Packet Tracer - Implement Basic Connectivity

# Addressing Table

| Device | Interface | IP Address | Subnet Mask |
| --- | --- | --- | --- |
| S1 | VLAN 1 | 192.168.1.253 | 255.255.255.0 |
| S2 | VLAN 1 | 192.168.1.254 | 255.255.255.0 |
| PC1 | NIC | 192.168.1.1 | 255.255.255.0 |
| PC2 | NIC | 192.168.1.2 | 255.255.255.0 |

# Objectives

**Part 1: Perform a Basic Configuration on S1 and S2**

**Part 2: Configure the PCs**

**Part 3: Configure the Switch Management Interface**

# Background / Scenario

In this activity, you will first perform basic switch configurations. Then you will implement basic connectivity by configuring IP addressing on the switches and PCs. When the IP addressing configuration is complete, you will use various **show** commands to verify configurations and use the ping command to verify basic connectivity between devices.

# Instructions

## Perform SVI Configuration on S1 and S2

### Configure S1 with a hostname.

Open configuration window

* + 1. Click **S1**, and then click the **CLI** tab.
    2. Enter the privileged EXEC mode. Then enter the global configuration mode.

Switch> **enable**

Switch# **configure terminal**

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

* + 1. Configure the hostname as **S1**.

Switch(config)# **hostname S1**

S1(config)#

### Configure S1 with an IP address.

Switches can be used without any configurations. Switches forward information from one port to another based on Media Access Control (MAC) addresses.

#### Question:

Why does a switch need an IP address?

To contact the switch remotely it needs an IP address.

* + - 1. In the global configuration mode, enter the following commands to configure S1 with an IP address in VLAN 1.

S1(config)# **interface vlan 1**

S1(config-if)# **ip address 192.168.1.253 255.255.255.0**

S1(config-if)# **no shutdown**

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

#### Question:

What does the **no shutdown** command?

Changes the interfaces stat to up (active)

* + - 1. Exit the configuration mode and save the configuration.

S1(config-if)# **end**

S1#

S1# **copy running-config startup-config**

Destination filename [startup-config]?

Building configuration...

[OK]

* + - 1. Verify the IP address configuration on S1.

S1# **show ip interface brief**

<output omitted>

Vlan1 192.168.1.253 YES manual up up

close configuration window

### Configure S2 with a hostname and IP address.

In this step, you will configure S2 with a hostname and IP address.

open configuration window

* + - 1. Click **S2**. In the CLI tab, enter the global configuration mode.
      2. Configure the switch **S2** with a hostname using the information according to the Addressing Table.
      3. Use the information in the Addressing Table, repeat the same process to configure the switch S2 with an IP address.
      4. Exit the configuration mode. Verify the IP address configuration on S2.

S2# **show ip interface brief**

<output omitted>

Vlan1 192.168.1.254 YES manual up up

* + - 1. Save the configuration file to NVRAM. Enter the **copy running-config startup-config** command to save the configuration.

close configuration window

## Configure the PCs

In this part, you will configure PC1 and PC2 with IP addresses and verify network connectivity.

### Configure both PCs with IP addresses.

* + 1. Click **PC1**, and then click the **Desktop** tab.
    2. Click **IP Configuration**. In the **Addressing Table** above, you can see that the IP address for PC1 is supposed to be 192.168.1.1 and the subnet mask 255.255.255.0. Enter this information for PC1 in the **IP Configuration** window.
    3. Repeat the previous steps for PC2. Use the IP address listed in the Address Table for PC2.

### Test connectivity from the PCs.

* + 1. Click **PC1**. Close the **IP Configuration** window if it is still open. In the **Desktop** tab, click **Command Prompt**.
    2. Enter the **ping** command and the IP address for S1.

Packet Tracer PC Command Line 1.0

PC> **ping 192.168.1.253**

#### Question:

Were you successful? Explain.

Text

Description automatically generated

* + - 1. From PC1, ping S2 and PC2.

Calendar

Description automatically generated

Calendar

Description automatically generated

* + - 1. Repeat the pings to S1, S2, and PC1 from PC2.

Calendar

Description automatically generated

Calendar

Description automatically generated

Calendar

Description automatically generated

All pings should be successful. If your first ping result is 80%, retry; it should now be 100%. You will learn why a ping may fail the first time later in your studies. If you are unable to ping any of the devices, check your configuration for errors.

### Verify network connectivity from the switches.

Network connectivity can be verified using the **ping** command. It is very important that connectivity exists throughout the network.

* + 1. From S1, ping the other devices in the network. The ping to PC1 is displayed below as an example.

S1> **ping 192.168.1.1**

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds:

!!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/1 ms

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

* + 1. From S2, ping the other devices in the network.

Text

Description automatically generated with medium confidence

Graphical user interface, application, Word

Description automatically generated with medium confidence

Text

Description automatically generated with low confidence

All pings should be successful. If your first ping result is 80%, retry; it should now be 100%. You will learn why a ping may fail the first time later in your studies. If you are unable to ping any of the devices, check your configuration for errors.

# Answer Key

## Perform SVI Configuration on S1 and S2

### Configure S1 with a hostname.

### Configure S1 with an IP address.

Why does a switch need an IP address?

An IP address is required to connect to a switch remotely. The switch is managed through VLAN1 by default.

What does the **no shutdown** command?

The no shutdown command administratively enables the interface to an active state.

### Configure S2 with a hostname and IP address.

## Configure the PCs

### Configure both PCs with IP addresses.

### Test connectivity from the PCs.

Were you successful? Explain.

It should not be successful because the switches have not been configured with an IP address.

### Verify network connectivity from the switches.

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