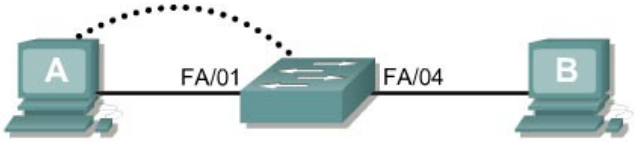
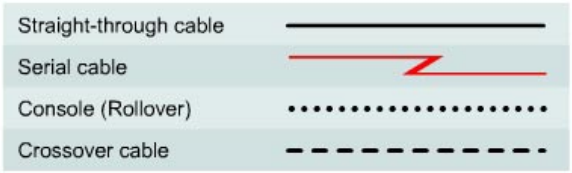
Lab 8.2.3 Configuring Static VLANs – 2900XL Series



Switch Designation	Switch Name	Enable Secret Password	Enable, VTY, and Console Passwords	VLAN 1 IP Address	Default Gateway IP Address	Subnet Mask
Switch 1	Switch_A	class	cisco	192.168.1.2	192.168.1.1	255.255.255.0



Objective

- Create a basic switch configuration and verify it.
- Determine the switch firmware version.
- Create two VLANs, name them and assign member ports to them.

Background/Preparation

When managing a switch, the Management Domain is always VLAN 1. The Network Administrator's workstation must have access to a port in the VLAN 1 Management Domain. All ports are assigned to VLAN 1 by default. This lab will also help demonstrate how VLANs can be used to separate traffic and reduce broadcast domains.

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 Configure the switch

Configure the hostname, access and command mode passwords, as well as the management LAN settings. These values are shown in the chart. If problems occur while performing this configuration, refer to the Basic Switch Configuration lab.

Step 2 Configure the hosts attached to the switch

Configure the host to use the same subnet for the address, mask, and default gateway as on the switch.

Step 3 Verify connectivity

a. To verify that the host and switch are correctly configured, ping the switch from the host.

b. Was the ping successful? Yes

c. If the answer is no, troubleshoot the host and switch configurations.

Step 4 Show the IOS version

a. It is very important to know the version of the operating system. Differences between versions may change how commands are entered. Type the **show version** command at the User EXEC or Privileged EXEC mode prompt as follows:

```
Switch_A#show version
```

b. What version of the switch IOS is displayed? 12.0(5)WC7

c. Does this switch have standard edition or Enterprise edition software? Enterprise

d. What is the Firmware or IOS Version running on this switch? N/A

Step 5 Display the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan

1900:
Switch_A#show vlan-membership
```

b. Which ports belong to the default VLAN? All

c. How many VLANs are set up by default on the switch? 5

d. What does the VLAN 1003 represent? default token ring vlan

e. How many ports are in the 1003 VLAN? 0

Step 6 Create and name two VLANs

Enter the following commands to create and name two VLANs:

```
Switch_A#vlan database
Switch_A(vlan)#vlan 2 name VLAN2
Switch_A(vlan)#vlan 3 name VLAN3
Switch_A(vlan)#exit

1900:
Switch_A#configure terminal
Switch_A(config)#vlan 2 name VLAN2
Switch_A(config)#vlan 3 name VLAN3
```


Step 7 Display the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan
```

b. Are there new VLANs in the listing? Yes, 2 and 3

1900:

```
Switch_A#show vlan-membership
```

c. Do they have any ports assigned to them yet? No

Step 8 Assign ports to VLAN 2

Assigning ports to VLANs must be done from the interface mode. Enter the following commands to add port 2 to VLAN 2:

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/2
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#end
```

1900:

```
Switch_A#config terminal
Switch_A(config)#interface Ethernet 0/2
Switch_A(config-if)#vlan static 2
Switch_A(config)#end
```

Step 9 Display the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan
```

1900:

```
Switch_A#show vlan-membership
```

b. Is port 2 assigned to VLAN 2? Yes

c. Is the port still listed in the default VLAN? No

Step 10 Assign a port to VLAN 3

Assigning ports to VLANs must be done from the interface mode. Enter the following commands to add port 3 to VLAN3

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/3
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#end
```

1900:


