**Part 1: Build and Configure the Network**

**Step 1: Cable the network according to the topology.**

**Step 2: Configure PC hosts.**

**Step 3: Initialize and reload switches as necessary.**

* Enable—to enable switch
* Show running-config—to see if there any changes or not
* Erase startup-config — to erase all configuration
* Delete vlan.dat —to delete database
* Reload — to reload switch

**Step 4: Configure basic settings for each switch.**

**Open configuration window**

1. **Configure device name as shown in the topology.**

hostname S1

1. **Configure IP address as listed in Addressing Table.**

◦ Int vlan 1a— interface vlan 1

◦ Ip address (address) ( subnet)

◦ No shutdown—enable interface

1. **Assign cisco as the console and vty passwords.**

◦ Line console 0- access line configuration

◦ Password cisco- set password

1. **Assign class as the privileged EXEC password.**

◦ Line vty 0 15– to access the line (global)

◦ Enable secret class-class is the password for enable. Assign class as the privileged exec password (global)

**Step 1: Record network device MAC addresses.**

**a. Open a command prompt on PC-A and PC-B and type ipconfig /all.**

**Question:**

**What are the Ethernet adapter physical addresses?**

**PC-A MAC Address:** 0010.11CB.E672

**PC-B MAC Address:** 0003.E40A.0C10

**b. Console into switch S1 and S2 and type the show interface F0/1 command on each switch. Questions:**

**On the second line of command output, what is the hardware addresses (or burned-in address [bia])?**

**S1 Fast Ethernet 0/1 MAC Address:** 00e0.f92b.8001 (bia 00e0.f92b.8001)

**S2 Fast Ethernet 0/1 MAC Address:** 0001.42e5.c201 (bia 0001.42e5.c201)

**Step 2: Display the switch MAC address table.**

**b. In privileged EXEC mode, type the show mac address-table command and press Enter. S2# show mac address-table**

**Are there any MAC addresses recorded in the MAC address table?**

Vlan Mac Address Type Ports

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1 00e0.f92b.8001 DYNAMIC Fa0/1

**Step 3: Clear the S2 MAC address table and display the MA**

**a. In privileged EXEC mode, type the clear mac address-table dynamic command and press Enter.** S2# clear mac address-table dynamic

**b. Quickly type the show mac address-table command again. Does the MAC address table have any addresses in it for VLAN 1? Are there other MAC addresses listed?**

The MAC address for the other switch’s F0/1 switch port has been quickly reinserted in the MAC address table.

**Wait 10 seconds, type the show mac address-table command, and press Enter. Are there new addresses in the MAC address table?**

Yes, there are more new mac address

**Step 4: From PC-B, ping the devices on the network and observe the switch MAC address table.**

**a. From PC-B, open a command prompt and type arp -a.**

No ARP Entries Found

**b. From the PC-B command prompt, ping PC-A, S1, and S2.**

**Did all devices have successful replies?** Yes