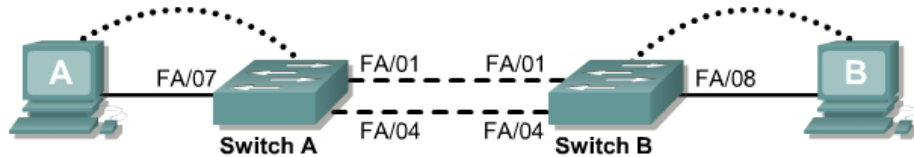


Lab 7.2.6 Spanning Tree Recalculation



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
Switch 2	Switch_B	class	cisco	192.168.1.3	192.168.1.1	255.255.255.0

Straight-through cable	—————
Serial cable	—————  —————
Console (Rollover)	
Crossover cable	- - - - -

Objective

- Create a basic switch configuration and verify it.
- Observe the behavior of spanning-tree algorithm in presence of switched network topology changes.

Background/Preparation

Cable a network similar to one of 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.

Start a HyperTerminal session.

Step 1 Configure the switches

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 switches

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

Step 3 Verify connectivity

- To verify that the hosts and switches are correctly configured, ping the switches from the hosts.
- Were the pings successful? _____
- If the answer is no, troubleshoot the hosts and switches configurations.

Step 4 Look at the show interface information

- a. On both switches, type the command `show interface VLAN1` at the privileged EXEC prompt as follows:

Switch_A#`show interface vlan 1`

- b. What is the MAC address of this switch? _____

Switch_B#`show interface vlan 1`

- c. What is the MAC address of the switch? _____
- d. Which switch should be the root of the spanning tree for VLAN 1? _____

Step 5 Look at the spanning tree table on each switch

- a. At the privileged EXEC mode prompt, type the following on Switch_A:

Note: Type `show spanning-tree brief` if running version 12.0 of the IOS. If running version 12.1 of the IOS, type just `show spanning-tree`. Different versions of IOS have different options for this command.

Switch_A#`show spanning-tree brief`

- b. On Switch_B type `show spanning-tree brief` at the privileged EXEC mode prompt as follows:

Switch_B#`show spanning-tree brief`

Examine the command output and answer the following questions.

- c. Which switch is the root switch? _____
- d. Record the states of the first 12 interfaces and ports of each switch.

Switch A	Port #	Switch B
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	

Step 6 Remove a cable on the switch

Remove the cable from the forwarding port on the non-root switch. For this example this is interface FastEthernet 0/1 on Switch_B.

- Wait for at least two minutes.
 - What has happened to the switch port LEDs?
-

Step 7 Look at the spanning tree table on each switch

- Type the following on Switch_A at the privileged EXEC mode prompt.

Note: Type `show spanning-tree brief` if running version 12.0 of the IOS. If running version 12.1 of the IOS, type just `show spanning-tree`. Different versions of IOS have different options for this command.

```
Switch_A#show spanning-tree brief
```

- On Switch_B type `show spanning-tree brief` at the privileged EXEC mode prompt as follows:

```
Switch_B#show spanning-tree brief
```

- What changes have taken place in the command output?

On Switch_A? _____

On Switch_B? _____

Step 8 Replace the cable in the switch

- Replace the cable in the port that it was removed from. For this example this is interface FastEthernet 0/1 on Switch_B.
- Wait for at least two minutes.
- What has happened to the switch port LEDs? _____

Step 9 Look at the spanning tree table on each switch

- At the privileged EXEC mode prompt, type the following on Switch_A:

Note: Type `show spanning-tree brief` if running version 12.0 of the IOS. If running version 12.1 of the IOS, type just `show spanning-tree`. Different versions of IOS have different options for this command.

```
Switch_A#show spanning-tree brief
```

- On Switch_B type `show spanning-tree brief` at the privileged EXEC mode prompt as follows:

```
Switch_B#show spanning-tree brief
```

c. What changes have taken place in the command output?

On Switch_A? _____

On Switch_B? _____

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