

# حاتفم 4500/4900 ةزافح ةدامل ةملك تدرتسا كرحم فرشم عم

## تايوتحمل

[ةمدقملا](#)

[ةيساسألا تابلطتملا](#)

[تابلطتملا](#)

[ةمدختسملا تانوكملا](#)

[تاحالطصلا](#)

[ةيساسأ تامولعم](#)

[نيوكتلا ةيلمع](#)

[چارخال او نيوكتلا يلعل لاثم](#)

[ةلص تاذ تامولعم](#)

## ةمدقملا

نأ حاتفم 4500/4900 ةزافح ةدام يلعل دوقفم رورم ةملك درتسي نأ فيك ةقيثو اذه فصبي ةيجمرب © Cisco IOS نأ كرحم فرشم يقلتبي.

## ةيساسألا تابلطتملا

### تابلطتملا

دننتملا اذهل ةصاخ تابلطتم دجوت ال

### ةمدختسملا تانوكملا

ةنيعم ةيдам تانوكموجمارب تارادصا يلعل دننتملا اذه رصتقي ال

ةصاخ ةيلمعم ةئيب في ةدوجوملا ةزهجالا نم دننتملا اذه في ةدراول تامولعملا عاشنإ مت تناك اذا. (يضارتفا) حوسمم نيوكتب دننتملا اذه في ةمدختسملا ةزهجالا عيمج تادب رما يال لمتمحمل ريثأتلل كمهف نم دكأتف ، ليغشتلا ديقتك تكبش

### تاحالطصلا

تاحالطصا لوح تامولعملا نم ديزم يلعل لوصحلل ةينقتلا Cisco تاحيملت تاحالطصا عجار تادننتملا

## ةيساسأ تامولعم

و II+ فرشم لا تاكرحم معدت، Catalyst 4500/4000 Series Switches، تاالوحم في: عظالم II و I فرشم لا تاكرحم و Cisco IOS جم انرب طقف V-10GE و V و IV و III و II+TS و II+10GE و [قملك](#)، II، و I كرحم فرشم لا يلع ةم لك لا تدرتس | in order to تلحأ. Catalyst OS. جم انرب [CatOS](#)، نأ ةزافح ةدام ل ل عارجل ةداعتس |

Catalyst لوحم يلع ةفورعم ريغ و أ ةدوق فم رورم ةم لك ةداعتس | ةيفي ك دنتس م لا اذه حضوي 4500/4000 فرشم لا كرحم، II-Plus (WS-X4013+)، فرشم لا كرحم عم 4500/4000 فرشم لا كرحم، II-Plus-TS (WS-X4013+TS)، Supervisor Engine III (WS-X4014)، Supervisor Engine IV (WS-X4515)، فرشم لا كرحم v (WS-X4516)، فرشم لا كرحم v-10GE (WS-X4516-10GE)، فرشم لا كرحم 4900m ةزافح ةدام cisco، و 4948 10GE ةزافح ةدام cisco، ةي طمن ةدحو حاتفم.

## نيوكت لا ةيلمع

حاتفم 4500/4900 ةزافح ةدام لا يلع ك رورم ةم لك درتسي نأ

ةدحو لوصلو مادختس | نم و لوحم لا يل يلع ف لوصلو يلع ك لوصل نم دكأت: عظالم لوصل ل. تاوطلخ لا هذه ذيفنت ءانثأ (فرشم لا كرحم) Supervisor Engine ةدحو يل م كحت لا [ةدحو ذفنمب مدمم ليصوت](#) يل عجرا، لوحم لا كرحم ةدحو لاصتا لوحي لاصافت يلع [Catalyst](#)، تاالوحم في م كحت لا.

، ءسرامم لصفأك. روكذم وه امك عارجل اءابتا مت اذا لوحم لا نيوكت دقف متي ال: حيملت م داخ في Cisco ءزهجأ عي مج نيوكت نم ةي طايحت | ءحسن كيدل نوكتي نأب Cisco يصوت TFTP ةرادل م داخ و أ.

### 1. زاهجلا ةقاط ةرودب مق.

هل يغشت دعأ م، زاهجلا ليغشت فاق ياب مق، ةقاطلا ةرود لجأ نم.

