

# Password Recovery Procedure for the Cisco 1900 Series Integrated Services Routers

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## Introduction

This document describes how to recover the **enable password** and the **enable secret** passwords. These passwords protect access to privileged EXEC and configuration modes. The **enable password** password can be recovered, but the **enable secret** password is encrypted and must be replaced with a new password. Use the procedure described in this document in order to replace the **enable secret** password.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

The information in this document is based on this hardware version:

- Cisco 1900 Series Integrated Services Router

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

### Related Products

Refer to Password Recovery Procedures for information on how to recover passwords for related products.

### Conventions

Refer to Cisco Technical Tips Conventions for information on document conventions.

# Step-by-Step Procedure

Perform these steps in order to recover your password:

1. Attach a terminal or PC with terminal emulation to the console port of the router. Use these terminal settings:

- ◆ 9600 baud rate
- ◆ No parity
- ◆ 8 data bits
- ◆ 1 stop bit
- ◆ No flow control

Refer to these documents for information on how to cable and connect a terminal to the console port or the AUX port:

- ◆ Cabling Guide for Console and AUX Ports
- ◆ Connecting a Terminal to the Console Port on Catalyst Switches
- ◆ Connect a Terminal to Catalyst 2948G-L3, 4908G-L3, and 4840G Series Switches

2. If you can access the router, type **show version** at the prompt, and record the configuration register setting. See Example of Password Recovery Procedure in order to view the output of a **show version** command.

**Note:** The configuration register is typically set to 0x2102 or 0x102. If you can no longer access the router (because of a lost login or TACACS password), you can safely assume that your configuration register is set to 0x2102.

3. Use the power switch in order to turn off the router, and then turn the router back on.

**Note:**

- ◆ In order to simulate this step on a Cisco 6400, pull out and then plug in the Node Route Processor (NRP) or Node Switch Processor (NSP) card.
- ◆ In order to simulate this step on a Cisco 6x00 with NI-2, pull out and then plug in the NI-2 card.

4. Press **Break** on the terminal keyboard a couple of times after you see the message `program load complete, entry point: 0x80008000, size: 0x6fdb4c` in order to put the router into ROMMON.

**Note:** The values of entry point and size are subjected to the routers.

If the break sequence does not work, refer to Standard Break Key Sequence Combinations During Password Recovery for other key combinations.

If unable to break into ROMMON mode, perform these steps:

- a. Remove flash.
  - b. Reload the router. Router will end up in ROMMON mode.
  - c. Insert flash.
  - d. Perform standard procedure for password recovery.
5. Type **confreg 0x2142** at the `rommon 1>` prompt in order to boot from Flash.

This step bypasses the startup configuration where the passwords are stored.

6. Type **reset** at the `rommon 2>` prompt.

The router reboots, but ignores the saved configuration.

7. Type **no** after each setup question, or press **Ctrl-C** in order to skip the initial setup procedure.
8. Type **enable** at the `Router>` prompt.

You are in enable mode and should see the `Router#` prompt.

9. Type **configure memory** or **copy startup-config running-config** in order to copy the nonvolatile RAM (NVRAM) into memory.



**Warning:** Do not enter **copy running-config startup-config** or **write**. These commands

erase your startup configuration.

10. Type **show running-config**.

The **show running-config** command shows the configuration of the router. In this configuration, the **shutdown** command appears under all interfaces, which indicates all interfaces are currently shut down. In addition, the passwords (enable password, enable secret, vty, console passwords) are in either an encrypted or unencrypted format. You can reuse unencrypted passwords. You must change encrypted passwords to a new password.

11. Type **configure terminal**.

The `hostname(config)#` prompt appears.

12. Type **enable secret <password>** in order to change the **enable secret** password. For example:

```
hostname(config)#enable secret cisco
```

13. Issue the **no shutdown** command on every interface that you use.

If you issue a **show ip interface brief** command, every interface that you want to use should display *up up*.

14. Type **config-register <configuration\_register\_setting>**. Where *configuration\_register\_setting* is either the value you recorded in step 2 or `0x2102`. For example:

```
hostname(config)#config-register 0x2102
```

15. Press **Ctrl-z** or **end** in order to leave the configuration mode.

The `hostname#` prompt appears.

16. Type **write memory** or **copy running-config startup-config** in order to commit the changes.

## Example of Password Recovery Procedure

This section provides an example of the password recovery procedure. This example was created with a Cisco 2900 Series ISR. Even if you do not use a Cisco 2900 Series ISR, this output provides an example of what you should experience on your product.

```
Router>enable
Password:
Password:
Password:
% Bad secrets
```

```
Router>show version
Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.0(1)M1,
  RELEASE SOFTWARE (fcl)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2009 by Cisco Systems, Inc.
```

Compiled Wed 02-Dec-09 15:23 by prod\_rel\_team

ROM: System Bootstrap, Version 15.0(1r)M1, RELEASE SOFTWARE (fc1)

c2921-CCP-1-xfr uptime is 2 weeks, 22 hours, 15 minutes  
System returned to ROM by reload at 06:06:52 PCTime Mon Apr 2 1900  
System restarted at 06:08:03 PCTime Mon Apr 2 1900  
System image file is "flash:c2900-universalk9-mz.SPA.150-1.M1.bin"  
Last reload reason: Reload Command

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](mailto:export@cisco.com).

