

Initial Configuration

This chapter guides you through a basic router configuration, which is sufficient for you to access your network. Complex configuration procedures are beyond the scope of this publication and can be found in the modular configuration and modular command reference publications in the Cisco IOS software configuration documentation set that corresponds to the software release installed on your Cisco hardware.

To configure a Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router from a console, connect a terminal to the router console port.

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Checking Conditions Prior to System Startup

Ensure that the following conditions are addressed before starting up the router:

- The optional Gigabit Ethernet Management port cable is installed.
- The chassis is securely mounted and grounded.
- The power and interface cables are connected.
- Your PC with terminal emulation program (HyperTerminal or equivalent) is connected to the console port and powered up.
- Your PC terminal emulation program is configured for 9600 baud, 8 data bits, 1 stop-bit, no parity, and no flow control is set to none.
- You have selected passwords for access control.
- Captive installation screws are tight on all the removable components.
- The console terminal is turned on.
- You have determined the IP addresses for the Ethernet and serial interfaces.

Powering Up the Router

After installing your Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router and connecting cables, start the router and follow these steps:

Procedure

Step 1 Switch on the power supply.

Caution
Do not press any keys on the keyboard until the messages stop and the PWR LED is solid green. Any keys pressed during this time are interpreted as the first command typed when the messages stop, which might cause the router to power off and start over. It takes a few minutes for the messages to stop.

Step 2 Observe the initialization process. When the system boot is complete (the process can take a few minutes), the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router begins to initialize.