في عارجل اذه كعضي. يئاق ل لتلا ديهمتلا عنم ل ناو٥ 5 نوضغ في Ctrl-C يلع طغضا ROMmon. ءشاشب صاخلا ةبلاطم لا عوضو.

```
<#root>
```

```
!--- Here, you power cycle the switch.
```

```
*****
*
* Welcome to ROM Monitor for WS-X4014 System.
* Copyright (c) 1999-2000, 2001 by Cisco Systems, Inc.
* All rights reserved.
*
*****
```

```
ROM Monitor Program Version 12.1(10r)EY(1.21)
```

```
Board type 1, Board revision 7
```

Swamp FPGA revision 16, Dagobah FPGA revision 43

Timer interrupt test passed.

MAC Address : 00-02-b9-83-af-fe  
IP Address : 172.16.84.122  
Netmask : 255.255.255.0  
Gateway : 172.16.84.1  
TftpServer : Not set.  
Main Memory : 256 MBytes

\*\*\*\*\* The system will autoboot in 5 seconds \*\*\*\*\*

Type control-C to prevent autobooting.

*!--- At this point, press Ctrl-C.*

Autoboot cancelled..... please wait!!!  
Autoboot cancelled..... please wait!!!

rommon 1

> [interrupt]

*!--- The module ended in the ROMmon.*

rommon 1

> [interrupt]

2. رماوا هجوم rommon ىلع ةدايق ل confreg رادصا ب مق .

رورملا ةملك دادرتسال رماوالا رطس ةهجاو يف انه رهظت يتلا تاديحتلا لمعب مق :

<#root>

rommon 1 >

set

<#root>

rommon 1 >

confreg

Configuration Summary :

=> load ROM after netboot fails

=> console baud: 9600

=> autoboot from: commands specified in 'BOOT' environment variable

do you wish to change the configuration? y/n [n]:

y

enable "diagnostic mode"? y/n [n]:

n

enable "use net in IP bcast address"? y/n [n]:

n

disable "load ROM after netboot fails"? y/n [n]:

n

enable "use all zero broadcast"? y/n [n]:

n

enable "break/abort has effect"? y/n [n]:

n

enable "ignore system config info"? y/n [n]:

y

change console baud rate? y/n [n]:

n

change the boot characteristics? y/n [n]:

n

Configuration Summary :

=> load ROM after netboot fails

=> ignore system config info

=> console baud: 9600

=> autoboot from: commands specified in 'BOOT' environment variable

do you wish to save this configuration? y/n [n]:

y

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

---

نبيي عت ل ROMمون رمألا هجوم ي ف رمألا 0x2142 confreg مادختس ااضي أ كنكمي :ةظالم  
NVRAM.ةركاذ ي ف نزخمل ل ليغش ل ادب نيوكت ي طختل نيوكتل ل جس ةم يق

---

<#root>

rommon 1 >

confreg 0x2142

You must reset or power cycle for the new configuration to take effect.

3. ةيظمنللا ةءءوللا لئغشء ةءاعإب ءمسئ يءلا رملأل reset راءصإب مق .

اهنكلو ةيظمنللا ةءءوللا ءيهمء ةءاعإب مءء 2 ةوظءلل ي ف اهب ءمق يءلل ءارئيغءلل ارظن ظوفءملا نئيوكءلل لهاءءء

```
<#root>
```

```
rommon 2 >
```

```
reset
```

```
Resetting . . . . .
```

```
rommon 3 >
```

```
*****  
*                               *  
* Welcome to ROM Monitor for WS-X4014 System.      *  
* Copyright (c) 1999-2000, 2001 by Cisco Systems, Inc. *  
* All rights reserved.                               *  
*                               *  
*****
```

```
!--- Output suppressed.
```

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

```
!--- Press Return.
```

```
00:00:21: %SYS-5-RESTART: System restarted --  
Cisco Internetwork Operating System Software  
IOS (tm) Catalyst 4000 L3 Switch Software (cat4000-IS-M),  
Version 12.1(8a)EW, RELEASE SOFTWARE (fc1)  
TAC Support: http://www.cisco.com/tac  
Copyright (c) 1986-2002 by cisco Systems, Inc.  
Compiled Thu 24-Jan-02 17:34 by ccai  
00:00:21: %SNMP-5-COLDSTART: SNMP agent on host Switch  
is undergoing a cold start  
Switch>
```

4. 0x2142 يه نئيوكءلل لءس ةمئق نأ نم ءكأء.

