



No Service Password-Recovery

The No Service Password-Recovery feature is a security enhancement that prevents anyone with console access from accessing the router configuration and clearing the password. It also prevents anyone from changing the configuration register values and accessing NVRAM.

Feature History for the No Service Password-Recovery Feature

Release	Modification
12.3(8)YA	This feature was introduced.
12.3(14)T	This feature was integrated into Cisco IOS Release 12.3(14)T.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

Contents

- [Prerequisites for No Service Password-Recovery, page 1](#)
- [Information About No Service Password-Recovery, page 2](#)
- [How to Enable No Service Password-Recovery, page 2](#)
- [Configuration Examples for No Service Password-Recovery, page 10](#)
- [Additional References, page 11](#)
- [Command Reference, page 13](#)

Prerequisites for No Service Password-Recovery

You are required to download and install ROM monitor (ROMMON) version 12.2(11)YV1 before you can use this feature.



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Information About No Service Password-Recovery

To configure the No Service Password-Recovery feature, you should understand the following concepts:

- [Cisco Password Recovery Procedure, page 2](#)
- [Configuration Registers and System Boot Configuration, page 2](#)

Cisco Password Recovery Procedure

The Cisco IOS software provides a password recovery procedure that relies upon gaining access to ROMMON mode using the Break key during system startup. In ROMMON mode, the router software can be reloaded at which time prompting a new system configuration that includes a new password.

The current password recovery procedure enables anyone with console access, the ability to access the router and its network. The No Service Password-Recovery feature prevents the completion of the Break key sequence and the entering of ROMMON mode during system startups and reloads.

Configuration Registers and System Boot Configuration

The lowest four bits of the configuration register (bits 3, 2, 1, and 0) form the boot field. The boot field determines if the router boots manually from ROM or automatically from Flash or the network. For example, when the configuration register boot field value is set to any value from 0x2 to 0xF, the router uses the boot field value to form a default boot filename for autobooting from a network server.

Bit 6, when set, ignores the startup configuration, while bit 8 enables a break. To use this feature, the configuration register must be set to autoboot before it can be enabled. Any other configuration register setting will prevent the feature from being enabled.

**Note**

By default, the no confirm prompt and message are not displayed after reloads.

How to Enable No Service Password-Recovery

This section contains the following procedures:

- [Upgrading the ROMMON Version, page 3](#) (required)
- [Verifying the Upgraded ROMMON Version, page 5](#) (optional)
- [Enabling No Service Password-Recovery, page 5](#) (required)
- [Recovering a Device, page 6](#) (required)

Upgrading the ROMMON Version

If your router or access server does not find a valid system image to load, the system will enter ROMMON mode. ROMMON mode can also be accessed by interrupting the boot sequence during startup.

Another method for entering ROMMON mode is to set the configuration register so that the router automatically enters ROMMON mode when it boots. For information about setting the configuration register value, refer to the [Cisco IOS Configuration Fundamentals and Network Management Configuration Guide](#), Release 12.3.

Perform this task to upgrade your version of ROMMON.

SUMMARY STEPS

1. **reload**
2. **set** *tftp-file ip-address ip-subnet-mask default-gateway tftp-server*
3. **sync**
4. **tftpdnld -u**
5. **boot**

DETAILED STEPS

	Command or Action	Purpose
Step 1	reload Example: Router> reload	Reloads a Cisco IOS image. After issuing this command and responding to the system prompts as necessary, the system will begin reloading the system software image. While the system is reloading, press the Break key or a Break key-combination during the first 60 seconds of system startup. Pressing the Break key interrupts the boot sequence and puts the router into ROMMON mode. Note The default Break key combination is Ctrl-C, but this may be configured differently on your system.
Step 2	set tftp-file ip-address ip-subnet-mask default-gateway tftp-server Example: ROMMON> set tftpabc 10.10.0.0 255.0.0.0 10.1.1.0 10.29.32.0	Displays all the created variables. The arguments are as follows: <ul style="list-style-type: none"> <i>tftp-file</i>—Location of the new ROMMON image on the TFTP server. The length of the filename is a maximum of 45 characters. <i>ip-address</i>—IP address on the router to connect to the TFTP server. <i>ip-subnet-mask</i>—IP subnet mask of the router. <i>default-gateway</i>—IP address of the gateway of the TFTP server. <i>tftp-server</i>—IP address of the TFTP server from which the image will be downloaded. Note This command is not supported on the Cisco 800 series routers.
Step 3	sync Example: ROMMON> sync	Saves the changes to the image.
Step 4	tftpdnld -u Example: ROMMON> tftpdnld -u	Downloads the new ROMMON image from the TFTP server. Reset if prompted.
Step 5	boot Example: ROMMON> boot	Boots the router with the Cisco IOS image in flash memory.

