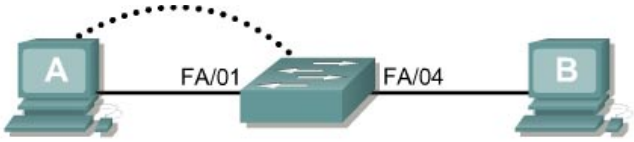
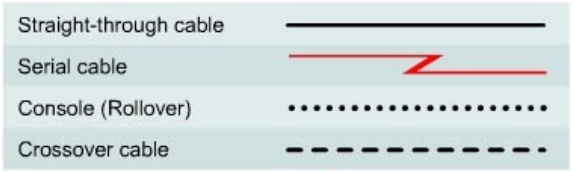
Lab 8.2.4 Verifying VLAN Configurations – 2900XL Series



Switch Designation	Switch Name	Enabe 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.
- Test functionality by moving a workstation from one VLAN to another.

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 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
Switch_A(config)#exit
```

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-if)#end
```

Step7 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 7, 8, and 9 to VLAN 3

Enter the following commands to add ports 7, 8 and 9:

```
Switch_A#configure terminal
Switch_A(config)#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
```

1900:

```
Switch_A#configure terminal
Switch_A(config)#interface ethernet 0/7
Switch_A(config-if)#vlan static 3
Switch_A(config-if)#interface ethernet 0/8
Switch_A(config-if)#vlan static 3
Switch_A(config-if)#interface ethernet 0/9
Switch_A(config-if)#vlan static 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 as follows:

```
Switch_A#show vlan
```

1900:


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

b. Are ports 7 through 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

b. Why? Different vlan membership

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

c. Was the ping successful? No

d. Why? Different vlan membership

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

e. Was the ping successful? No

f. Why? Different vlan membership

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

g. Was the ping successful? Yes

h. Why? Same vlan membership

Step 11 Move a host

Move the host in port 0/4 to port 0/3. Wait until the port LED goes green and then go to the next step.

Step 12 Test the VLANs

Ping from the host in port 0/3 to the host in port 0/1.

a. Was the ping successful? Yes

b. Why? Same vlan membership

Ping from the host in port 0/1 to the host in port 0/3.

c. Was the ping successful? Yes

Ping from the host in port 0/3 to the switch IP 192.168.1.2.

d. Was the ping successful? Yes

Step 13 Move hosts

Move the host in port 0/3 to port 0/4 and the host in port 0/1 to port 0/5. Wait until the port LEDs go green and then go to the next step.

Step 14 Test the VLANs

Ping from the host in port 0/4 to the host in port 0/5.

a. Was the ping successful? Yes

b. Why? Same vlan membership

Ping from the host in port 0/5 to the host in port 0/4.

c. Was the ping successful? Yes

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

d. Was the ping successful? No

Ping from the host in port 0/5 to the switch IP 192.168.1.2.

e. Was the ping successful? No

f. Why? Different vlan membership

Step 15 Move hosts

Move the host in port 0/4 to port 0/8. Wait until the port LED goes green and then go to the next step.

Step 16 Test the VLANs

Ping from the host in port 0/4 to the host in port 0/8.

a. Was the ping successful? No

b. Why? Different vlan membership

Ping from the host in port 0/8 to the host in port 0/4.

c. Was the ping successful? No

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

d. Was the ping successful? No

Ping from the host in port 0/8 to the switch IP 192.168.1.2.

e. Was the ping successful? 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>
Switch>enable
Switch#configure terminal
Switch(config)#hostname Switch_A
Switch_A(config)#
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 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#

Switch_A#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
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 3
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

Switch_A#configure terminal
Switch_A(config)#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
Switch_A#
00:03:09: %SYS-5-CONFIG_I: Configured from console by console

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
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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#
```

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**.

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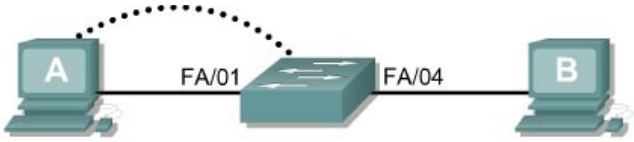

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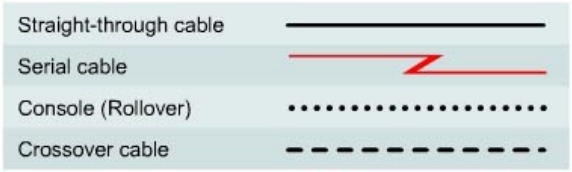

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Configure the hostname, access and command mode passwords, as well as the management LAN settings. These values are shown in the chart. If problems occur while performing this configuration, refer to the Basic Switch Configuration lab.

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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
Switch_A(config)#exit
```

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-if)#end
```

Step7 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 7, 8, and 9 to VLAN 3

Enter the following commands to add ports 7, 8 and 9:

```
Switch_A#configure terminal
Switch_A(config)#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
```

1900:

```
Switch_A#configure terminal
Switch_A(config)#interface ethernet 0/7
Switch_A(config-if)#vlan static 3
Switch_A(config-if)#interface ethernet 0/8
Switch_A(config-if)#vlan static 3
Switch_A(config-if)#interface ethernet 0/9
Switch_A(config-if)#vlan static 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 as follows:

```
Switch_A#show vlan
```

1900:


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

b. Are ports 7 through 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

b. Why? Different vlan membership

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

c. Was the ping successful? No

d. Why? Different vlan membership

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

e. Was the ping successful? No

f. Why? Different vlan membership

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

g. Was the ping successful? Yes

h. Why? Same vlan membership

Step 11 Move a host

Move the host in port 0/4 to port 0/3. Wait until the port LED goes green and then go to the next step.

Step 12 Test the VLANs

Ping from the host in port 0/3 to the host in port 0/1.

a. Was the ping successful? Yes

b. Why? Same vlan membership

Ping from the host in port 0/1 to the host in port 0/3.

c. Was the ping successful? Yes

Ping from the host in port 0/3 to the switch IP 192.168.1.2.

d. Was the ping successful? Yes

Step 13 Move hosts

Move the host in port 0/3 to port 0/4 and the host in port 0/1 to port 0/5. Wait until the port LEDs go green and then go to the next step.

Step 14 Test the VLANs

Ping from the host in port 0/4 to the host in port 0/5.

a. Was the ping successful? Yes

b. Why? Same vlan membership

Ping from the host in port 0/5 to the host in port 0/4.

c. Was the ping successful? Yes

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

d. Was the ping successful? No

Ping from the host in port 0/5 to the switch IP 192.168.1.2.

e. Was the ping successful? No

f. Why? Different vlan membership

Step 15 Move hosts

Move the host in port 0/4 to port 0/8. Wait until the port LED goes green and then go to the next step.

Step 16 Test the VLANs

Ping from the host in port 0/4 to the host in port 0/8.

a. Was the ping successful? No

b. Why? Different vlan membership

Ping from the host in port 0/8 to the host in port 0/4.

c. Was the ping successful? No

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

d. Was the ping successful? No

Ping from the host in port 0/8 to the switch IP 192.168.1.2.

e. Was the ping successful? 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>
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 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#


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#


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
Enter configuration commands, one per line.  End with CNTL/Z.
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 access vlan 3
Switch_A(config-if)#switchport mode access
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

Remote SPAN VLANs
```



```
--------------------------------------------------------------------------------

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

Switch_A#
```


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**.

