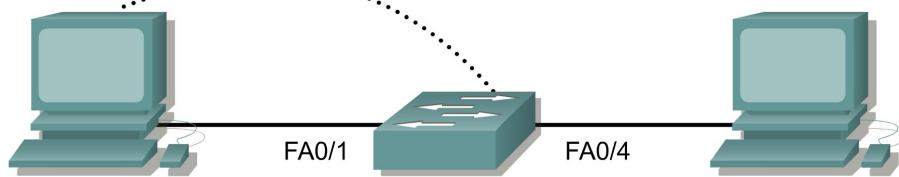
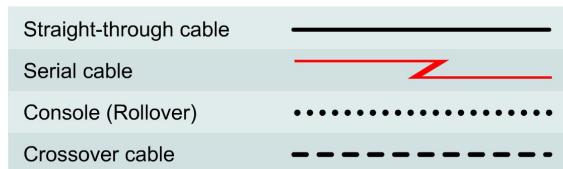


Lab 6.2.2 Basic Switch Configuration - 2900XL Series



Switch Designation	Switch Name	Enable Secret Password	Enable, VTY, and Console Passwords
Switch 1	ALSwitch	class	cisco



Objective

- Configure a switch with a name and an IP address.
- Configure passwords to ensure that access to the CLI is secured.
- Configure switch port speed and duplex properties for an interface.
- Save the active configuration.
- View the switch browser interface.

Background/Preparation

Cable a network similar to the one in the diagram. The configuration output used in this lab is produced from a 2950 series switch. Any other switch used may produce different output. The following steps are to be executed on each switch unless specifically instructed otherwise. Instructions are also provided for the 1900 Series switch, which initially displays a User Interface Menu. Select the "Command Line" option from the menu to perform the steps for this lab.

Start a HyperTerminal session.

Note: Go to the erase and reload instructions at the end of this lab. Perform those steps on all switches in this lab assignment before continuing.

Step 1 Enter privileged mode

- a. Privileged mode gives access to all the switch commands. Many of the privileged commands configure operating parameters. Therefore, privileged access should be password-protected to prevent unauthorized use. The privileged command set includes those commands contained in user EXEC mode, as well as the **configure** command through which access to the remaining command modes is gained.

```
Switch>enable
Switch#
1900:
>enable
#
```

- b. Notice the prompt changed in the configuration to reflect privileged EXEC mode.

Step 2 Examine the current switch configuration

- a. Examine the following current running configuration file:

```
Switch#show running-config
```

- b. How many Ethernet or Fast Ethernet interfaces does the switch have? [24](#)
- c. What is the range of values shown for the VTY lines? [5 – 15 \(Note: 1900 will not display VTY lines\).](#)
- d. Examine the current contents of NVRAM as follows:

```
Switch#show startup-config
%% Non-volatile configuration memory is not present
```

- e. Why does the switch give this response?

[Nothing is saved into NVRAM.](#)

Step 3 Assign a name to the switch

- a. Enter **enable** and then the configuration mode. The configuration mode allows the management of the switch. Enter **ALSwitch**, the name this switch will be referred to in the following:

```
Switch#configure terminal
```

Enter the configuration commands, one for each line. End by pressing **Ctrl-Z**.

```
Switch(config)#hostname ALSwitch
ALSwitch(config)#exit
```

- b. Notice the prompt changed in the configuration to reflect its new name. Type **exit** or press **Ctrl-Z** to go back into privileged mode.

Step 4 Examine the current running configuration

- a. Exam the current configuration that follows to verify that there is no configuration except for the hostname:

```
ALSwitch#show running-config
```

- b. Are there any passwords set on the lines? [No \(Note: There are no VTY lines on the 1900.\)](#)
- c. What does the configuration show as the hostname of this switch? [ALSwitch](#)

Step 5 Set the access passwords (1900: Skip to Step 6)

Enter config-line mode for the console. Set the password on this line as **cisco** for login. Configure the vty lines 0 to 15 with the password **cisco** as follows:

```
ALSwitch#configure terminal
```

Enter the configuration commands, one for each line. End by pressing **Ctrl-Z**.

```
ALSwitch(config)#line con 0
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login

ALSwitch(config-line)#line vty 0 15
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login

ALSwitch(config-line)#exit
```