Verifying the Upgraded ROMMON Version

To verify that you have downloaded a new version of ROMMON, use the **show version** command:

```
Router# show version

Cisco IOS Software, C828 Software (C828-K9OS&6-M), Version 12.3 (20040702:094716)
[userid 168]

Copyright (c) 1986-2004 by Cisco Systems, Inc.

ROM: System Bootstrap, Version 12.2(11)YV1, Release Software (fc1)

Router uptime is 22 minutes
System returned to ROM by reload
.
.
.
```

Enabling No Service Password-Recovery

Perform this task to enable the No Service Password-Recovery feature.



Note

As a precaution, a valid Cisco IOS image should reside in flash memory before this feature is enabled.

If you plan to enter the **no service password-recovery** command, we recommend that you save a copy of the system configuration file in a location away from the switch or router. If you are using a switch that is operating in VTP transparent mode, we recommend that you also save a copy of the vlan.dat file in a location away from the switch.

Prerequisites

Always disable the feature before downgrading to an image that does not support this feature, because you cannot reset after the downgrade.

The configuration register boot bit must be enabled so that there is no way to break into ROMMON when this command is configured. Cisco IOS software should prevent the user from configuring the boot field in the config register.

Bit 6, which ignores the startup configuration and bit 8, which enables a break, should be set.

The Break key should be disabled while the router is booting up and disabled in Cisco IOS software when this feature is enabled.

SUMMARY STEPS

1. **enable**
2. **show version**
3. **configure terminal**

4. **config-register** *value*
5. **no service password-recovery**
6. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	show version Example: Router# show version	Displays information about the system software, including configuration register settings. The configuration register must be set to autoboot before entering the no service password-recovery command.
Step 3	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 4	config-register <i>value</i> Example: Router(config)# config-register 0x2012	(Optional) Changes the configuration register setting. <ul style="list-style-type: none">• If necessary, change the configuration register setting so the router is set to autoboot.
Step 5	no service password-recovery Example: Router(config)# no service password-recovery	Disables password-recovery capability at the system console.
Step 6	exit Example: Router(config)# exit	Exits global configuration mode and returns to EXEC mode.

Recovering a Device

To recover a device once the No Service Password-Recovery feature has been enabled, press the Break key within 5 seconds after the image decompresses during the boot. You are prompted to confirm the Break key action. When you confirm the action, the startup configuration is erased, the password-recovery procedure is enabled, and the router boots with the factory default configuration.

If you do not confirm the Break key action, the router boots normally with the No Service Password-Recovery feature enabled.

Examples

This section provides the following examples of the process:

- [Confirmed Break, page 7](#)
- [Unconfirmed Break, page 8](#)

Confirmed Break

```
PASSWORD RECOVERY FUNCTIONALITY IS DISABLED
program load complete, entry point: 0x80013000, size: 0x8396a8
Self decompressing the image :
#####
##### [OK]
!The 5 second window starts now.
```

```
telnet> send break
telnet> send break
telnet> send break
```

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Cisco IOS Software, C831 Software (C831-K9O3SY6-M), Version 12.3(8)YA
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Fri 13-Aug-04 03:21
Image text-base: 0x80013200, data-base: 0x81020514

PASSWORD RECOVERY IS DISABLED.

Do you want to reset the router to factory default configuration and proceed [y/n] ?
!The user enters "Y" here.

Reset router configuration to factory default.

