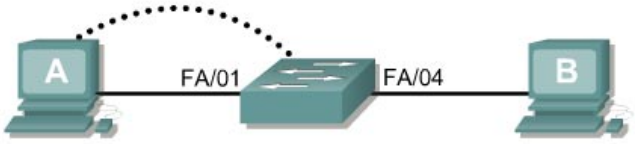
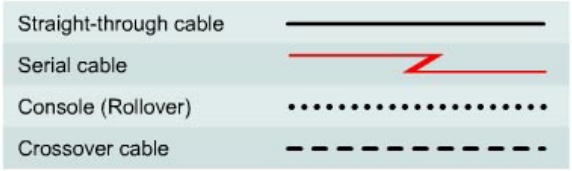
Lab 8.2.6 Deleting VLAN Configurations – 2900XL Series



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.
- Create two VLANs.
- Name the VLANs and assign multiple member ports to them.
- Remove an interface from a VLAN and Delete a VLAN
- Understand why it is not possible to delete VLAN 1.

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 to remove an interface from and existing VLAN and how to delete an entire VLAN.

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 hosts 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 hosts and switch are correctly configured, ping the switch from the hosts.

b. Were the pings successful? Yes

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

Step 4 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

Step 5 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 6 Assign ports to VLAN 2

Assigning ports to VLANs must be done from the interface mode. Enter the following commands to add ports 4, 5 and 6 to VLAN 2.

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/4
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#interface fastethernet 0/5
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#interface fastethernet 0/6
```



```
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#end
```

1900:

```
Switch_A#configure terminal
Switch_A(config)#interface Ethernet 0/4
Switch_A(config-if)#vlan static 2
Switch_A(config-if)#interface Ethernet 0/5
Switch_A(config-if)#vlan static 2
Switch_A(config-if)#interface Ethernet 0/6
Switch_A(config-if)#vlan static 2
Switch_A(config)#end
```

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
```

1900:

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

b. Are ports 4 through 6 assigned to VLAN 2? Yes

Step 8 Assign Ports to VLAN 3

```
Switch_A#configure terminal
Switch_A(config-if)#interface fastethernet 0/7
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet 0/8
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet 0/9
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#end
```

Step 9 Display the VLAN Interface Information

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

```
Switch_A#show vlan
```

b. Are ports 7-9 assigned to VLAN 3? Yes

Step 10 Test the VLANs

Ping from the host in port 0/4 to the host in port 0/1.

a. Was the ping successful? No

Why? Ports have different vlan membership.

Ping from the host in port 0/1 to the host in port 0/4.

b. Was the ping successful? No

Why? Ports have different vlan membership.

Ping from the host in port 0/4 to the switch IP 192.168.1.2.

c. Was the ping successful? No

d. Why? Ports have different vlan membership.

Ping from the host in port 0/1 to the switch IP 192.168.1.2.

d. Was the ping successful? Yes

Why? Same VLAN.

Step 11 Delete a Host from a VLAN

To remove a host from a VLAN, use the **no** form of the **switchport** commands in the port interface configuration mode.

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/4
Switch_A(config-if)#no switchport access vlan 2
```

1900:

```
Switch_A#configure terminal
Switch_A(config)#interface Ethernet 0/4
Switch_A(config-if)#no vlan-membership 2
Switch_A(config-if)#end
```

Step 12 Display the VLAN Interface Information

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

```
Switch_A#show vlan
```

b. Is port 0/4 removed from VLAN 2? Yes

Step 13 Delete a VLAN

a. To remove an entire VLAN, enter the VLAN database mode and use the negative form of the command.

```
Switch_A#vlan database
Switch_A(vlan)#no vlan 3
Deleting VLAN 3
Switch_A(vlan)#exit
```

1900:

```
Switch_A#configure terminal
Switch_A(config)#interface ethernet 0/7
Switch_A(config-if)#no vlan 3
Switch_A(config-if)#exit
```

Step 14 Display the VLAN Interface Information

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

```
Switch_A#show vlan
```

b. Is VLAN 3 removed? Yes

c. What happened to the ports that were released from VLAN 3? Not assigned to a VLAN

Step 15 Delete VLAN 1

a. Try to delete VLAN 1, which is the default VLAN, the same way that you deleted VLAN 3.

