

# Computer Networks

## Midterm exam: Practical problem

### Implement Basic Connectivity in Cisco packet Tracer

#### Objectives

Part 1: Perform a Basic Configuration on S1 and S2

Part 2: Configure the PCs

Part 3: Configure the Switch Management Interface

#### Background

In this activity, you will first create a basic switch configuration. Then, you will implement basic connectivity by configuring IP addressing on switches and PCs. When the IP addressing configuration is complete, you will use various show commands to verify the configuration and use the ping command to verify basic connectivity between devices. Please upload the screenshot with the completion rate and the Cisco Packet Tracer file onto Moodle. Your name must be in the “Activity Results” section:

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 03:22:56

Congratulations Dmytro Zubov! You completed the activity.

Overall Feedback **Assessment Items** Connectivity Tests

Expand/Collapse All Show Incorrect Items

Assessment Items	Status	Points	Component(s)	Feedback
Network				
PC1				
Ports				
FastEthernet0				
IP Address	Correct	15	IPv4 Host Address Configuration	
Subnet Mask	Correct	2	IPv4 Host Address Configuration	
PC2				
Ports				
FastEthernet0				
IP Address	Correct	15	IPv4 Host Address Configuration	
Subnet Mask	Correct	2	IPv4 Host Address Configuration	
S1				
Banner MOTD	Correct	1	Basic Security Configuration	
Console Line				
Login	Correct	1	Basic Security Configuration	
Password	Correct	1	Basic Security Configuration	
Enable Secret	Correct	1	Basic Security Configuration	
Host Name	Correct	1	Hostname Configuration	
Ports				
Vlan1				
IP Address	Correct	5	IPv4 Host Address Configuration	
Port Status	Correct	10	IPv4 Host Address Configuration	
Subnet Mask	Correct	5	IPv4 Host Address Configuration	
Startup Config	Correct	2	Configuration Management	
S2				
Banner MOTD	Correct	1	Basic Security Configuration	
Console Line				
Login	Correct	1	Basic Security Configuration	
Password	Correct	1	Basic Security Configuration	
Enable Secret	Correct	1	Basic Security Configuration	

Score : 88/88

Item Count : 22/22

Component	Items/Total	Score
Basic Security Configuration	8/8	8/8
Configuration Management	2/2	4/4
Hostname Configuration	2/2	2/2
IPv4 Host Address Configuration	10/10	74/74