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<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 C831 (MPC857DSL) processor (revision 0x00) with 46695K/2457K bytes of memory.
Processor board ID 0000 (1314672220), with hardware revision 0000 CPU rev number 7
3 Ethernet interfaces
4 FastEthernet interfaces
128K bytes of NVRAM.

```
24576K bytes of processor board System flash (Read/Write)
2048K bytes of processor board Web flash (Read/Write)
```

```
--- System Configuration Dialog ---
```

```
Would you like to enter the initial configuration dialog? [yes/no]: no
!Start up configuration is erased.
```

```
SETUP: new interface FastEthernet1 placed in "up" state
SETUP: new interface FastEthernet2 placed in "up" state
SETUP: new interface FastEthernet3 placed in "up" state
SETUP: new interface FastEthernet4 placed in "up" state
```

```
Press RETURN to get started!
```

```
Router>
Router> enable
Router# show startup configuration
```

```
startup-config is not present
```

```
Router# show running-config | incl service
```

```
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
```

```
!The "no service password-recovery" is disabled.
```

Unconfirmed Break

```
PASSWORD RECOVERY FUNCTIONALITY IS DISABLED
```

```
telnet> send break
program load complete, entry point: 0x80013000, size: 0x8396a8
Self decompressing the image :
##### [OK]
```

```
telnet> send break
telnet> send break
```

```
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```

```
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Software clause at DFARS sec. 252.227-7013.
```

```
Cisco Systems, Inc.
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San Jose, California 95134-1706
```

```
Cisco IOS Software, C831 Software (C831-K903SY6-M), Version 12.3(8)YA
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Fri 13-Aug-04 03:21
Image text-base: 0x80013200, data-base: 0x81020514
```

```
PASSWORD RECOVERY IS DISABLED.
Do you want to reset the router to factory default configuration and proceed [y/n] ?
!The user enters "N" here.
```


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<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 C831 (MPC857DSL) processor (revision 0x00) with 46695K/2457K bytes of memory.
Processor board ID 0000 (1314672220), with hardware revision 0000
CPU rev number 7
3 Ethernet interfaces
4 FastEthernet interfaces
128K bytes of NVRAM.
24576K bytes of processor board System flash (Read/Write)
2048K bytes of processor board Web flash (Read/Write)

Press RETURN to get started!
!The Cisco IOS software boots as if it is not interrupted.

```
Router> enable
Router#
Router# show startup config
```

```
Using 984 out of 131072 bytes
!
version 12.3
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
no service password-recovery
!
hostname Router
!
boot-start-marker
boot-end-marker
!
memory-size iomem 5
!
no aaa new-model
ip subnet-zero
!
ip ips po max-events 100
no ftp-server write-enable
!
interface Ethernet0
 no ip address
 shutdown
!
interface Ethernet1
 no ip address
 shutdown
 duplex auto
!
interface Ethernet2
 no ip address
 shutdown
```

```

!
interface FastEthernet1
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet2
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet3
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet4
  no ip address
  duplex auto
  speed auto
!
ip classless
!
ip http server
no ip http secure-server
!
control-plane
!
line con 0
  no modem enable
  transport preferred all
  transport output all
line aux 0
line vty 0 4
!
scheduler max-task-time 5000
end

Router# show running-config | incl service

no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
no service password-recovery
end

```

Configuration Examples for No Service Password-Recovery

This section provides the following configuration example:

- [Disabling Password Recovery: Example, page 11](#)

Disabling Password Recovery: Example

The following example shows how to obtain the configuration register setting (which is set to autoboot), disable password recovery capability, and then verify that the configuration persists through a system reload:

```
Router# show version

Cisco Internetwork Operating System Software
IOS (tm) 5300 Software (C7200-P-M), Version 12.3(8)YA, RELEASE SOFTWARE (fc1)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Wed 05-Mar-04 10:16 by xxx
Image text-base: 0x60008954, data-base: 0x61964000

ROM: System Bootstrap, Version 12.3(8)YA, RELEASE SOFTWARE (fc1)
.
.
.
125440K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes).
8192K bytes of Flash internal SIMM (Sector size 256K).
Configuration register is 0x2102

Router# configure terminal

Router(config)# no service password-recovery

WARNING:
Executing this command will disable the password recovery mechanism.
Do not execute this command without another plan for password recovery.

