community string
- Read-write community string
- Quick start VLAN
- IPV6 address/prefix
- IPV6 default gateway
- DHCP server information (optional)

Before you begin

- Connect to the switch using the terminal or terminal emulation application.

Procedure

1. Press

   `CTRL + Y` to obtain a CLI prompt.

2. Enter **`enable`**

3. Enter **`install`**

The switch setup utility banner appears.

4. Enter VLAN ID for the Quick Start at the following prompt:

   `Please provide the Quick Start VLAN <1–4094> [1]:`
5. Enter the IP address at the following prompt:

   `Please provide the in-band IP Address [192.0.2.1]:`
6. Enter the sub-net mask address at the following prompt:

   `Please provide the in-band sub-net mask [255.255.255.0]:`
7. Enter the default gateway IP address at the following prompt:

   `Please provide the Default Gateway [0.0.0.0]:`
8. Enter the read only community string at the following prompt:

   `Please provide the Read-Only Community String [**********]:`
9. Enter the read write community string at the following prompt:

   `Please provide the Read-Write Community String [**********]:`
10. Enter the in-band IPv6 address at the following prompt:

    `Please provide the in-band IPV6 Address/Prefix_length [ : :/0]:`
11. Enter the in-band IPv6 default gateway at the following prompt:

    `Please provide the in-band IPV6 Default Gateway [ : :]:`
12. At the `Do you want to enable the DHCP server?` prompt, enter `Y` to enable the DHCP server, OR leave the prompt at `N` if you do not want to enable the DHCP server.

    Successful completion displays the following message: `Basic stack parameters have now been configured and saved.`

Example

```
###############################################################################
         Welcome to the ERS3500 setup utility.
You will be requested to provide the switch basic connectivity settings.
After entering the requested info, the configuration will be applied and
stored into the switch NVRAM.

Once the basic connectivity settings are applied, additional configuration
can be done using the available management interfaces.
Use Ctrl+C to abort the configuration at any time.

###############################################################################

Please provide the Quick Start VLAN <1-4094> [1]:
Please provide the in-band IP Address[192.0.2.1]:
Please provide the in-band sub-net mask [255.255.255.0]:
Please provide the Default Gateway[0.0.0.0]:
Please provide the Read-Only Community String[**********]:
Please provide the Read-Write Community String[**********]:
Please provide the in-band IPV6 Address/Prefix_length[::/0]:
Please provide the in-band IPV6 Default Gateway[::]:
Do you want to enable the DHCP server? y/n [n]:
```

```

################################################################################
Basic stack parameters have now been configured and saved.

################################################################################