لئمءء نوء (ءءقؤملا ءركاءلا) Flash نم ةيظمنللا ةءءوللا ءيهمء يءل ءمئقلا هءه لمءء يلا لاقءنلال Switch ءبلالطم ءءفان يء enable رملأل راءصإب مق . ظوفءملا نئيوكءلل لهاءءءء نئيوكءلل لءس ةمئق نم قءءءلل show version رملأل راءصإب مق مء . نئيوكءلل لهاءءءء

```
<#root>
```

```
Switch>
```

```
enable
```

Switch#

**show version**

Cisco Internetwork Operating System Software  
IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M),  
Version 12.1(8a)EW, RELEASE SOFTWARE (fc1)  
TAC Support: <http://www.cisco.com/tac>  
Copyright (c) 1986-2002 by cisco Systems, Inc.  
Compiled Thu 24-Jan-02 17:34 by ccai  
Image text-base: 0x00000000, data-base: 0x00AA2B8C

ROM: 12.1(10r)EY(1.21)  
Switch uptime is 5 minutes  
System returned to ROM by reload  
Running default software

cisco WS-C4006 (MPC8245) processor (revision 7) with 262144K bytes of memory.  
Processor board ID FOX04183666  
Last reset from Reload  
32 Gigabit Ethernet/IEEE 802.3 interface(s)  
467K bytes of non-volatile configuration memory.

**Configuration register is 0x2142**

Switch#

5. في NVRAM ةركاذخ سنن `copy startup-config running-config` وأرمأل `configure memory` رادصإب مق ةركاذل.

ةدحولإ ىلع يضارتفالا نيوكتلا ضرعي يذلا، رمأل `configure terminal` رمأل رادصإ مدع ةطمنلا.

<#root>

Switch#

**configure memory**

Uncompressed configuration from 1307 bytes to 3014 bytes

Switch#

00:13:52: %SYS-5-CONFIG\_I: Configured from memory by console  
c-4006-SUPIII#

6. `show ip interface brief` رادصإب مق `up/up` يدبي اقباس لمعتسي ناك نأ نراقلا نأ دكأتى نأ رما ةرضو.

لمع فاقى نم ام لا، `down` يدبي ةداعتسإ ةملكلا لبق لمعتسى ناك نأ نراق any of the ةرضو.  
قوف نراقلا بلجى نأ نراق نأ ىلع رما

7. على طوم حمل ال نوك تال اضرع ل show running-config رمأل ا وأ write terminal رمأل ا رادصاب مق .  
ة. طمن ل ادحول

```
<#root>
c-4006-SUPIII#
show running-config

Building configuration...

Current configuration : 3014 bytes
!
version 12.1
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service compress-config
!
hostname c-4006-SUPIII
!
boot system flash bootflash:
!
vtp mode transparent

!--- Output suppressed.

line con 0
stopbits 1
line vty 0 4
login
!
end

c-4006-SUPIII#
```

ة. طمن ل ادحول ا على رورم ل امل ك ري غ ت ل زه ا ن آل ت ن أ

8. امل ك ل ري غ ي ن ا رم ا اذ ت ر د ص ا :

```
<#root>
c-4006-SUPIII#
configure terminal

Enter configuration commands, one per line. End with CNTL/Z.
c-4006-SUPIII(config)#
no enable secret
```

*!--- This step is necessary if the switch had an enable secret password.*

```
c-4006-SUPIII(config)#  
  
enable secret < password >  
[Choose a strong password with at least one capital letter,  
one number, and one special character.]
```