```
Switch_A#config terminal
Switch_A(config)#interface Ethernet 0/3
Switch_A(config)#vlan static 3
Switch_A(config)#end
```

Step 11 Look at the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan

1900:
Switch_A#show vlan-membership
```

b. Is port 3 assigned to VLAN 3? Yes

c. Is the port still listed in the default VLAN? No

Step 12 Look at only VLAN2 information

a. Instead of displaying all of the VLANs type the **show vlan id 2** command at the Privileged EXEC mode prompt as follows:

```
Switch_A#show vlan id 2

1900:
Switch_A#show vlan 2
```

b. Does this command supply any more information than the show VLAN command? Yes

Step 13 Look at only VLAN2 information with a different command (1900: Omit this step)

a. Instead of displaying all of the VLANs type the **show vlan name VLAN2** command at the Privileged EXEC mode prompt.

```
Switch_A#show vlan name VLAN2
```

b. Does this command supply any more information than the show VLAN command? No

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

```
Switch>enable
Switch#configure terminal
Switch(config)#hostname Switch_A
Switch_A(config)#
Switch_A(config)#enable secret class

Switch_A(config)#
Switch_A(config)#line con 0
Switch_A(config-line)#password cisco
Switch_A(config-line)#login
Switch_A(config-line)#line vty 0 15
Switch_A(config-line)#password cisco
```



```
Switch_A(config-line)#login
Switch_A(config-line)#exit
Switch_A(config-line)#interface Vlan1
Switch_A(config)#ip address 192.168.1.2 255.255.255.0
Switch_A(config-if)#no shutdown
Switch_A(config-if)#exit
Switch_A(config)#ip default-gateway 192.168.1.1
Switch_A(config)#end

Switch_A#show version
Cisco Internetwork Operating System Software
IOS (tm) C2900XL Software (C2900XL-C3H2S-M), Version 12.0(5)WC7, RELEASE
SOFTWARE (fc1)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Wed 05-Mar-03 10:26 by antonino
Image text-base: 0x00003000, data-base: 0x0034DEE8

ROM: Bootstrap program is C2900XL boot loader

Switch_A uptime is 21 minutes
System returned to ROM by reload
System image file is "flash:c2900xl-c3h2s-mz.120-5.WC7.bin"


cisco WS-C2924-XL (PowerPC403GA) processor (revision 0x11) with
8192K/1024K bytes of memory.
Processor board ID FAB0452U28G, with hardware revision 0x01
Last reset from warm-reset

Processor is running Enterprise Edition Software
Cluster command switch capable
Cluster member switch capable
24 FastEthernet/IEEE 802.3 interface(s)

32K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address: 00:04:C0:75:15:00
Motherboard assembly number: 73-3382-08
Power supply part number: 34-0834-01
Motherboard serial number: FAB045230A2
Power supply serial number: DAB04384M2X
Model revision number: A0
Motherboard revision number: C0
Model number: WS-C2924-XL-EN
System serial number: FAB0452U28G
Configuration register is 0xF


Switch_A#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4,
                                                Fa0/5, Fa0/6, Fa0/7, Fa0/8,
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12,
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16,
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20,
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
```



```
1005 trnet-default                    active

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ --
1    enet  100001 1500  -      -      -        -    -        0      0
1002 fddi  101002 1500  -      -      -        -    -        0      0
1003 tr    101003 1500  -      -      -        -    -        0      0
1004 fdnet 101004 1500  -      -      -        ieee -        0      0
1005 trnet 101005 1500  -      -      -        ibm  -        0      0

Switch_A#vlan database
Switch_A(vlan)#vlan 2 name VLAN2
VLAN 2 added:
    Name: VLAN2
Switch_A(vlan)#vlan 3 name VLAN3
VLAN 3 added:
    Name: VLAN3
Switch_A(vlan)#exit
APPLY completed.
Exiting....

Switch_A#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4,
                                                Fa0/5, Fa0/6, Fa0/7, Fa0/8,
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12,
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16,
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20,
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24
2    VLAN2                            active
3    VLAN3                            active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001 1500  -      -      -        -    -        0      0
2    enet  100002 1500  -      -      -        -    -        0      0
3    enet  100003 1500  -      -      -        -    -        0      0
1002 fddi  101002 1500  -      -      -        -    -        0      0
1003 tr    101003 1500  -      -      -        -    -        0      0
1004 fdnet 101004 1500  -      -      -        ieee -        0      0
1005 trnet 101005 1500  -      -      -        ibm  -        0      0

Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/2
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#end


Switch_A#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/3, Fa0/4, Fa0/5,
                                                Fa0/6, Fa0/7, Fa0/8, Fa0/9,
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13,
```



```
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17,
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21,
                                                Fa0/22, Fa0/23, Fa0/24
2    VLAN2                              active    Fa0/2
3    VLAN3                              active
1002 fddi-default                       active
1003 token-ring-default                 active
1004 fddinet-default                    active
1005 trnet-default                      active

VLAN Type  SAID   MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ------ ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001 1500  -      -      -        -    -        0      0
2    enet  100002 1500  -      -      -        -    -        0      0
3    enet  100003 1500  -      -      -        -    -        0      0
1002 fddi  101002 1500  -      -      -        -    -        0      0
1003 tr    101003 1500  -      -      -        -    -        0      0
1004 fdnet 101004 1500  -      -      -        ieee -        0      0
1005 trnet 101005 1500  -      -      -        ibm  -        0      0

Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/3
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#end
Switch_A#
Switch_A#
00:25:01: %SYS-5-CONFIG_I: Configured from console by console

Switch_A#show vlan
VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/1, Fa0/4, Fa0/5, Fa0/6,
                                                Fa0/7, Fa0/8, Fa0/9, Fa0/10,
                                                Fa0/11, Fa0/12, Fa0/13, Fa0/14,
                                                Fa0/15, Fa0/16, Fa0/17, Fa0/18,
                                                Fa0/19, Fa0/20, Fa0/21, Fa0/22,
                                                Fa0/23, Fa0/24
2    VLAN2                             active    Fa0/2
3    VLAN3                             active    Fa0/3
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active

VLAN Type  SAID   MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ------ ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001 1500  -      -      -        -    -        0      0
2    enet  100002 1500  -      -      -        -    -        0      0
3    enet  100003 1500  -      -      -        -    -        0      0
1002 fddi  101002 1500  -      -      -        -    -        0      0
1003 tr    101003 1500  -      -      -        -    -        0      0
1004 fdnet 101004 1500  -      -      -        ieee -        0      0
1005 trnet 101005 1500  -      -      -        ibm  -        0      0

Switch_A#show vlan id 2
VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
2    VLAN2                             active    Fa0/2
```



```
VLAN Type  SAID    MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ------ ----- ------ ------ -------- ---- -------- ------ ------
2    enet  100002 1500  -      -      -        -    -        0      0
```

```
Switch_A#show vlan name VLAN2
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
2    VLAN2                            active    Fa0/2

VLAN Type  SAID    MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ------ ----- ------ ------ -------- ---- -------- ------ ------
2    enet  100002 1500  -      -      -        -    -        0      0
```