```
Switch_A#vlan database
Switch_A(vlan)#no vlan 1
A default VLAN may not be deleted.
Switch_A(vlan)#exit
```

```
1900:
Switch_A#configure terminal
Switch_A(config)#no vlan 1
Switch_A(config)#no vlan 1
                         ^
% Invalid input detected at '^' marker.
Switch_A(config)#exit
```

b. The default VLAN cannot be deleted.

Once the 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#configure terminal
Switch(config)#hostname Switch_A
Switch_A(config)#enable secret class
Switch_A(config)#enable password cisco
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 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/, 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#configure terminal
Switch_A(config)#interface fastethernet0/4
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet0/5
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#interface fastethernet0/6
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#end
Switch_A#

Switch_A#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, 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    Fa0/4, Fa0/5, Fa0/6
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 fastethernet0/7
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet0/8
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet0/9
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#end
Switch_A#

Switch_A#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, 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    Fa0/4, Fa0/5, Fa0/6
3    VLAN3                            active    Fa0/7, Fa0/8, Fa0/9
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 0/4
Switch_A(config-if)#no switchport mode access
Switch_A(config-if)#no switchport access vlan 2
Switch_A(config-if)#end
Switch_A#

Switch_A#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4,
                                                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    Fa0/5, Fa0/6
3    VLAN3                            active    Fa0/7, Fa0/8, Fa0/9
```



```
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
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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#vlan database
Switch_A(vlan)#no vlan 3
Deleting VLAN 3...
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,
                                                Fa0/10, 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    Fa0/5, Fa0/6
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
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)#no vlan 1
A default VLAN may not be deleted.
Switch_A(vlan)#exit
APPLY completed.
Exiting....
Switch_A#exit


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

C:\>
```


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.

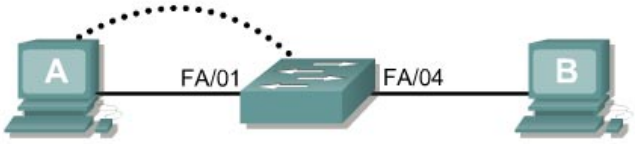
   ```
   #delete nvram
   ```

   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 8.2.6 Deleting VLAN Configurations – 2950 Series



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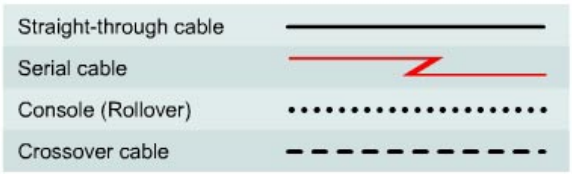

Objective

- Create a basic switch configuration and verify it.
- Create two VLANs.
- Name the VLANs and assign multiple member ports to them.
- Remove an interface from a VLAN and Delete a VLAN
- Understand why it is not possible to delete VLAN 1.

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 to remove an interface from and existing VLAN and how to delete an entire VLAN.

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 hosts 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 hosts and switch are correctly configured, ping the switch from the hosts.

b. Were the pings successful? Yes

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

Step 4 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

Step 5 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 6 Assign ports to VLAN 2

Assigning ports to VLANs must be done from the interface mode. Enter the following commands to add ports 4, 5 and 6 to VLAN 2.

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/4
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#interface fastethernet 0/5
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#interface fastethernet 0/6
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
```



```
Switch_A(config-if)#end
```

1900:

```
Switch_A#configure terminal
Switch_A(config)#interface Ethernet 0/4
Switch_A(config-if)#vlan static 2
Switch_A(config-if)#interface Ethernet 0/5
Switch_A(config-if)#vlan static 2
Switch_A(config-if)#interface Ethernet 0/6
Switch_A(config-if)#vlan static 2
Switch_A(config)#end
```

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
```

1900:

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

b. Are ports 4 through 6 assigned to VLAN 2? Yes

Step 8 Assign Ports to VLAN 3

```
Switch_A#configure terminal
Switch_A(config-if)#interface fastethernet 0/7
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet 0/8
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet 0/9
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#end
```

Step 9 Display the VLAN Interface Information

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

```
Switch_A#show vlan
```

b. Are ports 7-9 assigned to VLAN 3? Yes

Step 10 Test the VLANs

Ping from the host in port 0/4 to the host in port 0/1.

a. Was the ping successful? No

Why? Ports have different vlan membership.