*!--- This command sets the new password.*

## 9. 0x2102 إلى نيوكتال لجس ةميق ةداعإ نم دكأت.

ققحتلالو نيوكتال لجس ةميق ريغتل ConfigPrompt رمألل هجوم يف تاوطلخال هذه لمكأ  
اهنم.

```
<#root>
```

```
c-4006-SUPIII(config)#
```

```
config-register 0x2102
```

```
c-4006-SUPIII(config)#
```

```
^z
```

```
c-4006-SUPIII#
```

```
00:19:01: %SYS-5-CONFIG_I: Configured from console by console
```

```
c-4006-SUPIII#
```

```
write memory
```

*!--- This step saves the configuration.*

```
Building configuration...
```

```
Compressed configuration from 3061 bytes to 1365 bytes[OK]
```

```
c-4006-SUPIII#
```

```
show version
```

*!--- This step verifies the value change.*

```
Cisco Internetwork Operating System Software  
IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M),  
Version 12.1(8a)EW, RELEASE SOFTWARE (fc1)  
TAC Support: http://www.cisco.com/tac  
Copyright (c) 1986-2002 by cisco Systems, Inc.  
Compiled Thu 24-Jan-02 17:34 by ccai  
Image text-base: 0x00000000, database: 0x00AA2B8C
```

```
ROM: 12.1(10r)EY(1.21)
```

```
c-4006-SUPIII uptime is 20 minutes
```

```
System returned to ROM by reload
```

```
Running default software
```

```
cisco WS-C4006 (MPC8245) processor (revision 7) with 262144K bytes of memory.  
Processor board ID FOX04183666  
Last reset from Reload
```



32 Gigabit Ethernet/IEEE 802.3 interface(s)  
467K bytes of nonvolatile configuration memory.

Configuration register is 0x2142 (

will be 0x2102 at next reload

)

c-4006-SUPIII#

رورم لاةم لك ربيغت ب تمق ،ةطقنل لاةه دنع

## جارخال او نيوكتل لاةل لاةم

iii. كرحم فرشم 4000 ةزافح ةدام لاةل عاءارجل ةداعتسل لاةم لك لاةم ةجيتنل لاةل لاةم لاةم اذه

<#root>

c-4006-SUPIII>

enable

Password:

Password:

Password:

% Bad secrets

*!--- Here, you power cycle the switch.*

```
*****  
*                                                                 *  
* Welcome to ROM Monitor for WS-X4014 System.                  *  
* Copyright (c) 1999-2000, 2001 by Cisco Systems, Inc.         *  
* All rights reserved.                                          *  
*                                                                 *  
*****
```

ROM Monitor Program Version 12.1(10r)EY(1.21)

Board type 1, Board revision 7

Swamp FPGA revision 16, Dagobah FPGA revision 43

Timer interrupt test passed.

MAC Address : 00-02-b9-83-af-fe

IP Address : 172.16.84.122

Netmask : 255.255.255.0

Gateway : 172.16.84.1

TftpServer : Not set.

Main Memory : 256 Mbytes

\*\*\*\*\* The system will autoboot in 5 seconds \*\*\*\*\*

Type control-C to prevent autobooting.

*!--- At this point, press Ctrl-C.*

Autoboot cancelled..... please wait!!!  
Autoboot cancelled..... please wait!!!  
rommon 1 > [interrupt]

rommon 1 > [interrupt]

rommon 1 >

confreg

Configuration Summary :

=> load ROM after netboot fails

=> console baud: 9600

=> autoboot from: commands specified in 'BOOT' environment variable

do you wish to change the configuration? y/n [n]:

y

enable "diagnostic mode"? y/n [n]:

n

enable "use net in IP bcast address"? y/n [n]:

n

disable "load ROM after netboot fails"? y/n [n]:

n

enable "use all zero broadcast"? y/n [n]:

n

enable "break/abort has effect"? y/n [n]:

n

enable "ignore system config info"? y/n [n]:

y

change console baud rate? y/n [n]:

n

change the boot characteristics? y/n [n]:

n

Configuration Summary :

```
=> load ROM after netboot fails
=> ignore system config info
=> console baud: 9600
=> autoboot from: commands specified in 'BOOT' environment variable
```

do you wish to save this configuration? y/n [n]:

y

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

rommon 2 >

reset

Resetting .....