Step 6 Set the command mode passwords

- a. Set the **enable password** to **cisco** and the **enable secret password** to **class** as follows:

2950:

```
ALSwitch(config)#enable password cisco
ALSwitch(config)#enable secret class
```

1900:

```
ALSwitch(config)#enable password level 15 cisco
ALSwitch(config)#enable secret class
```

- b. Which password takes precedence, the enable password or enable secret password? [secret](#)

Step 7 Configure the layer 3 access to the switch

- a. Set the IP address of the switch to 192.168.1.2 with a subnet mask of 255.255.255.0 as follows:

Note: This is done on the internal virtual interface VLAN 1.

```
ALSwitch(config)#interface VLAN 1
ALSwitch(config-if)#ip address 192.168.1.2 255.255.255.0
ALSwitch(config-if)#exit
```

1900:

```
ALSwitch(config)#ip address 192.168.1.2 255.255.255.0
```

```
ALSwitch(config)#exit
```

b. Set the default gateway for the switch and the default management VLAN to 192.168.1.1 as follows:

```
ALSwitch(config)#ip default-gateway 192.168.1.1
ALSwitch(config)#exit
```

```
1900:
ALSwitch(config)#ip default-gateway 192.168.1.1
ALSwitch(config)#exit
```

Step 8 Verify the management LANs settings (1900: Skip to Step 10)

Note to instructor: if 1900 is used, please skip to step 9.

a. Verify the interface settings on VLAN 1 as follows:

```
ALSwitch#show interface VLAN 1
```

b. What is the bandwidth on this interface? 10000 Kbit
c. What are the VLAN states: VLAN1 is up, Line protocol is up
d. Enable the virtual interface using the no shutdown command

```
ALSwitch(config)#interface VLAN 1
ALSwitch(config-if)#no shutdown
ALSwitch(config-if)#exit
```

e. What is the queuing strategy? fifo

Step 9 Save the configuration

a. The basic configuration of the switch has just been completed. Back up the running configuration file to NVRAM as follows:

Note: This will ensure that the changes made will not be lost if the system is rebooted or loses power.

```
ALSwitch#copy running-config startup-config
Destination filename [startup-config]? [Enter]
Building configuration...
[OK]
ALSwitch#
```

1900:

b. The configuration is automatically saved to NVRAM within approximately one minute of entering a command. To save the configuration to a TFTP server, enter the following:

```
ALSwitch#copy nvram tftp://tftp server ip add/destination_filename
```

c. Configuration upload is successfully completed.

Step 10 Examine the startup configuration file (1900: Skip to Step 11)

- a. To see the configuration that is stored in NVRAM, type `show startup-config` from the privileged EXEC (enable mode).

```
ALSwitch#show startup-config
```

- b. What is displayed? [Copy of the running configuration](#)
- c. Are all the changes that were entered recorded in the file? [Yes](#)

Step 11 Exit the switch

Leave the switch welcome screen by typing `exit` as follows:

```
ALSwitch#exit
```

Once these steps are completed, logoff by typing `exit`, and turn all the devices off. Then remove and store the cables and adapter.

```
Switch>enable
Switch#show startup-config
%% Non-volatile configuration memory is not present
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname ALSwitch
ALSwitch(config)#exit
ALSwitch#
00:09:49: %SYS-5-CONFIG_I: Configured from console by console
ALSwitch#show running-config
Building configuration...

Current configuration:
!
version 12.0
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname ALSwitch
!
!
!
!
!
!
!
ip subnet-zero
!
!
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
```

```

!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface VLAN1
  no ip directed-broadcast
  no ip route-cache
!
!
line con 0
  transport input none
  stopbits 1
line vty 5 15
!
end

ALSwitch#
ALSwitch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
ALSwitch(config)#line con 0
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login
ALSwitch(config-line)#line vty 0 15