```

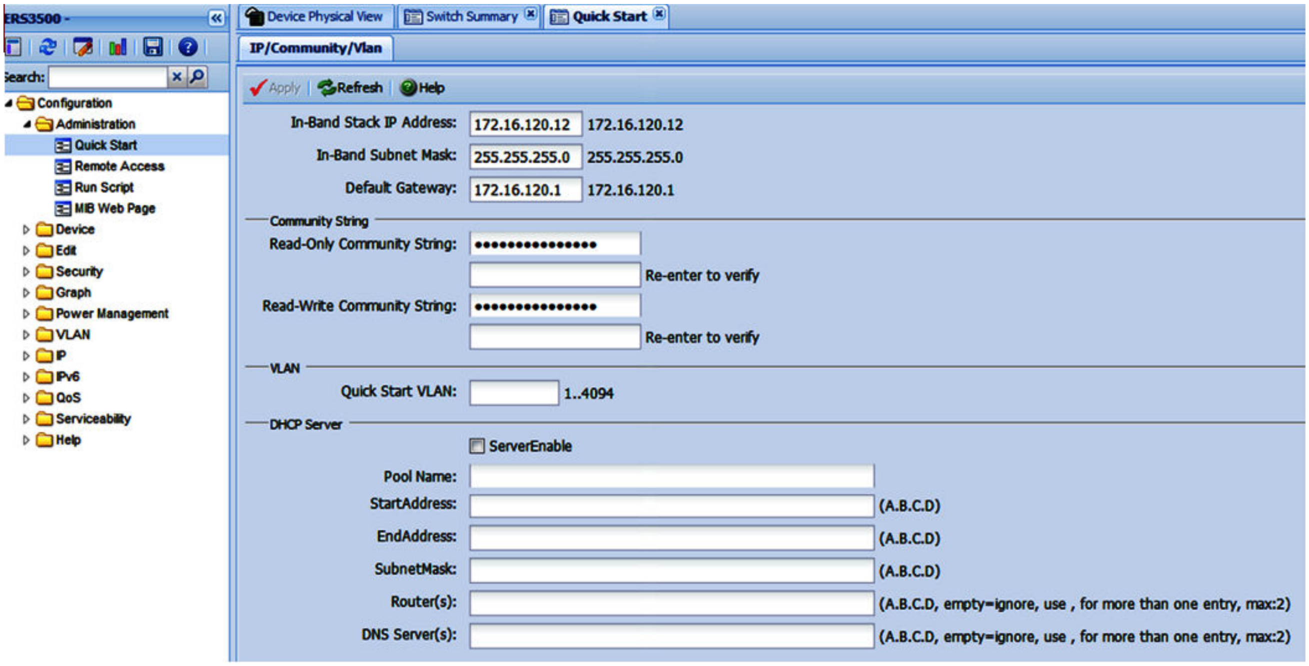
Configuring Quick Start using EDM

Perform this procedure to configure Quick Start to enter the setup mode through a single screen.

Procedure

1. From the navigation tree, click **Administration**.
2. In the Administration Tree, click **Quick Start**.
3. In the **In-Band Switch IP address**, type a switch address.
4. In the **In-Band Subnet Mask** dialog box, type a subnet mask.
5. In the **Default Gateway** dialog box, type an IP address.
6. In the **Read-Only Community String** box, type a character string.
7. In the **Re-enter to verify** dialog box immediately following the Read-Only Community String box, retype the character string from Step 6.
8. In the **Read-Write Community String** dialog box, type a character string.
9. In the **Re-enter to verify** dialog box immediately following the Read-Write Community String box, retype the character string from Step 8.
10. In the **Quick Start VLAN** dialog box, type a VLAN ID.
11. To enable the DHCP Server, select the **ServerEnable** check box and enter the DHCP server information.
12. Click **Apply**.

Example



In-Band Stack IP Address: 172.16.120.12 172.16.120.12

In-Band Subnet Mask: 255.255.255.0 255.255.255.0

Default Gateway: 172.16.120.1 172.16.120.1

Community String

Read-Only Community String: ••••••••••••••••

Re-enter to verify

Read-Write Community String: ••••••••••••••••

Re-enter to verify

VLAN

Quick Start VLAN: 1..4094

DHCP Server

□ ServerEnable

Pool Name:

StartAddress: (A.B.C.D)

EndAddress: (A.B.C.D)

SubnetMask: (A.B.C.D)

Router(s): (A.B.C.D, empty=ignore, use , for more than one entry, max:2)

DNS Server(s): (A.B.C.D, empty=ignore, use , for more than one entry, max:2)

Configuring the terminal

You can configure the switch terminal settings to suit your preferences for the terminal speed and display.

About this task

Use the following procedure to configure terminal settings including the terminal connection speed, and terminal display width and length, in number of characters.

Important:

After you modify the terminal configuration, the new settings are applied to the current active session and to all future sessions (serial, telnet or SSH). Terminal configuration change does not affect open concurrent sessions.

Procedure

1. Log on to CLI to enter User EXEC mode.
2. At the command prompt, enter the following command:

   ```
   terminal {speed <2400 | 4800 | 9600 | 19200 | 38400> | length <1-
   132> | width <1-132>}
   ```

3. To display the current serial port information, enter the following command:

   ```
   show terminal
   ```

Example

The following example shows the output from the **`show terminal`** command.

```
Switch#show terminal
Terminal speed: 9600
Terminal width: 79
Terminal length: 24
```

Variable definitions

The following table describes the parameters for the **`terminal`** command.

Variable	Value
speed {2400|4800|9600|19200|38400}	Sets the transmit and receive baud rates for the terminal. You can set the speed to one of the five options shown. DEFAULT: 9600
length <*1–132*>	Sets the length of the terminal display in characters. RANGE: 1 to 132 DEFAULT: 24
width <*1–132*>	Sets the width of the terminal display in characters. RANGE: 1 to 132 DEFAULT: 79

BootP automatic IP configuration and MAC address

The switch supports the Bootstrap protocol (BootP). You can use BootP to retrieve an ASCII configuration file name and configuration server address. With a properly configured BootP server, the switch automatically learns its assigned IP address, its subnet mask, and the IP address of the default router (default gateway).

The switch has a unique 48-bit hardware address, or MAC address, that is printed on a label on the back panel. Use this MAC address when you configure the network BootP server to recognize the switch BootP requests.

The BootP modes supported by the switch are:

- BootP or Last Address mode
- BootP or Default IP
- BootP Always
- BootP Disabled

Important:

Whenever the switch is broadcasting BootP requests, the BootP process eventually times out if a reply is not received. When the process times out, the BootP request mode automatically changes to BootP or Default IP mode. To restart the BootP process, change the BootP request mode to any of the following modes:

- Always
- Disabled
- Last
- Default-ip

Setting user access limits using CLI

The administrator can use CLI to limit user access by creating and maintaining passwords for web, telnet, and console access. This is a two-step process that requires that you first create the password and then enable it.