rommon 3 >

```
*****
*
* Welcome to ROM Monitor for WS-X4014 System.      *
* Copyright (c) 1999-2000, 2001 by Cisco Systems, Inc. *
* All rights reserved.                             *
*
*****
```

```
ROM Monitor Program Version 12.1(10r)EY(1.21)
Board type 1, Board revision 7
Swamp FPGA revision 16,
Dagobah FPGA revision 43
```

Timer interrupt test passed.

```
MAC Address : 00-02-b9-83-af-fe
IP Address : 172.16.84.122
Netmask : 255.255.255.0
Gateway : 172.16.84.1
TftpServer : Not set.
Main Memory : 256 Mbytes
```

\*\*\*\*\* The system will autoboot in 5 seconds \*\*\*\*\*

Type control-C to prevent autobooting.

. . . . .

\*\*\*\*\* The system will autoboot now \*\*\*\*\*

```
config-register = 0x2142
Autobooting using BOOT variable specified file.....
```

Current BOOT file is --- bootflash:

```
Rommon reg: 0x2B004180
Decompressing the image : #####
#####
##### [OK]
```

k2diags version 1.6

prod: WS-X4014 part: 73-6854-07 serial: JAB0546060Z

Power-on-self-test for Module 1: WS-X4014  
Status: (. = Pass, F = Fail)

Traffic using serdes loopback (L2; one port at a time)...  
switch port 0: . switch port 1: . switch port 2: .  
switch port 3: . switch port 4: . switch port 5: .  
switch port 6: . switch port 7: . switch port 8: .

*!--- Output suppressed.*

Module 1 Passed

Exiting to ios...

Rommon reg: 0x2B000180  
Decompressing the image : #####

*!--- Output suppressed.*

##### [OK]

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 Internetwork Operating System Software  
IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M),  
Version 12.1(8a)EW, RELEASE SOFTWARE (fc1)  
TAC Support: <http://www.cisco.com/tac>  
Copyright (c) 1986-2002 by cisco Systems, Inc.  
Compiled Thu 24-Jan-02 17:34 by ccai  
Image text-base: 0x00000000, database: 0x00AA2B8C

cisco WS-C4006 (MPC8245) processor (revision 7) with 262144K bytes of memory.  
Processor board ID FOX04183666  
Last reset from Reload  
32 Gigabit Ethernet/IEEE 802.3 interface(s)  
467K bytes of nonvolatile configuration memory.

Press RETURN to get started!

00:00:21: %SYS-5-RESTART: System restarted --  
Cisco Internetwork Operating System Software

IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M),  
Version 12.1(8a)EW, RELEASE SOFTWARE (fc1)  
TAC Support: <http://www.cisco.com/tac>  
Copyright (c) 1986-2002 by cisco Systems, Inc.  
Compiled Thu 24-Jan-02 17:34 by ccai  
00:00:21: %SNMP-5-COLDSTART: SNMP agent on host Switch is undergoing a cold start  
Switch>

**enable**

Switch#

**show version**

Cisco Internetwork Operating System Software  
IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M),  
Version 12.1(8a)EW, RELEASE SOFTWARE (fc1)  
TAC Support: <http://www.cisco.com/tac>  
Copyright (c) 1986-2002 by cisco Systems, Inc.  
Compiled Thu 24-Jan-02 17:34 by ccai  
Image text-base: 0x00000000, database: 0x00AA2B8C

ROM: 12.1(10r)EY(1.21)  
Switch uptime is 5 minutes  
System returned to ROM by reload  
Running default software

cisco WS-C4006 (MPC8245) processor (revision 7) with 262144K bytes of memory.  
Processor board ID FOX04183666  
Last reset from Reload  
32 Gigabit Ethernet/IEEE 802.3 interface(s)  
467K bytes of nonvolatile configuration memory.

**Configuration register is 0x2142**

Switch#

Switch#

**configure memory**

Uncompressed configuration from 1307 bytes to 3014 bytes  
c-4006-SUPIII#  
00:13:52: %SYS-5-CONFIG\_I: Configured from memory by console  
c-4006-SUPIII#

**show running-config**

Building configuration...