```

```

ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login
ALSwitch(config-line)#exit
ALSwitch(config)#enable password cisco
ALSwitch(config)#enable secret class
ALSwitch(config)#interface vlan 1
ALSwitch(config-if)#ip address 192.168.1.2 255.255.255.0
ALSwitch(config-if)#exit
ALSwitch(config)#ip default-gateway 192.168.1.1
ALSwitch(config)#exit
00:11:53: %SYS-5-CONFIG_I: Configured from console by conso

ALSwitch#show interfaces vlan 1
VLAN1 is up, line protocol is up
Hardware is CPU Interface, address is 0004.c075.1500 (bia 0004.c075.1500)
Internet address is 192.168.1.2/24
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec, reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:22, output 00:02:42, output hang never
Last clearing of "show interface" counters never
Queueing strategy: fifo
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
21 packets input, 2592 bytes, 0 no buffer
Received 21 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 input packets with dribble condition detected
265 packets output, 163770 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier
0 output buffer failures, 0 output buffers swapped out
ALSwitch#
ALSwitch#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
ALSwitch#
ALSwitch#show startup-config
Using 1216 out of 32768 bytes
!
version 12.0
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname ALSwitch
!
enable secret 5 $1$GSsk$DO.V9B5M2GIGSvCmqmrp8/
enable password cisco
!
!
!
!
!

```

```
!
ip subnet-zero
!
!
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface VLAN1
  ip address 192.168.1.2 255.255.255.0
  no ip directed-broadcast
  no ip route-cache
!
ip default-gateway 192.168.1.1
!
```

```
line con 0
  password cisco
  login
  transport input none
  stopbits 1
line vty 0 4
  password cisco
  login
line vty 5 15
  password cisco
  login
!
end
```

ALSwitch#exit

Erasing and Reloading the Switch

For the majority of the labs in CCNA 3 and CCNA 4 it is necessary to start with an unconfigured switch. Use of a switch with an existing configuration may produce unpredictable results. These instructions allow preparation of the switch prior to performing the lab so previous configuration options do not interfere. The following is the procedure for clearing out previous configurations and starting with an unconfigured switch. Instructions are provided for the 2900, 2950, and 1900 Series switches.

2900 and 2950 Series Switches

1. Enter into the privileged EXEC mode by typing **enable**.

If prompted for a password, enter **class** (if that does not work, ask the instructor).

```
Switch>enable
```

2. Remove the VLAN database information file.

```
Switch#delete flash:vlan.dat
Delete filename [vlan.dat]? [Enter]
Delete flash:vlan.dat? [confirm] [Enter]
```

If there was no VLAN file, this message is displayed.

```
%Error deleting flash:vlan.dat (No such file or directory)
```

3. Remove the switch startup configuration file from NVRAM.

```
Switch#erase startup-config
```

The responding line prompt will be:

```
Erasing the nvram filesystem will remove all files! Continue? [confirm]
```

Press **Enter** to confirm.

The response should be:

```
Erase of nvram: complete
```

4. Check that VLAN information was deleted.

Verify that the VLAN configuration was deleted in Step 2 using the **show vlan** command. If previous VLAN configuration information (other than the default management VLAN 1) is still present it will be necessary to power cycle the switch (hardware restart) instead of issuing the **reload** command. To power cycle the switch, remove the power cord from the back of the switch or unplug it. Then plug it back in.

If the VLAN information was successfully deleted in Step 2, go to Step 5 and restart the switch using the **reload** command.

5. Software restart (using the `reload` command)

Note: This step is not necessary if the switch was restarted using the power cycle method.

- At the privileged EXEC mode enter the command `reload`.

```
Switch#reload
```

The responding line prompt will be:

```
System configuration has been modified. Save? [yes/no] :
```

- Type **n** and then press **Enter**.

The responding line prompt will be:

```
Proceed with reload? [confirm] [Enter]
```

The first line of the response will be:

```
Reload requested by console.
```

After the switch has reloaded, the line prompt will be:

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

- Type **n** and then press **Enter**.

The responding line prompt will be:

```
Press RETURN to get started! [Enter]
```

1900 Series Switches

1. Remove VLAN Trunking Protocol (VTP) information

```
#delete vtp
```

This command resets the switch with VTP parameters set to factory defaults.

All other parameters will be unchanged.

```
Reset system with VTP parameters set to factory defaults, [Y]es or [N]o?
```

Enter **y** and press **Enter**.