Are you sure you want to continue? [yes/no]: yes
.
.
.
Router(config)# exit
Router#
Router# reload

Proceed with reload? [confirm] yes

00:01:54: %SYS-5-RELOAD: Reload requested
System Bootstrap, Version 12.3...
Copyright (c) 1994-2004 by cisco Systems, Inc.
C7400 platform with 262144 Kbytes of main memory

PASSWORD RECOVERY FUNCTIONALITY IS DISABLED
.
.
.
```

Additional References

The following sections provide references related to the No Service Password-Recovery feature.

Related Documents

Related Topic	Document Title
Setting, changing, and recovering lost passwords	Refer to the “Configuring Passwords and Privileges” chapter in the <i>Cisco IOS Security Configuration Guide</i> , Release 12.3
Loading system images and rebooting	Refer to the “File Management” section in the <i>Cisco IOS Configuration Fundamentals and Network Management Configuration Guide</i> , Release 12.3
Security commands: complete command syntax, command mode, command history, defaults, usage guidelines, and examples	Refer to the <i>Cisco IOS Security Command Reference</i> , Release 12.3T

Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIBs	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/public/support/tac/home.shtml

Command Reference

This section documents one new command only:

- [service password-recovery](#)

service password-recovery

To enable password recovery capability, use the **service password-recovery** command in global configuration mode. To disable password recovery capability, use the **no service password-recovery** command.

service password-recovery

no service password-recovery

Syntax Description This command has no arguments or keywords.

Defaults Password recovery capability is enabled.

Command Modes Global configuration

Command History	Release	Modification
	12.3(8)YA	This command was introduced.
	12.3(14)T	This command was integrated into Cisco IOS Release 12.3(14)T.

Usage Guidelines



Note

This command is not available on all platforms. Use Feature Navigator to ensure that it is available on your platform.

If you plan to disable the password recovery capability with the the **no service password-recovery** command, we recommend that you save a copy of the system configuration file in a location away from the switch or router. If you are using a switch that is operating in VTP transparent mode, we recommend that you also save a copy of the vlan.dat file in a location away from the switch.



Caution

Entering the **no service password-recovery** command at the command line disables password recovery. Always disable this command before downgrading to an image that does not support password recovery capability, because you cannot recover the password after the downgrade.

The configuration register boot bit must be enabled so that there is no way to break into ROMMON when this command is configured. Cisco IOS software should prevent the user from configuring the boot field in the config register.

Bit 6, which ignores the startup configuration, and bit 8, which enables a break should be set.

The Break key should be disabled while the router is booting up and disabled in Cisco IOS software when this feature is enabled.

It may be necessary to use the **config-register** global configuration command to set the configuration register to autoboot before entering the **no service password-recovery** command. The last line of the **show version EXEC** command displays the configuration register setting. Use the **show version EXEC** command to obtain the current configuration register value, configure the router to autoboot with the **config-register** command if necessary, then enter the **no service password-recovery** command.

Once disabled, the following configuration register values are invalid for the **no service password-recovery** command:

- 0x0
- 0x2002 (bit 8 restriction)
- 0x0040 (bit 6)
- 0x8000 (bit 15)

Catalyst Switch Operation

Use the **service password-recovery** command to reenble the password-recovery mechanism (the default). This mechanism allows a user with physical access to the switch to hold down the Mode button and interrupt the boot process while the switch is powering up and to assign a new password. Use the **no** form of this command to disable the password-recovery capability.

When the password-recovery mechanism is disabled, interrupting the boot process is allowed only if the user agrees to set the system back to the default configuration. Use the **show version EXEC** command to verify if password recovery is enabled or disabled on a switch.

The **service password-recovery** command is valid only on Catalyst 3550 Fast Ethernet switches; it is not available for Gigabit Ethernet switches.

Examples

Router Configuration Examples

The following example shows how to obtain the configuration register setting (which in this example is set to autoboot), disable the password-recovery capability, and then verify that the configuration persists through a system reload. The **noconfirm** keyword prevents a confirmation prompt from interrupting the booting process.

```
Router# show version
```

```
Cisco Internetwork Operating System Software
IOS (tm) 5300 Software (C7200-P-M), Version 12.3(8)YA, RELEASE SOFTWARE (fc1)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Wed 05-Mar-03 10:16 by xxx
Image text-base: 0x60008954, data-base: 0x61964000

ROM: System Bootstrap, Version 12.3(8)YA, RELEASE SOFTWARE (fc1)
BOOTLDR: 7200 Software (C7200-KBOOT-M), Version 12.3(8)YA, RELEASE SOFTWARE (fc1)

Router uptime is 10 minutes
System returned to ROM by reload at 16:28:11 UTC Thu Mar 6 2003
.
.
.
125440K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes).
8192K bytes of Flash internal SIMM (Sector size 256K).
Configuration register is 0x2012
```