Current configuration : 3014 bytes  
!  
version 12.1  
no service pad  
service timestamps debug uptime  
service timestamps log uptime  
no service password-encryption

```
service compress-config
!

hostname c-4006-SUPIII

!
boot system flash bootflash:
!
vtp mode transparent
!
vlan 20
  private-vlan primary
!
vlan 100
!
vlan 202
  private-vlan association 440
!
vlan 440
  private-vlan isolated
!
vlan 500
ip subnet-zero
no ip domain-lookup
!
ip multicast-routing
!
!
interface GigabitEthernet1/1
  no switchport
  ip address 10.1.1.1 255.255.255.0
  ip pim dense-mode
!
interface GigabitEthernet1/2
  no switchport
  ip address 10.2.2.2 255.255.255.0
!

!--- Output suppressed.

!
interface Vlan1
  ip address 172.16.84.140 255.255.255.0
  ip pim dense-mode
!
interface Vlan2
  no ip address
  shutdown
!
interface Vlan20
  no ip address
  shutdown
!

!--- Output suppressed.

!
line con 0
  stopbits 1
```

```
line vty 0 4
 login
 !
end
```

```
c-4006-SUPIII#
```

```
configure terminal
```

```
Enter configuration commands, one per line. End with CNTL/Z.
```

```
c-4006-SUPIII(config)#
```

```
no enable secret
```

```
!--- This step is necessary if the switch had an enable secret password.
```

```
c-4006-SUPIII(config)#
```

```
enable secret < password >
```

```
[Choose a strong password with at least one capital letter,
one number, and one special character.]
```

```
c-4006-SUPIII(config)#
```

```
config-register 0x2102
```

```
c-4006-SUPIII(config)#
```

```
^Z
```

```
c-4006-SUPIII#
```

```
00:19:01: %SYS-5-CONFIG_I: Configured from console by console
```

```
c-4006-SUPIII#
```

```
write memory
```

```
Building configuration...
```

```
Compressed configuration from 3061 bytes to 1365 bytes[OK]
```

```
c-4006-SUPIII#
```

```
show version
```

```
Cisco Internetwork Operating System Software
IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M),
  Version 12.1(8a)EW, RELEASE SOFTWARE (fc1)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Thu 24-Jan-02 17:34 by ccai
Image text-base: 0x00000000, database: 0x00AA2B8C
```

```
ROM: 12.1(10r)EY(1.21)
```

```
c-4006-SUPIII uptime is 20 minutes
```

```
System returned to ROM by reload
```

```
Running default software
```

```
cisco WS-C4006 (MPC8245) processor (revision 7) with 262144K bytes of memory.
```

```
Processor board ID FOX04183666
```

```
Last reset from Reload
```

```
32 Gigabit Ethernet/IEEE 802.3 interface(s)
```

467K bytes of nonvolatile configuration memory.

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

c-4006-SUPIII#

## ةلص تاذا تامولعم

- [رورملا ةملك دادرتسا انثأ ةيسايق لبا Break حيتافم لس لس تاعومجم](#)
- [رورملا ةملك دادرتسا تاعارجا](#)
- [LAN تالوحم تاجتنم معد](#)
- [تادنتس مل او ينقت لبا معدلبا - Cisco Systems](#)



ةمچرتل هذه لوج

ةللأل تاي نقتل نمة ومة مادختساب دن تسمل اذة Cisco تمةرت  
ملاعلاء انء مء مء نمة دختسمل معد و تمة مء دقتل ةر شبل او  
امك ةق قء نوك ت نل ةللأل ةمچرت لصف أن ةظحال مء ءرء. ةصاأل مء تءل ب  
Cisco ةللخت. فرتمة مچرت مء مء دقء ةللأل ةل فارتحال ةمچرتل عم لاعل او  
ىل إأمءءاد ءوچرلاب ةصوء و تامةرتل هذه ةقء نء اهءل وئس م Cisco  
Systems (رفوتم طبارل) ةل صأل ةل ءل ءن إل دن تسمل