C:\>**ping 192.168.1.2**

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 2ms

C:\>**ping 192.168.1.2**

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 2ms

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.

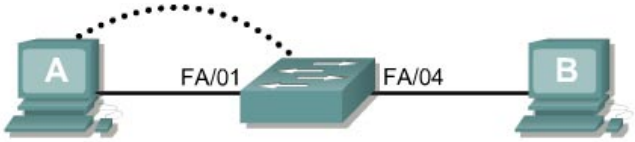
   ```
   #delete nvram
   ```

   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**.

Lab 8.2.3 Configuring Static VLANs – 2950 Series



Switch Designation	Switch Name	Enable Secret Password	Enable, VTY, and Console Passwords	VLAN 1 IP Address	Default Gateway IP Address	Subnet Mask
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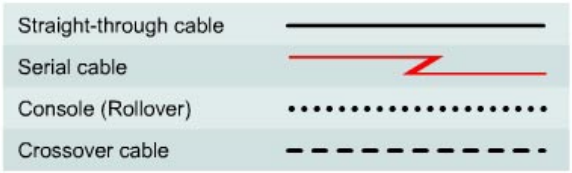

Objective

- Create a basic switch configuration and verify it.
- Determine the switch firmware version.
- Create two VLANs, name them and assign member ports to them.

Background/Preparation

When managing a switch, the Management Domain is always VLAN 1. The Network Administrator's workstation must have access to a port in the VLAN 1 Management Domain. All ports are assigned to VLAN 1 by default. This lab will also help demonstrate how VLANs can be used to separate traffic and reduce broadcast domains.

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 Configure the switch

Configure the hostname, access and command mode passwords, as well as the management LAN settings. These values are shown in the chart. If problems occur while performing this configuration, refer to the Basic Switch Configuration lab.