Loading the Default System Boot Image

Example:

```
System Bootstrap, Version 15.4(3r)S4, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2014 by cisco Systems, Inc.
Compiled Fri 20-Jun-14 17:24 by alnguyen
Boot ROM1
Last reset cause: PowerOn
UEA platform with 3670016 Kbytes of main memory
Located asr920-universalk9_npe.BLD_V155_1_S_XE314_THROTTLE_LATEST_20140909_040038-std.bin
Image size 266103444 inode num 13, bks cnt 64967 blk size 8*512
################################################################################
Boot image size = 266103444 (0xfdc6a94) bytes
Package header rev 0 structure detected
Calculating SHA-1 hash...done
validate_package: SHA-1 hash:
        calculated c1ecf015:d2973516:c7f1f486:d12c6c55:af781feb
        expected   c1ecf015:d2973516:c7f1f486:d12c6c55:af781feb
Image validated
Passing control to the main image..
%IOSXEBOOT-4-DEBUG_CONF: (rp/0): File /bootflash/debug.conf is absent, ignoring
%IOSXEBOOT-4-WATCHDOG_DISABLED: (rp/0): Hardware watchdog timer disabled: disabled by
BOOT_PARAM
                Restricted Rights Legend
Use, duplication, or disclosure by the Government is
subject to restrictions as set forth in subparagraph
(c) of the Commercial Computer Software - Restricted
Rights clause at FAR sec. 52.227-19 and subparagraph
(c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013.
           cisco Systems, Inc.
           170 West Tasman Drive
           San Jose, California 95134-1706
Cisco IOS Software, ASR920 Software (PPC_LINUX_IOSD-UNIVERSALK9_NPE-M), Experimental Version
 15.5(20140909:060433)
[v155_1_s_xe314_throttle-BLD-BLD_V155_1_S_XE314_THROTTLE_LATEST_20140909_040038-ios 183]
Copyright (c) 1986-2014 by Cisco Systems, Inc.
Compiled Tue 09-Sep-14 04:01 by mcpre
Cisco IOS-XE software, Copyright (c) 2005-2014 by cisco Systems, Inc.
All rights reserved.  Certain components of Cisco IOS-XE software are
licensed under the GNU General Public License ("GPL") Version 2.0.  The
software code licensed under GPL Version 2.0 is free software that comes
with ABSOLUTELY NO WARRANTY.  You can redistribute and/or modify such
GPL code under the terms of GPL Version 2.0.  For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
```

```
or the applicable URL provided on the flyer accompanying the IOS-XE
software.
% failed to initialize nvram
% attempting to recover from backup
% failed to initialize backup nvram
 Tmpdisk creation successful, status = 0
flashfs[17]: 0 files, 1 directories
flashfs[17]: 0 orphaned files, 0 orphaned directories
flashfs[17]: Total bytes: 1935360
flashfs[17]: Bytes used: 1024
flashfs[17]: Bytes available: 1934336
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email to
export@cisco.com.
cisco ASR1000 (Freescale P2020) processor (revision 1.2 GHz) with 916936K/6147K bytes of
memory.
Processor board ID CAT1814V0H6
24 Gigabit Ethernet interfaces
4 Ten Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
3670016K bytes of physical memory.
1328927K bytes of SD flash at bootflash:.
3932032K bytes of USB flash at usb0:.
         --- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]: no
Press RETURN to get started!
*Sep 25 23:30:01.541: TRACE - Smart Agent successfully registered as a RF client
*Sep 25 23:30:01.541: TRACE - Smart Agent registered as a CF client succeeded
*Sep 25 23:30:01.541: TRACE - Smart Agent set CF bundle mode succeeded
*Sep 25 23:30:03.678: %IOS_LICENSE_IMAGE_APPLICATION-6-LICENSE_LEVEL: Module name =
ASR-920-24TZ-M Next reboot level = metroaccess and License = No valid license found
*Sep 25 23:30:09.212: %IOSXE_RP_NV-3-NV_ACCESS_FAIL: Initial read of NVRAM contents failed
*Sep 25 23:30:12.458: %IOSXE_RP_NV-3-BACKUP_NV_ACCESS_FAIL: Initial read of backup NVRAM
contents failed
*Sep 25 23:30:13.941: TRACE - Smart Agent receives a RF status event 408
*Sep 25 23:30:13.941: TRACE - RF status event: unsupported status event: 408
*Sep 25 23:30:16.911: TRACE - Smart Agent receives a RF progression state event 100 0
*Sep 25 23:30:16.911: TRACE - RF progression state: state prog initialization
*Sep 25 23:30:16.921: TRACE - Smart Agent receives a RF progression state event 200 0
*Sep 25 23:30:16.921: TRACE - RF progression state: Active starts progression
*Sep 25 23:30:16.922: TRACE - Registry smart_agent_pf_get_sys_data Not used
*Sep 25 23:30:16.922: TRACE - Get Sys Data from PI The requested operation is not supported
*Sep 25 23:30:16.922: TRACE - UDI Retrieval returned Success
*Sep 25 23:30:16.922: %SMART_LIC-6-AGENT_READY: Smart Agent for Licensing is initialized
*Sep 25 23:30:16.923: %SMART_LIC-6-HA_ROLE_CHANGED: Smart Agent HA role changed to Active.
*Sep 25 23:30:16.928: TRACE - Smart Agent receives a RF progression state event 201 0
*Sep 25 23:30:16.928: TRACE - RF progression state: Active drain
*Sep 25 23:30:16.931: TRACE - Smart Agent receives a RF progression state event 202 0
*Sep 25 23:30:16.931: TRACE - RF progression state: Active preconfig
*Sep 25 23:30:16.936: TRACE - Smart Agent receives a RF progression state event 203 0
*Sep 25 23:30:16.936: TRACE - RF progression state: Active postconfig
*Sep 25 23:30:16.939: TRACE - Smart Agent receives a RF progression state event 204 0
*Sep 25 23:30:16.939: TRACE - RF progression state: Agent is now fully Active 0
*Sep 25 23:30:17.662: pak_debug_init: Successfully initialized pak debug trace buffer
*Sep 25 23:30:17.789: ********************  Box changed from Router mode to Router mode
```

```
*Sep 25 23:30:18.114: %SPANTREE-5-EXTENDED_SYSID: Extended SysId enabled for type vlanCannot
 Get the number of ports in MAC notification
*Sep 25 23:30:20.314: %LINK-3-UPDOWN: Interface Lsmpi0, changed state to up
*Sep 25 23:30:20.314: %LINK-3-UPDOWN: Interface EOBC0, changed state to up
*Sep 25 23:30:20.314: %LINK-5-CHANGED: Interface GigabitEthernet0, changed state to
administratively down
*Sep 25 23:30:20.315: %LINK-3-UPDOWN: Interface LIIN0, changed state to up
*Sep 25 23:30:20.503: **********  About to start Config Read
*Sep 25 23:30:07.035: %CMRP-3-PFU_MISSING:cmand:  The platform does not detect a power
supply in slot 1
*Sep 25 23:30:20.305: %SERVICES-3-NORESOLVE_ACTIVE:linux_iosd-image:  Error resolving active
 FRU: BINOS_FRU_RP
*Sep 25 23:30:21.030: %LINEPROTO-5-UPDOWN: Line protocol on Interface Lsmpi0, changed state
 to up
*Sep 25 23:30:21.030: %LINEPROTO-5-UPDOWN: Line protocol on Interface EOBC0, changed state
 to up
*Sep 25 23:30:21.030: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0,
changed state to down
*Sep 25 23:30:21.030: %LINEPROTO-5-UPDOWN: Line protocol on Interface LIIN0, changed state
 to up
*Sep 25 23:30:48.537: %EMD-3-IDPROM_ACCESS:emd:  Failed access or process an IDPROM because
 Invalid argument -Traceback= 1#8e437c5ca404c03d7153d48baa94e0a1   errmsg:EF59000+2230