Setting the system user name and password using CLI

Use the following procedure to configure the system user name and password for access through the serial console port and Telnet. This procedure supports only one read-only and one read-write user on the switch.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   username <username> <password> [<ro | rw>]
   ```

3. To set the username and password to the system default settings, enter the following command:

   ```
   default username [<ro | rw>]
   ```

   Note:

   After you configure the user name and password with the **`username`** command, you can update the password without changing the username by using the **`cli password`** command, the console interface, or EDM.

Variable definitions

The following table describes the parameters for the **`username`** command.

Variable	Definition
<username> <password>	Enter your user name for the first variable, and your password for the second variable. The default user name values are RO for read-only access and RW for read/write access.
ro|rw	Specifies that you are modifying the read-only (ro) user name or the read-write (rw) user name. The ro/rw variable is optional. If it is omitted, the command applies to the read-only mode.

Enabling and disabling passwords

After you set the read-only and read-write passwords, you can individually enable or disable them for the various switch-access methods.

Procedure

1. Enter Global Configuration mode:

```
enable
```

```
configure terminal
```

2. Enter the following commands to configure the password for selected access or a specific authentication type:

```
cli password {telnet | serial} {none | local | radius | tacacs}
```

```
cli password {read-only | read-write} [<password>]
```

Variable definitions

The following table describes the parameters for the **`cli password`** command.

Variable	Definition
read-only | read-write	Modifies the read only password or the read/write password.
<password>	Specifies the password. ❗ **Important:** This parameter is not available when Password Security is enabled, in which case the switch prompts you to enter and confirm the new password. For information about password

Table continues…

Variable	Definition
	security, see *Configuring Security on Ethernet Routing Switch 3600 Series*.
serial | telnet	Modify the password for serial console access or for Telnet access.
none | local | radius | tacacs	Indicates the password type being modified: • none: disable the password • local: uses the locally defined password for serial console or Telnet access • radius: uses RADIUS authentication for serial console or Telnet access • tacacs: uses TACACS+ authentication, authorization, and accounting (AAA) services for serial console or Telnet access

Setting user access limits using Enterprise Device Manager

You can use Enterprise Device Manager (EDM) to limit user access by creating and maintaining passwords for web, telnet, and console access.

Configuring a console password using EDM

Use this procedure to configure a Console password for an individual switch.

Procedure

1. From the navigation tree, double-click **Security** to open the Security tree.
2. From the Security tree, click **Web/Telnet/Console**.
3. In the work area, click the **Console Password** tab.
4. In the Console Switch Password Setting, select a value from the **Console Password Type** list.
5. In the **Read-Only Switch Password** dialog box, type a character string.
6. In the **Re-enter to verify** dialog box for the Read-Only Switch Password, retype the character string.
7. In the **Read-Write Switch Password** dialog box, type a character string.

8. In the **Re-enter to verify** dialog box for the Read-Write Switch Password, retype the character string.
9. On the toolbar, click **Apply**.

Field descriptions

Use the descriptions in the following table to configure the console switch password.

Variable	Definition
Console Stack Password Type	Specify the type of password to use. Values include: • none—Disables the password • Local Password—Use the locally-defined password for serial console access • RADIUS Authentication—Use RADIUS authentication for serial console access • TACACS Authentication—Use TACACS+ authentication, authorization and accounting (AAA) services authentication for console access
Read-Only Stack Password	Specify the read-only password for stack or switch access.
Read-Write Stack Password	Specify the read-write password for stack or switch access.

Configuring a Web and Telnet password using EDM

Use this procedure to configure a Web and Telnet password for an individual switch.

Procedure

1. From the navigation tree, double-click **Security** to open the Security tree.
2. In the Security tree, double-click **Web/Telnet/Console**.
3. In the work area, click the **Web/Telnet Password** tab.
4. In the Web/Telnet Switch Password Setting, select a value from the **Web/Telnet Switch Password Type** list.
5. In the **Read-Only Switch Password** dialog box, type a character string.
6. In the **Re-enter to verify** dialog box for the Read-Only Switch Password, retype the character string.
7. In the **Read-Write Switch Password** dialog box, type a character string.
8. In the **Re-enter to verify** dialog box for the Read-Write Switch Password, retype the character string
9. On the toolbar, click **Apply**.

Field descriptions

Use the descriptions in the following table to configure the console switch password.

Variable	Definition
Web/Telnet Stack Password Type	Specify the type of password to use. Values include: • none—Disables the password • Local Password—Use the locally-defined password for serial console access • RADIUS Authentication—Use RADIUS authentication for serial console access • TACACS Authentication—Use TACACS+ authentication, authorization and accounting (AAA) services authentication for console access
Read-Only Stack Password	Specify the read-only password for stack or switch access. The maximum length of the password is 15 characters.
Read-Write Stack Password	Specify the read-write password for stack or switch access. The maximum length of the password is 15 characters.

Customizing the opening banner

You can customize the banner that appears when you connect to the switch. You can customize the text that reads **`Extreme Networks`**. However you cannot customize the second line that reads **`Enter [Ctrl]+y to begin`**.

The Banner Control feature provides an option to specify the banner text. If you choose not to display the banner, the system enters the CLI command mode through the default command interface. You do not have to press the `Ctrl+y` keys.

The Banner display that you select is used for subsequent console sessions. For executing the new mode in the console, you must logout. For Telnet access, all subsequent sessions use the selected mode.

Customizing the opening CLI banner

Specifies the banner displayed at startup; either static or custom.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