2. Remove the switch startup configuration from NVRAM.

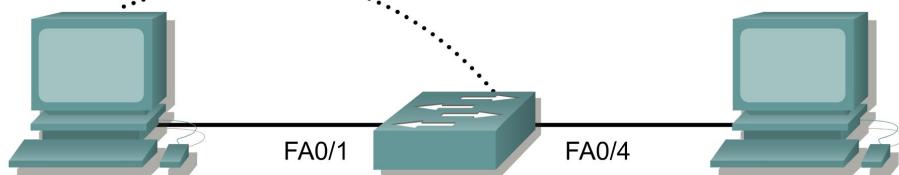
```
#delete nvram
```

This command resets the switch with factory defaults. All system parameters will revert to their default factory settings. All static and dynamic addresses will be removed.

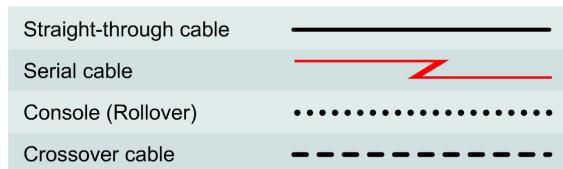
Reset system with factory defaults, [Y]es or [N]o?

Enter **y** and press **Enter**.

Lab 6.2.2 Basic Switch Configuration – 2950 Series



Switch Designation	Switch Name	Enable Secret Password	Enable, VTY, and Console Passwords
Switch 1	ALSwitch	class	cisco



Objective

- Configure a switch with a name and an IP address.
- Configure passwords to ensure that access to the CLI is secured.
- Configure switch port speed and duplex properties for an interface.
- Save the active configuration.
- View the switch browser interface.

Background/Preparation

Cable a network similar to the one in the diagram. The configuration output used in this lab is produced from a 2950 series switch. Any other switch used may produce different output. The following steps are to be executed on each switch unless specifically instructed otherwise. Instructions are also provided for the 1900 Series switch, which initially displays a User Interface Menu. Select the “Command Line” option from the menu to perform the steps for this lab.

Start a HyperTerminal session.

Note: Go to the erase and reload instructions at the end of this lab. Perform those steps on all switches in this lab assignment before continuing.

Step 1 Enter privileged mode

- a. Privileged mode gives access to all the switch commands. Many of the privileged commands configure operating parameters. Therefore, privileged access should be password-protected to prevent unauthorized use. The privileged command set includes those commands contained in user EXEC mode, as well as the **configure** command through which access to the remaining command modes is gained.

```
Switch>enable
Switch#
1900:
>enable
#
```

- b. Notice the prompt changed in the configuration to reflect privileged EXEC mode.

Step 2 Examine the current switch configuration

- a. Examine the following current running configuration file:

```
Switch#show running-config
```

- b. How many Ethernet or Fast Ethernet interfaces does the switch have? [24](#)
- c. What is the range of values shown for the VTY lines? [5 – 15](#)
- d. Examine the current contents of NVRAM as follows:

```
Switch#show startup-config
%% Non-volatile configuration memory is not present
```

- e. Why does the switch give this response?

[Nothing is saved into NVRAM.](#)

Step 3 Assign a name to the switch

- a. Enter **enable** and then the configuration mode. The configuration mode allows the management of the switch. Enter **ALSwitch**, the name this switch will be referred to in the following:

```
Switch#configure terminal
```

Enter the configuration commands, one for each line. End by pressing **Ctrl-Z**.

```
Switch(config)#hostname ALSwitch
ALSwitch(config)#exit
```

- b. Notice the prompt changed in the configuration to reflect its new name. Type **exit** or press **Ctrl-Z** to go back into privileged mode.