Step 2 Configure the hosts attached to the switch

Configure the host to use the same subnet for the address, mask, and default gateway as on the switch.

Step 3 Verify connectivity

a. To verify that the host and switch are correctly configured, ping the switch from the host.

b. Was the ping successful? Yes

c. If the answer is no, troubleshoot the host and switch configurations.

Step 4 Show the IOS version

a. It is very important to know the version of the operating system. Differences between versions may change how commands are entered. Type the **show version** command at the User EXEC or Privileged EXEC mode prompt as follows:

```
Switch_A#show version
```

b. What version of the switch IOS is displayed? 12.1(13)EA1

c. Does this switch have standard edition or Enterprise edition software? Standard

d. What is the Firmware or IOS Version running on this switch? N/A

Step 5 Display the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan

   1900:
Switch_A#show vlan-membership
```

b. Which ports belong to the default VLAN? All

c. How many VLANs are set up by default on the switch? 5

d. What does the VLAN 1003 represent? default token ring vlan

e. How many ports are in the 1003 VLAN? 0

Step 6 Create and name two VLANs

Enter the following commands to create and name two VLANs:

```
Switch_A#vlan database
Switch_A(vlan)#vlan 2 name VLAN2
Switch_A(vlan)#vlan 3 name VLAN3
Switch_A(vlan)#exit
   1900:
Switch_A#config terminal
Switch_A(config)#vlan 2 name VLAN2
Switch_A(config)#vlan 3 name VLAN3
```


Step 7 Display the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan
```

b. Are there new VLANs in the listing? Yes, 2 and 3

```
1900:
Switch_A#show vlan-membership
```

c. Do they have any ports assigned to them yet? No

Step 8 Assign ports to VLAN 2

Assigning ports to VLANs must be done from the interface mode. Enter the following commands to add port 2 to VLAN 2:

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/2
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#end
```

```
1900:
Switch_A#config terminal
Switch_A(config)#interface Ethernet 0/2
Switch_A(config-if)#vlan static 2
Switch_A(config)#end
```

Step 9 Display the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan
```

```
1900:
Switch_A#show vlan-membership
```

b. Is port 2 assigned to VLAN 2? Yes

c. Is the port still listed in the default VLAN? No

Step 10 Assign a port to VLAN 3

Assigning ports to VLANs must be done from the interface mode. Enter the following commands to add port 3 to VLAN3

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/3
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#end
```

```
   1900:
Switch_A#configure terminal
Switch_A(config)#interface Ethernet 0/3
Switch_A(config)#vlan static 3
Switch_A(config)#end
```

Step 11 Look at the VLAN interface information

a. On Switch_A, type the command **show vlan** at the Privileged EXEC prompt as follows:

```
Switch_A#show vlan
```

```
   1900:
Switch_A#show vlan-membership
```

b. Is port 3 assigned to VLAN 3? Yes

c. Is the port still listed in the default VLAN? No

Step 12 Look at only VLAN2 information

a. Instead of displaying all of the VLANs type the **show vlan id 2** command at the Privileged EXEC mode prompt as follows:

```
Switch_A#show vlan id 2
```

```
   1900:
Switch_A#show vlan 2
```

b. Does this command supply any more information than the show VLAN command? Yes

Step 13 Look at only VLAN2 information with a different command (1900: Omit this step)

a. Instead of displaying all of the VLANs type the **show vlan name VLAN2** command at the Privileged EXEC mode prompt.

```
Switch_A#show vlan name VLAN2
```


b. Does this command supply any more information than the show VLAN command? No

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

```
Switch>enable
Switch#configure terminal
Switch(config)#hostname Switch_A
Switch_A(config)#enable secret class
Switch_A(config)#line con 0
Switch_A(config-line)#password cisco
Switch_A(config-line)#login
Switch_A(config-line)#line vty 0 15
Switch_A(config-line)#password cisco
Switch_A(config-line)#login
Switch_A(config-line)#exit
Switch_A(config)#interface Vlan1
Switch_A(config-if)#ip address 192.168.1.2 255.255.255.0
Switch_A(config-if)#no shutdown
Switch_A(config-if)#exit
Switch_A(config)#ip default-gateway 192.168.1.1
Switch_A(config)#end