:10000000+7868 :10000000+9B74 :10000000+9CE4 :10000000+AD88 :10000000+B2F0 evlib:F334000+E438
 evlib:F334000+105E4 :10000000+8FE0 c:E682000+1E938 c:E682000+1EAE0
*Sep 25 23:32:15.098: %CMRP-3-IDPROM_ACCESS:cmand:  Failed to access or process IDPROM
'power supply': Invalid argument -Traceback= 1#fa970c1e29e154de1ad81d144390dd96
errmsg:E26F000+2230 :10000000+39D6C :10000000+72744 :10000000+4E7D4 :10000000+6EDDC
evlib:E64A000+E438 evlib:E64A000+105E4 :10000000+652F8 c:D9C3000+1E938 c:D9C3000+1EAE0
*Sep 25 23:32:30.069: %LINK-3-UPDOWN: Interface GigabitEthernet0, changed state to down
*Sep 25 23:32:30.744: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0,
 changed state to down
*Sep 25 23:32:30.745: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1,
 changed state to down
*Sep 25 23:32:30.745: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/2,
 changed state to down
*Sep 25 23:32:30.750: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/3,
 changed state to down
*Sep 25 23:32:30.751: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/4,
 changed state to down
*Sep 25 23:32:30.751: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/5,
 changed state to down
*Sep 25 23:32:30.751: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/6,
 changed state to down
*Sep 25 23:32:30.752: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/7,
 changed state to down
*Sep 25 23:32:30.752: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/8,
 changed state to down
*Sep 25 23:32:30.753: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/9,
 changed state to down
*Sep 25 23:32:31.574: ********** System Flag Notify SYSFLAG_CONFIGURED 1
*Sep 25 23:32:31.763: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 0/0
*Sep 25 23:32:32.004: ********** System Flag Notify SYSFLAG_INIT 1
*Sep 25 23:32:32.004: %SYS-5-RESTART: System restarted --
Cisco IOS Software, ASR920 Software (PPC_LINUX_IOSD-UNIVERSALK9_NPE-M), Experimental Version
 15.5(20140909:060433)
[v155_1_s_xe314_throttle-BLD-BLD_V155_1_S_XE314_THROTTLE_LATEST_20140909_040038-ios 183]
Copyright (c) 1986-2014 by Cisco Systems, Inc.
Compiled Tue 09-Sep-14 04:01 by mcpre
*Sep 25 23:32:39.345: %LINK-3-UPDOWN: Interface LIIN0, changed state to up
*Sep 25 23:32:42.971: %SYS-6-BOOTTIME: Time taken to reboot after reload =  670 seconds
Translating "devicehelper.cisco.com"...domain server (255.255.255.255)
Authentication passed
*Sep 25 23:33:38.709: Error: Lic request failed for bundle  count 1, Return code :Request
failed due to no license
```

```
*Sep 25 23:33:38.711: %SPA_OIR-6-ONLINECARD: SPA (24xGE-4x10GE-FIXED-C) online in subslot
0/0
*Sep 25 23:33:38.712: %LICENSE-1-REQUEST_FAILED: License request for feature 1GEupgradelicense
 1.0 failed. UDI=ASR-920-24TZ-M:CAT1814V0H6
*Sep 25 23:33:40.081: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/0, changed state to down
*Sep 25 23:33:40.281: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/1, changed state to down
*Sep 25 23:33:40.329: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/2, changed state to down
*Sep 25 23:33:40.329: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/3, changed state to down
*Sep 25 23:33:40.329: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/4, changed state to down
*Sep 25 23:33:40.425: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/7, changed state to down
*Sep 25 23:33:40.473: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/8, changed state to down
*Sep 25 23:33:40.521: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/9, changed state to down
*Sep 25 23:33:40.569: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/10, changed state to
down
*Sep 25 23:33:40.569: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/11, changed state to
down
*Sep 25 23:33:40.569: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/12, changed state to
down
*Sep 25 23:33:40.569: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/13, changed state to
down
*Sep 25 23:33:40.569: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/14, changed state to
down
*Sep 25 23:33:40.569: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/15, changed state to
down
*Sep 25 23:33:40.617: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/16, changed state to
down
*Sep 25 23:33:40.617: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/17, changed state to
down
*Sep 25 23:33:40.617: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/18, changed state to
down
*Sep 25 23:33:40.617: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/19, changed state to
down
*Sep 25 23:33:40.618: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/20, changed state to
down
*Sep 25 23:33:40.618: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/21, changed state to
down
*Sep 25 23:33:40.618: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/22, changed state to
down
*Sep 25 23:33:40.665: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/23, changed state to
down
*Sep 25 23:33:40.665: %LINK-3-UPDOWN: Interface TenGigabitEthernet0/0/24, changed state to
 down
*Sep 25 23:33:40.665: %LINK-3-UPDOWN: Interface TenGigabitEthernet0/0/25, changed state to
 down
*Sep 25 23:33:40.713: %LINK-3-UPDOWN: Interface TenGigabitEthernet0/0/26, changed state to
 down
*Sep 25 23:33:40.714: %LINK-3-UPDOWN: Interface TenGigabitEthernet0/0/27, changed state to
 down
*Sep 25 23:33:40.809: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/5, changed state to down
*Sep 25 23:33:40.857: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/6, changed state to down
*Sep 25 23:33:42.265: GigabitEthernet0/0/18: Port License not activated, activate license
to use port.
*Sep 25 23:33:42.361: GigabitEthernet0/0/19: Port License not activated, activate license
to use port.
*Sep 25 23:33:42.457: GigabitEthernet0/0/20: Port License not activated, activate license
to use port.
*Sep 25 23:33:42.553: GigabitEthernet0/0/21: Port License not activated, activate license
to use port.
*Sep 25 23:33:42.649: GigabitEthernet0/0/22: Port License not activated, activate license
to use port.
*Sep 25 23:33:42.745: GigabitEthernet0/0/23: Port License not activated, activate license
to use port.
*Sep 25 23:33:42.841: TenGigabitEthernet0/0/24: Port License not activated, activate license
 to use port.
```

```
*Sep 25 23:33:42.937: TenGigabitEthernet0/0/25: Port License not activated, activate license
 to use port.
*Sep 25 23:33:42.985: TenGigabitEthernet0/0/26: Port License not activated, activate license
 to use port.
*Sep 25 23:33:43.128: TenGigabitEthernet0/0/27: Port License not activated, activate license
 to use port.
*Sep 25 23:33:47.106: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/0, changed state to up
*Sep 25 23:33:47.829: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0,
 changed state to up
Router>
```