Ping from the host in port 0/1 to the host in port 0/4.

b. Was the ping successful? No

Why? Ports have different vlan membership.

Ping from the host in port 0/4 to the switch IP 192.168.1.2.

c. Was the ping successful? No

d. Why? Ports have different vlan membership.

Ping from the host in port 0/1 to the switch IP 192.168.1.2.

d. Was the ping successful? Yes

Why? Same VLAN

Step 11 Delete a Host from a VLAN

To remove a host from a VLAN, use the **no** form of the **switchport** commands in the port interface configuration mode.

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/4
Switch_A(config-if)#no switchport access vlan 2
```

1900:

```
Switch_A#configure terminal
Switch_A(config)#interface Ethernet 0/4
Switch_A(config-if)#no vlan-membership 2
Switch_A(config-if)#end
```

Step 12 Display the VLAN Interface Information

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

```
Switch_A#show vlan
```

b. Is port 0/4 removed from VLAN 2? Yes

Step 13 Delete a VLAN

a. To remove an entire VLAN, enter the VLAN database mode and use the negative form of the command.

```
Switch_A#vlan database
Switch_A(vlan)#no vlan 3
Deleting VLAN 3
Switch_A(vlan)#exit
```

1900:

```
Switch_A#config terminal
Switch_A(config)#interface ethernet 0/7
Switch_A(config-if)#no vlan 3
Switch_A(config-if)#exit
```

Step 14 Display the VLAN Interface Information

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


```
Switch_A#show vlan
```

b. Is VLAN 3 removed? Yes

c. What happened to the ports that were released from VLAN 3? Not assigned to a VLAN

Step 15 Delete VLAN 1

a. Try to delete VLAN 1, which is the default VLAN, the same way that you deleted VLAN 3.

```
Switch_A#vlan database
Switch_A(vlan)#no vlan 1
A default VLAN may not be deleted.
Switch_A(vlan)#exit
```

1900:

```
Switch_A#config t
Switch_A(config)#no vlan 1
Switch_A(config)#no vlan 1
                         ^

% Invalid input detected at '^' marker.

Switch_A(config)#exit
```

b. The default VLAN cannot be deleted.

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

```
Switch>enable
Switch#confifure 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)#exit

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#configure terminal
Switch_A(config)#interface fastethernet0/4
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#interface fastethernet0/5
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 2
Switch_A(config-if)#interface fastethernet0/6
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, Fa0/2, Fa0/3, 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    Fa0/4, Fa0/5, Fa0/6
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 fastethernet0/7
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet0/8
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 3
Switch_A(config-if)#interface fastethernet0/9
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, Fa0/2, Fa0/3, 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    Fa0/4, Fa0/5, Fa0/6
3    VLAN3                             active    Fa0/7, Fa0/8, Fa0/9
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 fastethernet0/4
Switch A(config-if)#no switchport mode access
Switch A(config-if)#no switchport access vlan 2
Switch A(config-if)#end


Switch A#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                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    Fa0/5, Fa0/6
3    VLAN3                            active    Fa0/7, Fa0/8, Fa0/9
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#config terminal
Switch A(config)#exit


Switch A#vlan database
Switch A(vlan)#no vlan 3
Deleting VLAN 3...
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
                                                 Fa0/10, 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    Fa0/5, Fa0/6
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
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 running-config
Building configuration...

Current configuration : 1872 bytes
!
version 12.1
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Switch_A
!
enable secret 5 $1$K96y$PrzEaOIJOOc4I7Uz4.Ef.0
!
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
 switchport access vlan 2
 switchport mode access
 no ip address
!
interface FastEthernet0/6
 switchport access vlan 2
 switchport mode access
 no ip address
!
interface FastEthernet0/7
 switchport access vlan 3
switchport mode access
 no ip address
!
interface FastEthernet0/8
 switchport access vlan 3
switchport mode access
 no ip address
!
interface FastEthernet0/9
 switchport access vlan 3
 switchport mode access
 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 address
!
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

Switch_A#vlan database
Switch_A(vlan)#no vlan 1
A default VLAN may not be deleted.
Switch_A(vlan)#exit
APPLY completed.
Exiting....
Switch_A#exit



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**.