```
configure terminal
```

2. At the command prompt, enter the following command:

```
[no] banner [custom | static | disabled | <1–19> LINE ]
```

Variable definitions

The following table describes the parameters for the **banner** command.

Variable	Value
static	Displays the default agent-banner
custom	Displays the custom agent-banner
disabled	Skips the agent-banner display
<1–19> LINE	Fills the Nth line of the custom banner (1<N<19) with the text specified in LINE
no	Clears all lines of a previously stored custom banner

Displaying the current banner

Display the current banner.

Procedure

1. Enter Global Configuration mode:

```
enable
```

```
configure terminal
```

2. At the command prompt, enter the following command:

```
show banner [custom | static]
```

Variable definitions

The following table describes the parameters for the **show banner** command.

Variable	Value
static	Displays default banner
custom	Displays custom banner
(if empty)	Displays static, custom or disabled status if parameter is not entered

Configuring Simple Network Time Protocol

The Simple Network Time Protocol (SNTP) feature synchronizes the Universal Coordinated Time (UTC) to an accuracy within 1 second. This feature adheres to the IEEE RFC 2030 (MIB is the s5agent). With this feature, the system can obtain the time from any RFC 2030-compliant NTP/SNTP server.

For more information on SNTP, see *Configuring Systems on Ethernet Routing Switch 3600 Series*.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. Enter the following command:

   ```
   [no] sntp server <primary | secondary> address <A.B.C.D>
   ```

Variable definitions

Use the data in the following table to use the **`sntp server`** command.

Variable	Definition
<A.B.C.D>	Specifies the IP address of the primary or secondary NTP server in the format XXX.XXX.XXX.XXX.

Configuring local time zone

Configure the time zone to use an internal system clock to maintain accurate time. The time zone data does not include daylight saving time changes. You must configure daylight saving time.

Note:

SNTP uses Universal Coordinated Time UTC for all time synchronizations so it is not affected by different time zones.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   [no] clock time-zone <zone> <hours> <minutes>
   ```

Variable definitions

The following table describes the parameters for the **`clock time-zone`** command.

Variable	Value
zone	Specifies time zone acronym that can be displayed when showing system time; for example, EST for Eastern Standard Time. RANGE: Up to 4 characters
hours	Specify the hours difference from UTC. RANGE: —12 to + 12
minutes	Optional minutes difference from UTC. RANGE: 0–59
no	Disables the clock time zone feature

Configuring daylight savings time

Configure the daylight savings time with start and end dates, or disable the daylight savings time feature.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   [no] clock summer-time <zone> [date {<day> <month> <year> <hh:mm>}
   {<day> <month> <year> <hh:mm>}] [<offset>]
   ```

Variable definitions

The following table describes the parameters for the **`clock summer-time`** command.

Variable	Value
zone	Specifies the acronym to be displayed when summer time is in effect. If unspecified, defaults to the time zone acronym.

Table continues…

Variable	Value
	RANGE: up to 4 characters
date *{<day> <month> <year> <hh:mm>} {<day> <month> <year> <hh:mm>}*	The first date specifies when summer time starts, and the second date specifies when summer time ends. • day — day of the month (RANGE: 1 to 31) • month — month (RANGE: first three letters by name) • hh:mm — time in military format (24–hour clock), in hours and minutes **Important:** <day> <month> parameters can also be entered in order: <month> <day>.
offset	Number of minutes to add during summer time RANGE: —840 to 840
no	Disables the daylight savings time feature

Specifying summer-time recurring dates

Specify the dates that recur during the summer-time clock every year. This procedure provides flexibility for countries where the Daylight Savings Time is different than North America.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   clock summer-time recurring <1-5> <DAY> <MONTH> hh:mm> <1-5> <DAY>
   <MONTH> <hh:mm> <1-1440>
   ```

Example

The following figure provides a sample of the output of the **`clock summer-time recurring`** command.

```
Switch(config)#clock summer-time recurring 1 tues Jun 12:01 3 sat Sep 23:57 1
     Summer time recurring is set to:
start: 1st week of June on Tuesday at 12:01
end: 3rd week of September on Saturday at 23:57
     Offset: 60 minutes.
```

Variable definitions

The following table describes the parameters for the **`summer-time recurring`** command.