```
Router# configure terminal
```

```
Router(config)# no service password-recovery noconfirm
```

```
WARNING:
Executing this command will disable the password recovery mechanism.
Do not execute this command without another plan for password recovery.
```


Are you sure you want to continue? [yes/no]: **yes**

.
.
.

Router(config)# **exit**

Router#

Router# **reload**

Proceed with reload? [confirm] **yes**

00:01:54: %SYS-5-RELOAD: Reload requested

System Bootstrap, 12.3(8)YA...

Copyright (c) 1994-2004 by cisco Systems, Inc.

C7400 platform with 262144 Kbytes of main memory

PASSWORD RECOVERY FUNCTIONALITY IS DISABLED

.
.
.

The following example shows what happens when a break is confirmed and when a break is not confirmed.

Confirmed Break

PASSWORD RECOVERY FUNCTIONALITY IS DISABLED

program load complete, entry point: 0x80013000, size: 0x8396a8

Self decompressing the image :

[OK] !The 5-second window starts.

telnet> **send break**

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Cisco IOS Software, C831 Software (C831-K9O3SY6-M), Version 12.3(8)YA

Copyright (c) 1986-2004 by Cisco Systems, Inc.

Compiled Fri 13-Aug-04 03:21

Image text-base: 0x80013200, data-base: 0x81020514

PASSWORD RECOVERY IS DISABLED.

Do you want to reset the router to factory default configuration and proceed [y/n]?

!The user enters "y" here.

Reset router configuration to factory default.

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If you require further assistance please contact us by sending email to export@cisco.com.

Cisco C831 (MPC857DSL) processor (revision 0x00) with 46695K/2457K bytes of memory.
 Processor board ID 0000 (1314672220), with hardware revision 0000 CPU rev number 7
 3 Ethernet interfaces
 4 FastEthernet interfaces
 128K bytes of NVRAM
 24576K bytes of processor board System flash (Read/Write)
 2048K bytes of processor board Web flash (Read/Write)

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no
 !Start up config is erased.

SETUP: new interface FastEthernet1 placed in "up" state
 SETUP: new interface FastEthernet2 placed in "up" state
 SETUP: new interface FastEthernet3 placed in "up" state
 SETUP: new interface FastEthernet4 placed in "up" state

Press RETURN to get started!

Router> **enable**
 Router# **show startup configuration**

startup-config is not present

Router# **show running-config | incl service**

no service pad
 service timestamps debug datetime msec
 service timestamps log datetime msec
 no service password-encryption !The "no service password-recovery" is disabled.

=====

Unconfirmed Break

PASSWORD RECOVERY FUNCTIONALITY IS DISABLED

telnet> **send break**

program load complete, entry point: 0x80013000, size: 0x8396a8
 Self decompressing the image :

 ##### [OK]

telnet> **send break**

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```
Cisco IOS Software, C831 Software (C831-K9O3SY6-M), Version 12.3(8)YA
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Fri 13-Aug-04 03:21
Image text-base: 0x80013200, data-base: 0x81020514
```

PASSWORD RECOVERY IS DISABLED.

Do you want to reset the router to factory default configuration and proceed [y/n]?

!The user enters "n" here.

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Processor board ID 0000 (1314672220), with hardware revision 0000 CPU rev number 7

3 Ethernet interfaces

4 FastEthernet interfaces

128K bytes of NVRAM

24576K bytes of processor board System flash (Read/Write)

2048K bytes of processor board Web flash (Read/Write)

Press RETURN to get started! !The Cisco IOS software boots as if it is not interrupted.

Router> **enable**

Router# **show startup configuration**

```
Using 984 out of 131072 bytes
!
version 12.3
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
no service password-recovery
!
hostname Router
!
boot-start-marker
boot-end-marker
!
memory-size iomem 5
!
no aaa new-model
ip subnet-zero
!
ip ips po max-events 100
no ftp-server write-enable
!
interface Ethernet0
 no ip address
 shutdown
!
```

```
interface Ethernet1
  no ip address
  shutdown
  duplex auto
!
interface Ethernet2
  no ip address
  shutdown
!
interface FastEthernet1
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet2
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet3
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet4
  no ip address
  duplex auto
  speed auto
!
ip classless
!
ip http server
no ip http secure-server
!
control-plane
!
line con 0
  no modem enable
  transport preferred all
  transport output all
line aux 0
line vty 0 4
!
scheduler max-task-time 5000
end
```

```
Router# show running-configuration | incl service
```

```
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
no service password-recovery
```