Step 4 Examine the current running configuration

- Exam the current configuration that follows to verify that there is no configuration except for the hostname:

```
ALSwitch#show running-config
```

- Are there any passwords set on the lines? [No](#)
- What does the configuration show as the hostname of this switch? [ALSwitch](#)

Step 5 Set the access passwords (1900: Skip to Step 6)

Enter config-line mode for the console. Set the password on this line as **cisco** for login. Configure the vty lines 0 to 15 with the password **cisco** as follows:

```
ALSwitch#configure terminal
```

Enter the configuration commands, one for each line. End by pressing **Ctrl-Z**.

```
ALSwitch(config)#line con 0
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login

ALSwitch(config-line)#line vty 0 15
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login

ALSwitch(config-line)#exit
```

Step 6 Set the command mode passwords

- Set the **enable password** to **cisco** and the **enable secret password** to **class** as follows:

2950:

```
ALSwitch(config)#enable password cisco
ALSwitch(config)#enable secret class
```

1900:

```
ALSwitch(config)#enable password level 15 cisco
ALSwitch(config)#enable secret class
```

- Which password takes precedence, the enable password or enable secret password? [secret](#)

Step 7 Configure the layer 3 access to the switch

- Set the IP address of the switch to 192.168.1.2 with a subnet mask of 255.255.255.0 as follows:

Note: This is done on the internal virtual interface VLAN 1.

```
ALSwitch(config)#interface VLAN 1
ALSwitch(config-if)#ip address 192.168.1.2 255.255.255.0
ALSwitch(config-if)#exit
```

1900:

```
ALSwitch(config)#ip address 192.168.1.2 255.255.255.0
ALSwitch(config)#exit
```

d. Set the default gateway for the switch and the default management VLAN to 192.168.1.1 as follows:

```
ALSwitch(config)#ip default-gateway 192.168.1.1
ALSwitch(config)#exit
```

1900:

```
ALSwitch(config)#ip default-gateway 192.168.1.1
ALSwitch(config)#exit
```

Step 8 Verify the management LANs settings (1900: Skip to Step 10)

a. Verify the interface settings on VLAN 1 as follows:

```
ALSwitch#show interface VLAN 1
```

b. What is the bandwidth on this interface? [1000000 Kbit](#)
c. What are the VLAN states: VLAN1 is [down](#), Line protocol is [down](#)
d. Enable the virtual interface using the **no shutdown** command

```
ALSwitch(config)#interface VLAN 1
ALSwitch(config-if)#no shutdown
ALSwitch(config-if)#exit
```

e. What is the queuing strategy? [Fifo](#)

Step 9 Save the configuration

a. The basic configuration of the switch has just been completed. Back up the running configuration file to NVRAM as follows:

Note: This will ensure that the changes made will not be lost if the system is rebooted or loses power.

```
ALSwitch#copy running-config startup-config
Destination filename [startup-config]?[Enter]
Building configuration...
[OK]
ALSwitch#
```

1900:

b. The configuration is automatically saved to NVRAM within approximately one minute of entering a command. To save the configuration to a TFTP server, enter the following:

```
ALSwitch#copy nvram tftp://tftp server ip add/destination_filename
```

c. Configuration upload is successfully completed.

Step 10 Examine the startup configuration file (1900: Skip to Step 11)

a. To see the configuration that is stored in NVRAM, type **show startup-config** from the privileged EXEC (enable mode).

```
ALSwitch#show startup-config
```

- b. What is displayed? [Copy of the running-configuration](#)
- c. Are all the changes that were entered recorded in the file? [Yes](#)

Step 11 Exit the switch

Leave the switch welcome screen by typing `exit` as follows:

```
ALSwitch#exit
```