Variable	Value
<1–5>	Specifies the week of the month. The first occurrence specifies when the recurring starts, and the second specifies when the recurring stops.
<DAY>	Specifies the day of the week as the first 3 letters of the name. The first occurrence specifies when the recurring starts, and the second specifies when the recurring stops.
<MONTH>	Specifies the Month using the first 3 letters of the name. The first occurrence specifies when the recurring starts, and the second specifies when the recurring stops.
<hh:mm>	Specifies the time in hours and minutes in military format (24–hr). The first occurrence specifies when the recurring starts, and the second specifies when the recurring stops.
<1–1440>	Specifies the number of minutes to add or subtract during summer-time recurring.

Displaying the local time zone settings

Display the settings for the local time zone.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   show clock time-zone
   ```

Example

The following figure provides a sample of the output of the **`show clock time-zone`** command.

```
switch(config)#show clock time-zone
     Time zone offset from UTC is 00:00
```

Displaying the daylight savings time settings

Display the daylight savings time settings.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   show clock summer-time
   ```

Example

The following figure provides a sample of the output of the **`show clock summer-time`** command.

```
switch(config)#show clock summer-time
    Summer time recurring is set to:
start: on Tuesday in the 1st week of June at 12:01
end: on Saturday in the 3rd week of September at 23:59
    Offset: 60 minutes.
    Daylight saving time is disabled
```

Configuring a static route using CLI

Create static routes to manually configure a path to destination IP address prefixes.

Before you begin

- Enable IP routing globally.
- Enable IP routing and configure an IP address on the VLANs to be routed.

Procedure

1. Log on to CLI in Global Configuration command mode.
2. At the command prompt, enter the following command:

   ```
   [no] ip route <dest-ip> <mask> <next-hop> [<cost>] [disable]
   [enable] [weight <cost>]
   ```

Variable definitions

The following table describes the parameters for the **`ip route`** command.

Variable	Value
[no]	Removes the specified static route.
<dest-ip>	Specifies the destination IP address for the route being added. DEFAULT: 0.0.0.0 is considered the default route.
<mask>	Specifies the destination subnet mask for the route being added.
<next-hop>	Specifies the next hop IP address for the route being added.
[<cost>]	Specifies the weight, or cost, of the route being added. RANGE: 1–65535
[enable]	Enables the specified static route.
[disable]	Disables the specified static route.
[weight<cost>]	Changes the weight, or cost, of an existing static route. RANGE: 1–65535

Enabling remote access

You can enable remote access for telnet, SSH (on SSH software images), SNMP, and webpage access.

For more information, see *Using CLI and EDM on Ethernet Routing Switch 3600 Series* and *Configuring Systems on Ethernet Routing Switch 3600 Series*.

About this task

Use the following procedure to enable and configure remote access to the management features of the switch.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. To enable telnet remote access, enter the following command:

   ```
   telnet-access enable
   ```

3. To enable SSH remote access, enter the following command:

   ```
   ssh
   ```

4. To enable SNMP remote access, enter the following command:

   ```
   snmp-server enable
   ```

5. To enable webpage remote access, enter the following command:

   ```
   web-server enable
   ```

Example

The following is an example of enabling telnet remote access:

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#telnet-access enable
Switch(config)#
```

Using telnet to log on to the device

Procedure

1. From a computer or terminal, start a telnet session:

   ```
   telnet <IPv4_address>
   ```

   where <IPv4_address> is the IP address of the switch. The stand-alone units use the default IP address of 192.168.1.1 and the stacking units use the default IP address of 192.168.1.2 if the switch does not obtain its IP address from another source.

2. Enter the user ID and password when prompted.

Enabling the web server management interface

The web server must be enabled to access Enterprise Device manager (EDM). If you do not want EDM to be accessible on the device, disable the web server. By default, the web server is enabled.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   web-server enable
   ```

Accessing the switch through the web interface

You can use EDM to configure and maintain your switch through a web-based graphical user interface. You can monitor the switch through a web browser from anywhere on the network.