Configuration Register Messages Example

The **no service password-recovery** command expects the router configuration register to be configured to autoboot. If the configuration register is set to something other than to autoboot before the **no service password-recovery** command is entered, you will see a prompt like the one shown in the following example asking you to use the **config-register** global configuration command to change the setting.

```
Router(config)# no service password-recovery
```

```
Please setup auto boot using config-register first.
```



Note

To avoid any unintended result due to the behavior of this command, use the **show version EXEC** command to obtain the current configuration register value. If not set to autoboot, you will need to configure the router to autoboot with the **config-register** command before entering the **no service password-recovery** command.

Once password recovery is disabled, you will not be able set bit pattern 0x40, 0x8000 or set the value to 0x0 to disable autoboot. The following example shows the messages displayed when invalid configuration register settings are attempted on a router with password recovery disabled.

```
Router(config)# config-register 0x2143
```

```
Password recovery is disabled, cannot enable diag or ignore configuration.
```

The command will reset the invalid bit pattern and continue to allow modification of nonrelated bit patterns. The configuration register value will be reset to 0x3 at the next system reload, which can be verified by checking the last line of the **show version** command output:

```
Configuration register is 0x2012 (will be 0x3 at next reload)
```

Catalyst Switch Example

The following example shows how to disable password recovery on a switch so that a user can only reset a password by agreeing to return to the default configuration:

```
Switch(config)# no service-password recovery
```

```
Switch(config)# exit
```

To use the password-recovery procedure, a user with physical access to the switch holds down the Mode button while the unit powers up and for a second or two after the LED above port 1X goes off. When the button is released, the system continues with initialization. If the password-recovery mechanism is disabled, the following message is displayed:

```
The password-recovery mechanism has been triggered, but is currently disabled. Access to the boot loader prompt through the password-recovery mechanism is disallowed at this point. However, if you agree to let the system be reset back to the default system configuration, access to the boot loader prompt can still be allowed.
```

```
Would you like to reset the system back to the default configuration (y/n)?
```

If you choose not to reset the system back to the default configuration, the normal boot process continues, as if the Mode button had not been pressed. If you choose to reset the system back to the default configuration, the configuration file in flash memory is deleted and the VLAN database file, flash:vlan.dat (if present), is deleted.

The following is sample output from the **show version** privileged EXEC command on a switch when password recovery is disabled:

```
Switch# show version
```

```
Cisco Internetwork Operating System Software
```

```

IOS (tm) C3550 Software (C3550-I9Q3L2-M), Version 12.3(8)YA, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2004 by cisco Systems, Inc.
Compiled Wed 24-Oct-01 06:20 by xxx
Image text-base: 0x00003000, data-base: 0x004C1864

```

```

ROM: Bootstrap program is C3550 boot loader

```

```

flam-1-6 uptime is 1 week, 6 days, 3 hours, 59 minutes
System returned to ROM by power-on

```

```

Cisco WS-C3550-48 (PowerPC) processor with 65526K/8192K bytes of memory.
Last reset from warm-reset
Running Layer2 Switching Only Image

```

```

Ethernet-controller 1 has 12 Fast Ethernet/IEEE 802.3 interfaces

```

```

Ethernet-controller 2 has 12 Fast Ethernet/IEEE 802.3 interfaces

```

```

Ethernet-controller 3 has 12 Fast Ethernet/IEEE 802.3 interfaces

```

```

Ethernet-controller 4 has 12 Fast Ethernet/IEEE 802.3 interfaces

```

```

Ethernet-controller 5 has 1 Gigabit Ethernet/IEEE 802.3 interface

```

```

Ethernet-controller 6 has 1 Gigabit Ethernet/IEEE 802.3 interface

```

```

48 FastEthernet/IEEE 802.3 interface(s)
2 Gigabit Ethernet/IEEE 802.3 interface(s)

```

```

The password-recovery mechanism is disabled.
32K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address: AA:00:0B:2B:02:00
Configuration register is 0x10F

```

Related Commands

Command	Description
config-register	Changes the configuration register settings.
show version	Displays version information for the hardware and firmware.

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■ service password-recovery