Once these steps are completed, logoff by typing `exit`, and turn all the devices off. Then remove and store the cables and adapter.

```
Switch>
Switch>enable
Switch#show running-config
Building configuration...

Current configuration : 1425 bytes
!
version 12.1
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Switch
!
!
ip subnet-zero
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
!
!
interface FastEthernet0/1
  no ip address
!
interface FastEthernet0/2
  no ip address
!
interface FastEthernet0/3
  no ip address
!
interface FastEthernet0/4
  no ip address
!
interface FastEthernet0/5
  no ip address
!
interface FastEthernet0/6
  no ip address
!
interface FastEthernet0/7
  no ip address
!
interface FastEthernet0/8
```

```
    no ip address
!
interface FastEthernet0/9
    no ip address
!
interface FastEthernet0/10
    no ip address
!
interface FastEthernet0/11
    no ip address
!
interface FastEthernet0/12
    no ip address
!
interface FastEthernet0/13
    no ip address
!
interface FastEthernet0/14
    no ip address
!
interface FastEthernet0/15
    no ip address
!
interface FastEthernet0/16
    no ip address
!
interface FastEthernet0/17
    no ip address
!
interface FastEthernet0/18
    no ip address
!
interface FastEthernet0/19
    no ip address
!
interface FastEthernet0/20
    no ip address
!
interface FastEthernet0/21
    no ip address
!
interface FastEthernet0/22
    no ip address
!
interface FastEthernet0/23
    no ip address
!
interface FastEthernet0/24
    no ip address
!
interface Vlan1
    no ip address
    no ip route-cache
    shutdown
!
ip http server
!
!
line con 0
line vty 5 15
```

```

!
end

Switch#
Switch#show startup-config
startup-config is not present
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname ALSwitch
ALSwitch(config)#exit
ALSwitch#
00:05:32: %SYS-5-CONFIG_I: Configured from console by console
ALSwitch#show running-config
Building configuration...

Current configuration : 1427 bytes
!
version 12.1
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname ALSwitch
!
!
ip subnet-zero
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
!
!
interface FastEthernet0/1
  no ip address
!
interface FastEthernet0/2
  no ip address
!
interface FastEthernet0/3
  no ip address
!
interface FastEthernet0/4
  no ip address
!
interface FastEthernet0/5
  no ip address
!
interface FastEthernet0/6
  no ip address
!
interface FastEthernet0/7
  no ip address
!
interface FastEthernet0/8
  no ip address
!
interface FastEthernet0/9
  no ip address
!
```

```
!
interface FastEthernet0/10
no ip address
!
interface FastEthernet0/11
no ip address
!
interface FastEthernet0/12
no ip address
!
interface FastEthernet0/13
no ip address
!
interface FastEthernet0/14
no ip address
!
interface FastEthernet0/15
no ip address
!
interface FastEthernet0/16
no ip address
!
interface FastEthernet0/17
no ip address
!
interface FastEthernet0/18
no ip address
!
interface FastEthernet0/19
no ip address
!
interface FastEthernet0/20
no ip address
!
interface FastEthernet0/21
no ip address
!
interface FastEthernet0/22
no ip address
!
interface FastEthernet0/23
no ip address
!
interface FastEthernet0/24
no ip address
!
interface Vlan1
no ip address
no ip route-cache
shutdown
!
ip http server
!
!
line con 0
line vty 5 15
!
end
```

ALSwitch#

```

ALSwitch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
ALSwitch(config)#line con 0
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login
ALSwitch(config-line)#line vty 0 15
ALSwitch(config-line)#password cisco
ALSwitch(config-line)#login
ALSwitch(config-line)#exit
ALSwitch(config)#enable password cisco
ALSwitch(config)#enable secret class
ALSwitch(config)#interface VLAN 1
ALSwitch(config-if)#ip address 192.168.1.2 255.255.255.0
ALSwitch(config-if)#exit
ALSwitch(config)#ip default-gateway 192.168.1.1
ALSwitch(config)#exit
ALSwitch#
00:07:57: %SYS-5-CONFIG_I: Configured from console by console
ALSwitch#show interface vlan 1
Vlan1 is administratively down, line protocol is down
Hardware is CPU Interface, address is 0009.b7f6.61c0 (bia 0009.b7f6.61c0)
Internet address is 192.168.1.2/24
MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:06:12, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue :0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 5000 bits/sec, 1 packets/sec
    47 packets input, 6606 bytes, 0 no buffer
    Received 47 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 33 ignored
    664 packets output, 372036 bytes, 0 underruns
    0 output errors, 3 interface resets
    0 output buffer failures, 0 output buffers swapped out
ALSwitch#
ALSwitch#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
ALSwitch#
ALSwitch#show startup-config
Using 1632 out of 32768 bytes
!
version 12.1
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname ALSwitch
!
enable secret 5 $1$h5u9$XWYy5uO52.GuHNNTwkWsa.
enable password cisco
!
ip subnet-zero