During the boot process, observe the system LEDs. After the router has booted, the green STAT LED comes on and stays on.

Verifying the Front Panel LEDs

The front-panel indicator LEDs provide power, activity, and status information useful during bootup. For more detailed information about the LEDs, see the *LED Indicators* section.

Verifying the Hardware Configuration

To display and verify the hardware features, enter the following commands:

- **show version**—Displays the system hardware version, the installed software version, the names and sources of configuration files, the boot images, and the amount of installed DRAM, NVRAM, and flash memory.
- **show diag slot**—Displays the IDPROM information for the assemblies in the chassis.

Check Hardware and Software Compatibility

To check the minimum software requirements of Cisco IOS-XE software with the hardware installed on your Cisco ASR 920 Router, Cisco maintains the **Software Research** tool on Cisco.com. The tool provides the minimum Cisco IOS-XE requirements for individual hardware modules and components.

Note To access this tool, you must have a Cisco.com login account.

To access the **Software Research** tool:

1. Go to http://software.cisco.com/selection/research.html.
2. In the **Search by Product** tab, type *ASR 920*.
3. The Cisco Suggested Release versions are displayed.

Configuring the Router at Startup

This section explains how to create a basic running configuration for your Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router.

Note You must acquire the correct network addresses from your system administrator or consult your network plan to determine the correct addresses before you can complete the router configuration.

Before continuing the configuration process, check the current state of the router by entering the **show version** command. This command displays the release of Cisco IOS software that is available on the router.

For information on modifying the configuration after you create it, see the Cisco IOS configuration and Cisco IOS Master Command List, All Releases guides.

To configure a Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router from the console, you must connect a terminal or terminal server to the console port on the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router. To configure the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router using the management Ethernet port, you must have the router's IP address.

Accessing the CLI Using the Console

To access the command line interface using the console, follow these steps:

Procedure

Step 1 When your system is booting, type No at the prompt.

Example:

```
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]: no
```

Step 2 Press Return to enter the user EXEC mode.