Cisco CISCO2921/K9 (revision 1.0) with 475136K/49152K bytes of memory.  
Processor board ID FHH1230P04Y  
1 DSL controller  
3 Gigabit Ethernet interfaces  
9 terminal lines  
1 Virtual Private Network (VPN) Module  
1 Cable Modem interface  
1 cisco Integrated Service Engine-2(s)  
Cisco Foundation 2.2.1 in slot 1  
DRAM configuration is 64 bits wide with parity enabled.  
255K bytes of non-volatile configuration memory.  
248472K bytes of ATA System CompactFlash 0 (Read/Write)  
62720K bytes of ATA CompactFlash 1 (Read/Write)

Technology Package License Information for Module:'c2900'

Technology	Technology-package Current	Technology-package Type	Technology-package Next reboot
ipbase	ipbasek9	Permanent	ipbasek9
security	securityk9	Permanent	securityk9
uc	uck9	Permanent	uck9
data	datak9	Permanent	datak9

**Configuration register is 0x2102**

Router>

*!--- The router was just powercycled, and during bootup a  
!--- break sequence was sent to the router after seeing the following message  
!--- program load complete, entry point: 0x80008000, size: 0x6fdb4c.*

!

rommon 1 > **confreg 0x2142**

You must reset or power cycle for new config to take effect

rommon 2 > **reset**

System Bootstrap, Version 15.0(1r)M1, RELEASE SOFTWARE (fc1)  
Copyright (c) 2009 by cisco Systems, Inc.  
TAC:Home:SW:IOS:Specials for info  
C2900 platform with 524288 Kbytes of main memory

program load complete, entry point: 0x80008000, size: 0x6fdb4c

Self decompressing the image : #####  
#####  
#####  
#####  
##### [OK]

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170 West Tasman Drive  
San Jose, California 95134-1706

Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.0(1)M1, RELEASE SOFTWARE (fc1)  
Technical Support: <http://www.cisco.com/techsupport>  
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Compiled Wed 02-Dec-09 15:23 by prod\_rel\_team

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1 Virtual Private Network (VPN) Module  
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DRAM configuration is 64 bits wide with parity enabled.  
255K bytes of non-volatile configuration memory.  
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62720K bytes of ATA CompactFlash 1 (Read/Write)

--- System Configuration Dialog ---

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

Press RETURN to get started!

00:00:19: %LINK-3-UPDOWN: Interface BRI0/0, changed state to up  
00:00:19: %LINK-3-UPDOWN: Interface Ethernet0/0, changed state to up  
00:00:19: %LINK-3-UPDOWN: Interface Ethernet0/1, changed state to up  
00:00:19: %LINK-3-UPDOWN: Interface Serial0/0, changed state to down  
00:00:19: %LINK-3-UPDOWN: Interface Serial0/1, changed state to down  
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0,

```

changed state to down
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0,
  changed state to up
Router>
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1,
changed state to up
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0,
changed state to down
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1,
changed state to down
00:00:50: %SYS-5-RESTART: System restarted --
Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.0(1)M1,
  RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Wed 02-Dec-09 15:23 by prod_rel_team
00:00:50: %LINK-5-CHANGED: Interface BRI0/0,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Ethernet0/0,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Serial0/0,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Ethernet0/1,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Serial0/1,
changed state to administratively down
00:00:53: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0,
changed state to down
00:00:53: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1,
changed state to down
Router>
Router>enable
Router#copy startup-config running-config
Destination filename [running-config]?
1324 bytes copied in 2.35 secs (662 bytes/sec)
Router#
00:01:24: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0:1,
changed state to down
00:01:24: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0:2,
changed state to down
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#enable secret < password >
Router(config)#^Z
00:01:54: %SYS-5-CONFIG_I: Configured from console by console
Router#show ip interface brief

Interface  IP-Address      OK?  Method      Status          Protocol
Ethernet0/0 10.200.40.37    YES  TFTP        administratively down  down
Serial0/0    unassigned      YES  TFTP        administratively down  down
BRI0/0       193.251.121.157 YES  unset       administratively down  down
BRI0/0:1     unassigned      YES  unset       administratively down  down
BRI0/0:2     unassigned      YES  unset       administratively down  down
Ethernet0/1  unassigned      YES  TFTP        administratively down  down
Serial0/1    unassigned      YES  TFTP        administratively down  down
Loopback0    193.251.121.157 YES  TFTP        up                    up
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Ethernet0/0
Router(config-if)#no shutdown
Router(config-if)#
00:02:14: %LINK-3-UPDOWN: Interface Ethernet0/0, changed state to up
00:02:15: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0,
changed state to up
Router(config-if)#interface BRI0/0
Router(config-if)#no shutdown

```

```
Router(config-if)#
00:02:26: %LINK-3-UPDOWN: Interface BRI0/0:1, changed state to down
00:02:26: %LINK-3-UPDOWN: Interface BRI0/0:2, changed state to down
00:02:26: %LINK-3-UPDOWN: Interface BRI0/0, changed state to up
00:02:115964116991: %ISDN-6-LAYER2UP: Layer 2 for Interface BR0/0,
TEI 68 changed to up
Router(config-if)#^Z
Router#
00:02:35: %SYS-5-CONFIG_I: Configured from console by console
Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router#show version
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Configuration register is 0x2102

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#config-register 0x2102
Router(config)#^Z
00:03:20: %SYS-5-CONFIG_I: Configured from console by console

Router#show version
Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.0(1)M1,
  RELEASE SOFTWARE (fc1)
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```

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DRAM configuration is 64 bits wide with parity enabled.
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62720K bytes of ATA CompactFlash 1 (Read/Write)

Configuration register is 0x2142 (will be 0x2102 at next reload)

Router#
```

## Related Information

- [Password Recovery Procedures](#)
  - [Cabling Guide for Console and AUX Ports](#)
  - [Connecting a Terminal to the Console Port on Catalyst Switches](#)
  - [Connect a Terminal to Catalyst 2948G–L3, 4908G–L3, and 4840G Series Switches](#)
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