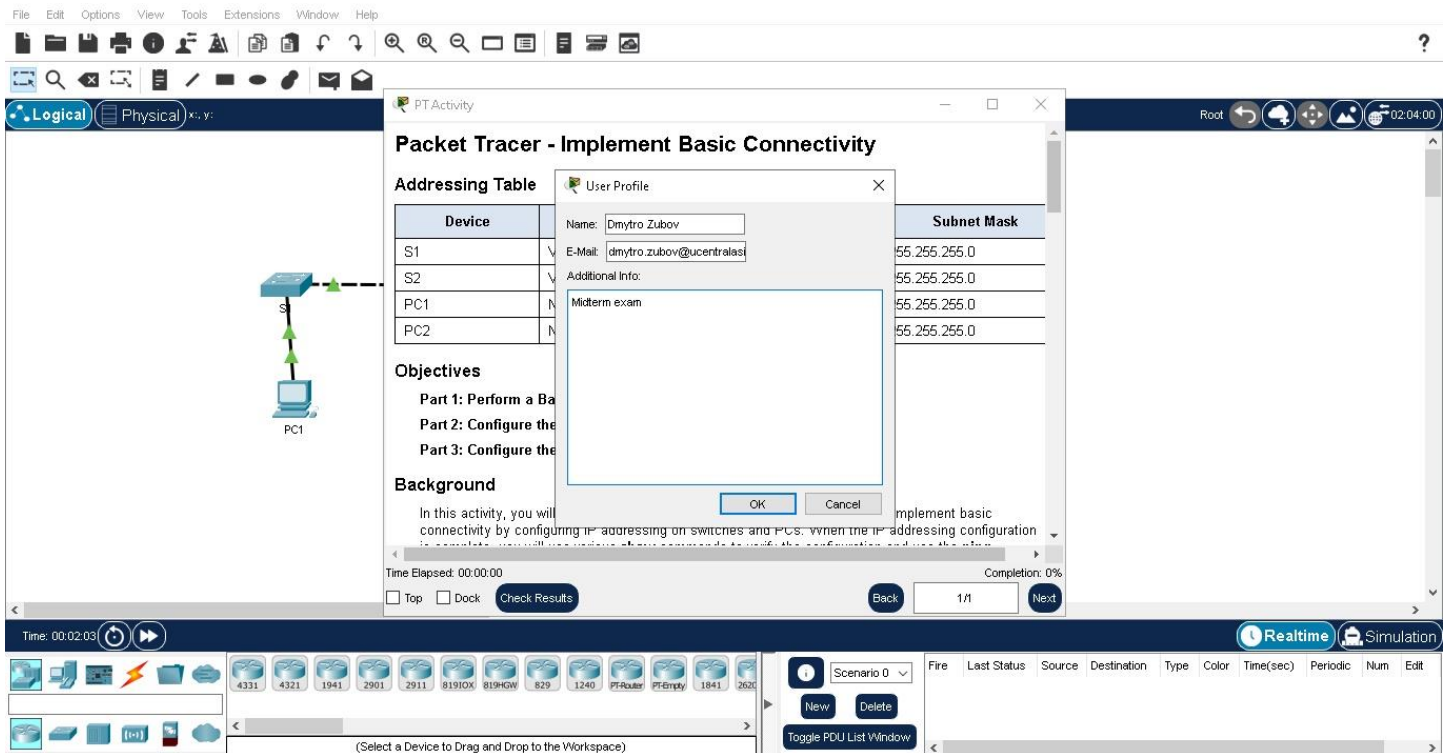
Close

Addressing table is as follows:

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

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

Before you start, please type your info as follows:



Complete the following steps on S1 and S2.

**Step 1:** Configure S1 with a hostname.

a. Click S1 and then click the CLI tab.

b. Enter the following command to configure the hostname as S1:

```
Switch(config)# hostname S1
```

**Step 2:** Configure the console and encrypted privileged EXEC mode passwords.

a. Use **cisco** for the console password:

```
S1(config)#line console 0
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#exit
S1#
```

b. Use **class** for the privileged EXEC mode password:

```
S1(config)# enable secret class
```

**Step 3:** Configure a MOTD banner.

Use an appropriate banner text to warn of unauthorized access. The following text is an example: "Authorized access only. Violators will be prosecuted to the full extent of the law."

```
S1(config)# banner motd " Authorized access only. Violators will  
be prosecuted to the full extent of the law."
```

**Step 4:** Save the configuration file to NVRAM.

**Step 5:** Repeat Steps 1 to 4 for S2.

## **Part 2: Configure the PCs**

Configure PC1 and PC2 with IP addresses.

**Step 1:** Configure both PCs with IP addresses.

a. Click PC1 and then click the Desktop tab.

b. Click IP Configuration. In the Addressing Table above, you can see that the IP address for PC1 is 192.168.1.1 and the subnet mask is 255.255.255.0. Enter this information for PC1 in the IP Configuration window.

c. Repeat steps 1a and 1b for PC2.

**Step 2:** Test connectivity to switches.

a. Click PC1. Close the IP Configuration window if it is still open. In the Desktop tab, click Command Prompt.

b. Type the ping command and the IP address for S1 and press Enter.

```
PC> ping 192.168.1.253
```

Question: Were you successful? Most likely, no ping between these two network devices.

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

Configure S1 and S2 with an IP address.

**Step 1:** Configure S1 with an IP address.

Switches can be used as plug-and-play devices. This means that they do not need to be configured for them to work. Switches forward information from one port to another based on MAC addresses.

Use the following commands to configure S1 with an IP address.

```
S1# configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
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  
S1(config-if)#  
S1(config-if)# exit  
S1#
```

**Step 2:** Configure S2 with an IP address.

Use the information in the Addressing Table to configure S2 with an IP address.

**Step 3:** Verify the IP address configuration on S1 and S2.

Use the **show ip interface brief** command to display the IP address and status of all the switch ports and interfaces. You can also use the **show running-config** command.

**Step 4:** Save configurations for S1 and S2 to NVRAM.

### Step 5: Verify network connectivity.

Network connectivity can be verified using the **ping** command. It is very important that connectivity exists throughout the network. Corrective action must be taken if there is a failure. Ping S1 and S2 from PC1 and PC2.

- Click PC1 and then click the Desktop tab.
- Click Command Prompt.
- Ping the IP address for PC2.
- Ping the IP address for S1.
- Ping the IP address for S2.

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

The completion must be 100 %:

File Edit Options View Tools Extensions Window Help

Logical Physical x: 469, y: 425 Root 14:13:30

### 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

In this activity, you will first create a basic switch configuration. Then, you will implement basic connectivity by configuring IP addressing on switches and PCs. When the IP addressing configuration is

Time Elapsed: Completion: 100%

☒ Dock Check Results Back 1/1 Next

Time: 01:25:37 Realtime Simulation

Scenario 0 Fire Last Status

New Delete

Toggle PDU List Window

2620XM