The following prompt is displayed:

Example:

```
Router>
```

Step 3 From the user EXEC mode, enter the enable command, as shown in the following example:

Example:

```
Router> enable
```

Step 4 At the password prompt, enter your system password, as shown in the following example. If an enable password has not been set on your system, you can skip this step.

Example:

```
Password: enablepass
```

When your password is accepted, the privileged EXEC mode prompt is displayed:

Example:

```
Router#
```

You now have access to the CLI in the privileged EXEC mode. You can enter the necessary commands to complete the required tasks.

Step 5 To exit the console session, enter the quit command, as shown in the following example:

Example:

```
Router# quit
```

Configuring Global Parameters

When you first start the setup program, configure the global parameters. These parameters are used for controlling system-wide settings. Perform the following steps to enter the global parameters:

Procedure

Step 1 Connect a console terminal to the console port, and then boot the router. For more information on connecting a console terminal, see Connecting Console Cables section.

Note
The following is only an example of the output display; prompts may vary.

When you see this information, it means that you have successfully booted your router:

Example:

```
Restricted Rights Legend

Use, duplication, or disclosure by the Government is
subject to restrictions as set forth in subparagraph
(c) of the Commercial Computer Software - Restricted
Rights clause at FAR sec. 52.227-19 and subparagraph
(c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013.

           cisco Systems, Inc.
           170 West Tasman Drive
  San Jose, California 95134-1706
.
.
.
         --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: yes

Press RETURN to get started!
```

Step 2 The first sections of the configuration script appear only at an initial system startup. On subsequent uses of the setup facility, the script begins with a System Configuration Dialog as shown below: When you are prompted about whether you want to enter the initial configuration dialog, enter yes.

Example:

```
Would you like to enter the initial configuration dialog? [yes/no] yes
At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '[]'.
Basic management setup configures only enough connectivity for management of the system,
extended setup will ask you to configure each interface on the system.
```

Basic management setup configures enough connectivity for managing the system; extended setup will ask you to configure each interface on the system.

Checking the Running Configuration Settings

To check the value of the settings you have entered, enter the show running-config command at the Router# prompt:

```
Router# show running-config
```

To review the changes you have made to the configuration use the **show startup-config** command in the user EXEC mode to see the changes and copy run-start stored in the NVRAM.

Saving the Running Configuration to NVRAM

To store the configuration or changes to your startup configuration in NVRAM, enter the copy running-config startup-config command at the prompt:

Router# copy running-config startup-config

Using this command saves the configuration settings that you created in the router using the configuration mode and the setup facility. If you fail to do this, your configuration will be lost, and will not be available when you reload the router next.

Safely Powering Off the Router

This section explains how to shut down the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router. We recommend that before turning off all power to the chassis, you issue the **reload** command. This ensures that the operating system cleans up all the file systems. After the reload operation is complete, the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router can be powered off safely.

To power off the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router safely,:

Procedure

Step 1 Slip on the ESD-preventive wrist strap included in the accessory kit.

Step 2 Enter the **reload** command.

Step 3 Confirm the reload command.

Example:

```
Rmcp-6ru-1#reload
Proceed with reload? [confirm]
Aug 17 00:06:47.051 R0/0: %PMAN-5-EXITACTION: Process manager is exiting: prs exit with
reload chassis code
```

Step 4 After confirming the reload command, wait until the system bootstrap message is displayed before powering off the system:

Example:

```
System Bootstrap, Version 15.4(3)S1, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2012 by cisco Systems, Inc.
Current image running: Boot ROM0
Last reset cause: RSP-Board
UEA platform with 2097152 Kbytes of main memory
```

Step 5 Remove power cables, if any, from the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router:

- For power supplies with a circuit breaker switch, position the switch to the Off (O) position.
- For power supplies with a standby switch, place the standby switch in the Standby position.

Note
After powering off the router, wait for a minimum of 30 seconds before powering it on again.

Automatic Shutdown of the Router

This section lists the scenarios in which the Cisco ASR 920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Router shutdown is automatically initiated by software:

1. After removal, fan tray is not re-inserted back within stipulated time period. For more information on shutdown time, see *Cisco ASR-920-24SZ-IM Router Shut Down Time Table*.
2. The on-board or the PSU temperature sensors detect the shutdown limit.
3. Multiple fan failures (two or more than two) fans fail.

After the router shutdown, the PSU LED turns red to indicate that the PSU is switched off.



Note To restart the router, you must power cycle AC/DC input. Before powering on the PSU, switch off the PSU input for 30 seconds.