Switch_A#show version
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(13)EA1, RELEASE
SOFTWARE (fc1)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Tue 04-Mar-03 02:14 by yenanh
Image text-base: 0x80010000, data-base: 0x805A8000

ROM: Bootstrap program is CALHOUN boot loader

Switch_A uptime is 7 minutes
System returned to ROM by power-on
System image file is "flash:c2950-i6q4l2-mz.121-13.EA1.bin"

cisco WS-C2950-24 (RC32300) processor (revision E0) with 20839K bytes of
memory.
Processor board ID FHK0634Z08M
Last reset from system-reset
Running Standard Image
24 FastEthernet/IEEE 802.3 interface(s)

32K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address: 00:0A:B7:72:2B:40
Motherboard assembly number: 73-5781-10
Power supply part number: 34-0965-01
Motherboard serial number: FOC06330DJG
Power supply serial number: PHI06290B8Q
Model revision number: E0
Motherboard revision number: B0
Model number: WS-C2950-24
System serial number: FHK0634Z08M
Configuration register is 0xF
```



```
Switch_A#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------


Switch_A#vlan database
Switch_A(vlan)#vlan 2 name VLAN2
VLAN 2 added:
    Name: VLAN2
Switch_A(vlan)#vlan 3 name VLAN3
VLAN 3 added:
    Name: VLAN3
Switch_A(vlan)#exit
APPLY completed.
Exiting....

Switch_A#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24
2    VLAN2                            active
3    VLAN3                            active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
```



```
VLAN Type  SAID   MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ------ ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001 1500  -      -      -        -    -        0      0
2    enet  100002 1500  -      -      -        -    -        0      0
3    enet  100003 1500  -      -      -        -    -        0      0
1002 fddi  101002 1500  -      -      -        -    -        0      0
1003 tr    101003 1500  -      -      -        -    -        0      0
1004 fdnet 101004 1500  -      -      -        ieee -        0      0
1005 trnet 101005 1500  -      -      -        ibm  -        0      0

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type          Ports
------- --------- ------------- ------------------------------------------

Switch A#configure terminal
Switch A(config)#interface fastethernet 0/2
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#end


Switch_A#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/3, Fa0/4, Fa0/5
                                                Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24
2    VLAN2                            active    Fa0/2
3    VLAN3                            active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active

VLAN Type  SAID   MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ------ ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001 1500  -      -      -        -    -        0      0
2    enet  100002 1500  -      -      -        -    -        0      0
3    enet  100003 1500  -      -      -        -    -        0      0
1002 fddi  101002 1500  -      -      -        -    -        0      0
1003 tr    101003 1500  -      -      -        -    -        0      0
1004 fdnet 101004 1500  -      -      -        ieee -        0      0
1005 trnet 101005 1500  -      -      -        ibm  -        0      0

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type          Ports
------- --------- ------------- ------------------------------------------

Switch_A#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
```



```
Switch_A(config)#interface fastethernet 0/3
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#end

Switch_A#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/4, Fa0/5, Fa0/6
                                                Fa0/7, Fa0/8, Fa0/9, Fa0/10
                                                Fa0/11, Fa0/12, Fa0/13, Fa0/14
                                                Fa0/15, Fa0/16, Fa0/17, Fa0/18
                                                Fa0/19, Fa0/20, Fa0/21, Fa0/22
                                                Fa0/23, Fa0/24
2    VLAN2                            active    Fa0/2
3    VLAN3                            active    Fa0/3
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
2    enet  100002     1500  -      -      -        -    -        0      0
3    enet  100003     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------

Switch_A#show vlan id 2

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
2    VLAN2                            active    Fa0/2

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
2    enet  100002     1500  -      -      -        -    -        0      0

Remote SPAN VLAN
----------------
Disabled

Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------

Switch_A#show vlan name VLAN2
```



```
VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
2    VLAN2                             active    Fa0/2

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
2    enet  100002     1500  -      -      -        -    -        0      0

Remote SPAN VLAN
----------------
Disabled

Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
```

```
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.1.2:
      Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
      Minimum = 0ms, Maximum =  10ms, Average =  2ms
```

```
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255
Reply from 192.168.1.2: bytes=32 time<10ms TTL=255

Ping statistics for 192.168.1.2:
      Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
      Minimum = 0ms, Maximum =  10ms, Average =  2ms
```


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.

d. 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]:
```

e. 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]:
```

f. 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**.

