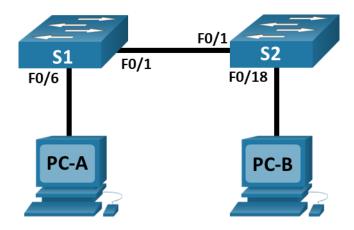Packet Tracer - Basic Switch and End Device Configuration -Physical Mode

Topology

Addressing Table

Device	Interface	IP Address	Subnet Mask
S1	VLAN 1	192.168.1.1	255.255.255.0
S2	VLAN 1	192.168.1.2	255.255.255.0
PC-A	NIC	192.168.1.10	255.255.255.0
PC-B	NIC	192.168.1.11	255.255.255.0

Objectives

Part 1: Set Up the Network Topology

Part 2: Configure PC Hosts

Part 3: Configure and Verify Basic Switch Settings

Background / Scenario

In this Packet Tracer Physical Mode (PTPM) activity, you will build a simple network with two hosts and two switches. You will also configure basic settings including hostname, local passwords, and login banner. Use **show** commands to display the running configuration, IOS version, and interface status. Use the **copy** command to save device configurations.

You will apply IP addressing for to the PCs and switches to enable communication between the devices. Use the **ping** utility to verify connectivity.

Instructions

Part 1: Set Up the Network Topology

Power on the PCs and cable the devices according to the topology. To select the correct port on a switch, right click and select **Inspect Front**. Use the Zoom tool, if necessary. Float your mouse over the ports to see the port numbers. Packet Tracer will score the correct cable and port connections.

a. There are several switches, routers, and other devices on the **Shelf.** Click and drag switches **S1** and **S2** to the **Rack.** Click and drag two PCs to the **Table.**

b. Power on the PCs.

c. On the **Cable Pegboard**, click a **Copper Cross-Over** cable. Click the **FastEthernet0/1** port on **S1** and then click the **FastEthernet0/1** port on **S2** to connect them. You should see the cable connecting the two ports.

d. On the **Cable Pegboard**, click a **Copper Straight-Through** cable. Click the **FastEthernet0/6** port on **S1** and then click the **FastEthernet0** port on **PC-A** to connect them**.**

e. On the **Cable Pegboard**, click a **Copper Straight-Through** cable. Click the **FastEthernet0/18** port on **S2** and then click the **FastEthernet0** port on **PC-B** to connect them.

f. Visually inspect network connections. Initially, when you connect devices to a switch port, the link lights will be amber. After a minute or so, the link lights will turn green.

Part 2: Configure PC Hosts

Configure static IP address information on the PCs according to the **Addressing Table**.

a. Click **PC-A** > **Desktop** > **IP Configuration**. Enter the IP address for **PC-A** (192.168.1.10) and the subnet mask (255.255.255.0), as listed in the IP addressing table. You can leave default gateway blank at this time because there is no router attached to the network.

b. Close the **PC-A** window.

c. Repeat the previous steps to assign the IP address information for **PC-B,** as listed in the **Addressing Table.**

d. Click **PC-A** > **Desktop** > **Command Prompt**. Use the **ipconfig /all** command at the prompt to verify settings.

e. Enter **ping 192.168.1.11** at the prompt to test the connectivity to PC-B. The ping should be successful, as shown in the following output. If the ping is not successful, check the configurations on both of the PCs and troubleshoot as necessary.

```
Packet Tracer PC Command Line 1.0
C:\> ping 192.168.1.11

Pinging 192.168.1.11 with 32 bytes of data:

Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

Part 3: Configure and Verify Basic Switch Settings

a. On the **Cable Pegboard**, click a **Console** cable. Connect the console cable between S1 and PC-A.

b. Establish a console connection to the switch S1 from PC-A using the Packet Tracer generic **Terminal** program (**PC-A** > **Desktop** > **Terminal**). Press ENTER to get the **Switch>** prompt.

c. You can access all switch commands in privileged EXEC mode. The privileged EXEC command set includes those commands contained in user EXEC mode, as well as the configure command through which access to the remaining command modes are gained. Enter privileged EXEC mode by entering the **enable** command.

Switch> enable
Switch#

d. The prompt changed from **Switch>** to **Switch#** which indicates privileged EXEC mode. Enter global configuration mode.

Switch# configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#

e. The prompt changed to **Switch(config)#** to reflect global configuration mode. Give the switch a name according to the **Addressing Table**.

Switch(config)# hostname S1

f. Enter local passwords. Use **class** as the privileged EXEC password and **cisco** as the password for console access.

S1(config)# enable secret class

S1(config)# line con 0

S1(config-line)# password cisco

S1(config-line)# login

S1(config-line)# exit

g. Configure and enable the VLAN 1 interface according to the **Addressing Table**.

S1(config)# interface vlan 1

S1(config-if)# ip address 192.168.1.1 255.255.255.0

S1(config-if)# no shutdown

h. A login banner, known as the message of the day (MOTD) banner, should be configured to warn anyone accessing the switch that unauthorized access will not be tolerated. Configure an appropriate MOTD banner to warn about unauthorized access.

S1(config)# banner motd #Unauthorized access is strictly prohibited and prosecuted to the full extent of the law. #

S1(config)# exit

i. Save the configuration to the startup file on non-volatile random access memory (NVRAM).

S1# copy running-config startup-config

Destination filename [startup-config]? [Enter]

Building configuration…

[OK]

S1#

j. Display the current configuration.

S1# show running-config

Building configuration…

<output omitted>

k. Display the IOS version and other useful switch information.

S1# show version

Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), Version 15.0(2)SE, RELEASE SOFTWARE (fc1)

Technical Support: http://www.cisco.com/techsupport

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<output omitted>

l. Display the status of the connected interfaces on the switch.

S1# show ip interface brief
InterfaceIP-AddressOK? Method StatusProtocol
FastEthernet0/1unassignedYES unsetupup
FastEthernet0/2unassignedYES unsetdowndown
<output omitted>
FastEthernet0/3unassignedYES unsetdowndown
FastEthernet0/4unassignedYES unsetdowndown
FastEthernet0/5unassignedYES unsetdowndown
FastEthernet0/6unassignedYES unsetupup
FastEthernet0/24unassignedYES manual downdown
GigabitEthernet0/1unassignedYES manual downdown
GigabitEthernet0/2unassignedYES manual downdown
Vlan1192.168.1.1YES manual up up
S1#

m. Repeat the previous steps to configure switch S2. Make sure the hostname is configured as S2.

enable

config terminal

hostname S2

enable secret class

line console 0

password cisco

login

exit

interface vlan 1

ip address 192.168.1.2 255.255.255.0

no shutdown

banner motd #Unauthorized access is strictly prohibited and prosecuted to the full extent of the law.#

end

copy running-config startup-config

n. Record the interface status for the following interfaces.

Interface	S1 Status	S1 Protocol	S2 Status	S2 Protocol
F0/1	**Up**	**Up**	**Up**	**Up**
F0/6	**Up**	**Up**	**Down**	**Down**
F0/18	**Down**	**Down**	**Up**	**Up**
VLAN 1	**Up**	**Up**	**Up**	**Up**

o. From a PC, ping S1 and S2. The pings should be successful.

p. From a switch, ping PC-A and PC-B. The pings should be successful.

Reflection Question

Why are some FastEthernet ports on the switches up while others are down?

Unless the administrators manually shut down the FastEthernet ports, they are active (up) when cables are connected to the ports. The ports would be closed (down) if not.

What could prevent a ping from being sent between the PCs?

Wrong IP address, disconnected media, switched off or administratively closed ports, firewall.