```

```
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
!
!
interface FastEthernet0/1
no ip address
!
interface FastEthernet0/2
no ip address
!
interface FastEthernet0/3
no ip address
!
interface FastEthernet0/4
no ip address
!
interface FastEthernet0/5
no ip address
!
interface FastEthernet0/6
no ip address
!
interface FastEthernet0/7
no ip address
!
interface FastEthernet0/8
no ip address
!
interface FastEthernet0/9
no ip address
!
interface FastEthernet0/10
no ip address
!
interface FastEthernet0/11
no ip address
!
interface FastEthernet0/12
no ip address
!
interface FastEthernet0/13
no ip address
!
interface FastEthernet0/14
no ip address
!
interface FastEthernet0/15
no ip address
!
interface FastEthernet0/16
no ip address
!
interface FastEthernet0/17
no ip address
!
interface FastEthernet0/18
no ip address
!
```

```
interface FastEthernet0/19
    no ip address
!
interface FastEthernet0/20
    no ip address
!
interface FastEthernet0/21
    no ip address
!
interface FastEthernet0/22
    no ip address
!
interface FastEthernet0/23
    no ip address
!
interface FastEthernet0/24
    no ip address
!
interface Vlan1
    ip address 192.168.1.2 255.255.255.0
    no ip route-cache
    shutdown
!
ip default-gateway 192.168.1.1
ip http server
!
!
line con 0
    password cisco
    login
line vty 0 4
    password cisco
    login
line vty 5 15
    password cisco
    login
!
end

ALSwitch#
ALSwitch#exit
```

Erasing and Reloading the Switch

For the majority of the labs in CCNA 3 and CCNA 4 it is necessary to start with an unconfigured switch. Use of a switch with an existing configuration may produce unpredictable results. These instructions allow preparation of the switch prior to performing the lab so previous configuration options do not interfere. The following is the procedure for clearing out previous configurations and starting with an unconfigured switch. Instructions are provided for the 2900, 2950, and 1900 Series switches.

2900 and 2950 Series Switches

1. Enter into the privileged EXEC mode by typing **enable**.

If prompted for a password, enter **class** (if that does not work, ask the instructor).

```
Switch>enable
```

2. Remove the VLAN database information file.

```
Switch#delete flash:vlan.dat
Delete filename [vlan.dat]? [Enter]
Delete flash:vlan.dat? [confirm] [Enter]
```

If there was no VLAN file, this message is displayed.

```
%Error deleting flash:vlan.dat (No such file or directory)
```

3. Remove the switch startup configuration file from NVRAM.

```
Switch#erase startup-config
```

The responding line prompt will be:

```
Erasing the nvram filesystem will remove all files! Continue? [confirm]
```

Press **Enter** to confirm.

The response should be:

```
Erase of nvram: complete
```

4. Check that VLAN information was deleted.

Verify that the VLAN configuration was deleted in Step 2 using the **show vlan** command. If previous VLAN configuration information (other than the default management VLAN 1) is still present it will be necessary to power cycle the switch (hardware restart) instead of issuing the **reload** command. To power cycle the switch, remove the power cord from the back of the switch or unplug it. Then plug it back in.

If the VLAN information was successfully deleted in Step 2, go to Step 5 and restart the switch using the **reload** command.

5. Software restart (using the **reload** command)

Note: This step is not necessary if the switch was restarted using the power cycle method.

- a. At the privileged EXEC mode enter the command **reload**.

```
Switch#reload
```

The responding line prompt will be:

```
System configuration has been modified. Save? [yes/no] :
```

- b. Type **n** and then press **Enter**.

The responding line prompt will be:

```
Proceed with reload? [confirm] [Enter]
```

The first line of the response will be:

```
Reload requested by console.
```

After the switch has reloaded, the line prompt will be:

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

- c. Type **n** and then press **Enter**.

The responding line prompt will be:

```
Press RETURN to get started! [Enter]
```

1900 Series Switches

1. Remove VLAN Trunking Protocol (VTP) information

```
#delete vtp
```

This command resets the switch with VTP parameters set to factory defaults.

All other parameters will be unchanged.

```
Reset system with VTP parameters set to factory defaults, [Y]es or [N]o?
```

Enter **y** and press **Enter**.

2. Remove the switch startup configuration from NVRAM.

```
#delete nvram
```

This command resets the switch with factory defaults. All system parameters will revert to their default factory settings. All static and dynamic addresses will be removed.

Reset system with factory defaults, [Y]es or [N]o?

Enter **y** and press **Enter**.