By default, you can access the web interface using Hypertext Transfer Protocol Secure (HTTPS) only.

By default, the web interface uses a 15 minute time-out period. If no activity occurs for 15 minutes, the system logs off the switch web interface, and you must reenter the password information.

For more information, see *Configuring Security on Ethernet Routing Switch 3600 Series*.

Before you begin

- Ensure that the switch is running.
- Note the switch IP address.
- Ensure that the web server is enabled.
- Note the user name and password.
- Open one of the supported web browsers.

  For more information about the supported browsers, see *Using CLI and EDM on Ethernet Routing Switch 3600 Series*.

About this task

Use this procedure to access the switch through a web browser.

Procedure

1. Start your web browser.
2. Type the switch IP address as the URL in the Web address field.

   ```
   http://<IP Address>
   ```

   OR

   ```
   https://<IP Address>
   ```
3. Enter the user name.
4. Enter the password.
5. Click **Log On**.

Creating a VLAN using CLI

Use this procedure to create port-based or IPv6 protocol-based VLANs.

Important:

This procedure fails if the VLAN already exists.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   vlan create {<1-4094> | <vid_list>} [name <WORD>] [ type { port |
   protocol-ipv6Ether2 | voice-vlan}] | [voice-vlan] [msti <1-7> |
   cist]
   ```

Example

```
vlan create 2-10,80 type port
vlan create 15 type voice-vlan
```

Variable definitions

The following table describes the parameters for the **`vlan create`** command.

Variable	Value
<1–4094> | *<vid_list>*	Enter the ID of the VLAN you want to create or enter as a list or range of VLAN IDs to create multiple VLANs simultaneously. A VLAN ID can range from 1 to 4094..
name <*WORD*>	Enter the new name you want for the VLAN.
type	Enter the type of VLAN. Values include: • port — port-based VLAN • protocol-ipv6Ether2 — IPv6 protocol-based VLAN • voice-vlan — voice VLAN
msti <*1–7*> | *cist*	This parameter is available only in MSTP mode. It associates the VLAN with either an MSTI instance or the CIST.

Saving the configuration

After you change the configuration, you must save the changes. Save the configuration to a file to retain the configuration settings.

Note:

File Transfer Protocol (FTP) and TFTP support both IPv4 and IPv6 addresses, with no difference in functionality or configuration.

Before you begin

Enable the Trivial File Transfer Protocol (TFTP) on the switch.

About this task

Use this procedure to save the configuration.

Procedure

1. Enter Privileged EXEC mode:

   ```
   enable
   ```

2. At the command prompt, enter the following command:

   ```
   save config
   ```

Configuring system identification

About this task

You can configure system identification to specify the system name, contact person, and location of the switch, and to add a trap receiver to the trap-receiver table.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. Enable the Simple Network Management Protocol (SNMP) server:

   ```
   snmp-server enable
   ```

3. Configure the read-only community name:

   ```
   snmp-server community ro
   ```

   Note:

   Enter the community string twice.

   If you ran the install script to set up the configuration information, the read-only community name is already configured.

4. Configure the read-write community name:

   ```
   snmp-server community rw
   ```

Note:

Enter the community string twice.

If you ran the install script to set up the configuration information, the read-write community name is already configured.

5. Configure the system name:

   ```
   snmp-server name <text>
   ```

6. Configure the system contact:

   ```
   snmp-server contact <text>
   ```

7. Configure the location:

   ```
   snmp-server location <text>
   ```

8. Configure the SNMP host to add a trap receiver to the trap-receiver table:

   ```
   snmp-server host <host-ip> <community-string>
   ```

Variable definitions

Use the definitions in the following table to use the **`snmp-server name`** command.

Table 1: snmp-server name command

Variable	Definition
<text>	Specify the SNMP system name value. Enter an alphanumeric string of up to 255 characters. **Note:** On the console, the SNMP server name is truncated. On the web interface, the full SNMP server name appears.

Use the definitions in the following table to use the **`snmp-server contact`** command.

Table 2: snmp-server contact command

Variable	Definition
<text>	Specify the SNMP system contact value. Enter an ASCII string of up to 255 characters.

Use the definitions in the following table to use the **`snmp-server location`** command.

Table 3: snmp-server location command

Variable	Definition
<text>	Specify the SNMP system location value. Enter an alphanumeric string of up to 255 characters.

Use the definitions in the following table to use the **`snmp-server host`** command.

Table 4: snmp-server host command

Variable	Definition
<host-ip>	Specify an IPv4 or IPv6 address for a host intended to be the trap destination.
<community-string>	If you are using the proprietary method for SNMP, enter a community string that works as a password and permits access to the SNMP protocol.

Chapter 5: Configuring the switch using CLI

Configuring the IP address

Use this procedure to configure the IP address and subnet mask for the switch or stack. You can also use this procedure to select the boot mode for the next switch reboot.

Important:

When you change the IP address or subnet mask, you can lose connection to Telnet and the Web. You also disable any new Telnet connection, and you must connect to the serial Console port to configure a new IP address.

Note:

If you do not specify the stack or switch parameter, the system automatically modifies the stack IP address when in stack mode and modifies the switch IP address when in standalone mode.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   ip address [switch|stack|unit<1-8>][<A.B.C.D>] [netmask <A.B.C.D>]
   [default-gateway <A.B.C.D>]
   ```

Variable definitions

The following table describes the parameters for the **`ip address`** command.

Variable	Value
A.B.C.D	Enters the IP address or subnet mask of the switch in the format XXX.XXX.XXX.XXX; netmask is optional.

Table continues…

Variable	Value
switch | stack | unit <1–8>	Specifies whether to set the IP address for the switch, the stack, or another unit in a stack.
netmask	Sets the IP subnet mask.
default-gateway <*A.B.C.D*>	Sets the IP address of the default gateway.

Configuring the IP address

Use this procedure to automatically obtain an in-band management IP address, subnet mask and default gateway on the switch or stack.

About this task

When you use DHCP, the switch or stack can also obtain up to three DNS server IP addresses.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   ip address source {bootp-always | bootp-last-address | bootp-when-
   needed | configured-address | dhcp-always | dhcp-last-address |
   dhcp-when-needed}
   ```

Variable definitions

The following table describes the parameters for the **ip address source**command.

Variable	Value
bootp-always	Always use the BootP server.
bootp-last-address	Use the last BootP server.
bootp-when-needed	Use the BootP server when needed. DEFAULT: bootp-when-needed
configured-address	Use the manually configured IP configuration.
dhcp-always	Always use the DHCP server.
dhcp-last-address	Use the last DHCP server.
dhcp-when-needed	Use DHCP client when needed.

Clearing the IP address

Use this procedure to clear the existing IP address and subnet mask for the switch or stack or another unit of a stack.

Important:

When you change the IP address or subnet mask, you can lose connection to Telnet and the Web. You also disable any new Telnet connection, and you must connect to the serial Console port to configure a new IP address.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   no ip address [switch|stack|unit<1-8>]
   ```

Configuring the IP address to the default value

The default value for the switch is 192.168.1.1 for Standalone Mode or 192.168.1.2 for Stacking Mode.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   default ip address
   ```

Displaying IP address information

Use this procedure to display IP configurations, switch address, subnet mask, and gateway address.

Procedure

1. Log on to CLI to enter User EXEC mode.
2. At the command prompt, enter the following command:

```
show ip address
```

Example

The following figure displays a sample output for the **`show ip address`** command.

```
Switch>show ip address

                      Configured           In Use       Last BootP/DHCP
                     -------------       -------------    ---------------
Stack IP Address:     192.0.1.1                            0.0.0.0
Switch IP Address:    192.0.1.2               192.0.1.2    0.0.0.0
Switch Subnet Mask:   255.255.255.0      255.255.255.0     0.0.0.0
```

Note:

The Router and DNS IP addresses are global, or common. Addresses and pools that do not have Router and DNS addresses configured within them use these global addresses.

Changing subnet netmask value

The subnet mask is configured using procedure Configuring the IP address on page 40. Use this procedure to change the subnet mask to the default value or clear the subnet mask.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   [default] [no] ip netmask
   ```

Variable definitions

The following table describes the parameters for the **`ip netmask`** command.

Variable	Value
default	Sets the subnet mask to the default value (255.255.255.0).
no	Sets the subnet mask for a switch to all zeros (0.0.0.0).

Configuring the default gateway

Use this procedure to configure the IP default gateway address for a switch, to change the IP default gateway address to the default address, or to clear the IP default gateway address.

Important:

When you change the IP gateway address, you can lose connection to Telnet and the Web. You also can disable any new Telnet connection required to connect to the serial Console port to configure a new IP Gateway address.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   ```

   ```
   configure terminal
   ```

2. At the command prompt, enter the following command:

   ```
   [no] [default] ip default-gateway <A.B.C.D>
   ```

Variable definitions

The following table describes the parameters for the **`ip default-gateway`** command.

Variable	Value
<A.B.C.D>	Enter the IP address of the default IP gateway in the format XXX.XXX.XXX.XXX. DEFAULT: 0.0.0.0. **Important:** When you change the IP gateway, you can lose connection to Telnet and the Web. You can also disable any new Telnet connection required to connect to the serial Console port to configure a new IP Gateway address.
no	Clears the IP address of the default IP gateway. Sets the IP default gateway address to zeros (0).
default	Sets the IP default gateway address to all zeros (0.0.0.0).

Displaying IP configuration

This procedure is used to display the IP configuration, specifically BootP mode, switch or stack or unit address, subnet mask, and gateway address. These parameters are displayed for what is configured, what is in use, and the last BootP.

Procedure

1. Log on to CLI to enter User EXEC mode.
2. At the command prompt, enter the following command:

   ```
   show ip [bootp][default-gateway [address [switch | stack | unit <1–8>]][dns]
   ```

   If you do not enter any parameters, the **show ip** command displays all IP-related configuration information.

Example

The following figure displays a sample output of the **show ip** command.

```
Switch>show ip
Bootp/DHCP Mode: BootP Or Default IP

                     Configured          In Use      Last BootP/DHCP
                     -------------    -------------   ---------------
Stack IP Address:    192.0.1.1                        0.0.0.0
Switch IP Address:   192.0.1.2        192.0.2.2       0.0.0.0
Switch Subnet Mask:  255.255.255.0    255.255.255.0   0.0.0.0
Default Gateway:     192.0.1.3        192.0.1.3       0.0.0.0
switch>
```

Variable definitions

The following table describes the parameters for the **show ip** command.

Variable	Value
bootp mode	Displays BootP-related IP information.
default-gateway	Displays the IP address of the default gateway.
address	Displays the current IP address.
switch | stack | unit <1–8>	Specifies the current IP address of the switch or stack or specified unit.
dns	Displays the DNS configuration.

Chapter 6: Verification

Verification

Pinging an IP device

You can ping a device to test the connection between a switch and another network device. After you ping a device, the switch sends an Internet Control Message Protocol (ICMP) packet to the target device. If the device receives the packet, it sends a ping reply. After the switch receives the reply, a message appears that indicates traffic can reach the specified IP address. If the switch does not receive a reply, the message indicates the address does not respond.

Before you begin

The local IP address must be configured before issuing the **`ping`** command.

Procedure

1. Log on to CLI to enter User EXEC mode.
2. At the command prompt, enter the following command:

   ```
   ping <IP_address>
   ```

   where <IP_address> is an IPv4 or IPv6 address.

Example

The following figure shows a sample ping response.

```
Switch>ping 1292.0.1.1
Host is reachable
```

Variable definitions

The following table describes the parameters for the **`ping`** command.

Variable	Value
<A.B.C.D > | *<dns_host_name>* | *<WORD>*	Specifies the IP address, DNS host name, or IPv6 address of the unit to test.
datasize*<64–4096>*	Specifies the size of the ICMP packet to be sent. The data size range is from 64 to 4096 bytes.

Table continues…

Variable	Value
{count <*1–9999*>} | continuous	Sets the number of ICMP packets to be sent. The continuous mode sets the ping running until the user interrupts it by entering Ctrl-C.
{timeout |-t} <*1–120*>	Sets the timeout using either the timeout or -t parameter, followed by the number of seconds the switch must wait before timing out.
interval<*1–60*>	Specifies the number of seconds between transmitted packets.
debug	Provides additional output information such as ICMP sequence number and trip time.
source<*A.B.C.D*>	Specifies the source IP address of the packet. Must be a configured address on the switch.
ttl<*0–255*>	Specifies the maximum hop limit for the packet. Range of 0 to 255.

Displaying the agent and diagnostic software load

Display the currently loaded and operational software status for agent and diagnostic loads, either individually or combined, for a switch or stack.

Procedure

1. Log on to CLI to enter User EXEC mode.
2. At the command prompt, enter the following command:

   ```
   show boot [diag] [image]
   ```

Example

The following figure provides a sample output of the **`show boot`** command.

```
Switch>show boot
Unit  Agent Image Active Image Diag Image Active Diag
----- ----------- ------------ ---------- -----------
1     5.2.0.037   5.2.0.037    1.0.0.11   1.0.0.11
2     5.2.0.037   5.2.0.037    1.0.0.11   1.0.0.11
3     5.2.0.037   5.2.0.037    1.0.0.11   1.0.0.11
* - Stack requires reboot for new Active Image to be made operational.
# - Stack requires reboot for new Diag to be made operational.
```

Variable definitions

The following table describes the parameters for the **`show boot`** command.

Variable	Value
diag	Displays information for the diagnostic load only.
image	Displays information for the image load only.

Displaying RMON Alarms using CLI

Displays information about RMON alarms.

Procedure

1. Log on to CLI in Global Configuration command mode.
2. At the command prompt, enter the following command:

   ```
   show rmon alarm
   ```