

ACTIVITY 3

WORKSHOP WEEK 3 – CONFIGURING SWITCH INTERFACES

INTRODUCTION

In this lab exercise, I focused on configuring the network interfaces of a Cisco Catalyst 2960 switch using Cisco Packet Tracer. The aim was to set up and manage network switches to enable smooth communication between multiple devices connected to the network. This activity involved configuring interface settings, VLAN assignments, establishing trunk connections between switches, and verifying the overall network connectivity.

STEP 1: SETTING UP THE SIMULATION ENVIRONMENT

I began by launching Cisco Packet Tracer and opening the provided exercise file. The network topology presented in the simulation included three switches (Switch0, Switch1, and Switch2), three desktop computers (PC1, PC2, and PC3), and a laptop. My primary task was to configure these switches to ensure seamless communication among all connected devices.

STEP 2: CONFIGURING SWITCH0 INTERFACES

The first step involved connecting to Switch0 using the console interface via PC1. My focus was on configuring the four FastEthernet ports (0/1 to 0/4) on Switch0. Each port was set as an access port, with specific configurations for speed (100 Mbit/s), duplex mode (Full Duplex), and auto-negotiation (disabled). These settings were essential to ensure that each device connected to Switch0 could communicate effectively, with optimized network performance.

STEP 3: VLAN CONFIGURATION AND CONNECTIVITY TESTING

After configuring the interfaces, I identified an issue where one of the PCs (PC3), connected to FastEthernet0/4, was unable to communicate with the others on the network. To resolve this, I assigned FastEthernet0/4 to VLAN 1, ensuring that all ports on Switch0 were within the same VLAN, allowing communication across all connected devices. I then conducted a series of ping tests from the laptop to each of the PCs to confirm that the network was functioning correctly. The successful pings indicated that the devices were able to communicate as expected, verifying that the network configuration was correct.

STEP 4: CONNECTING SWITCHES WITH CROSS-OVER CABLES

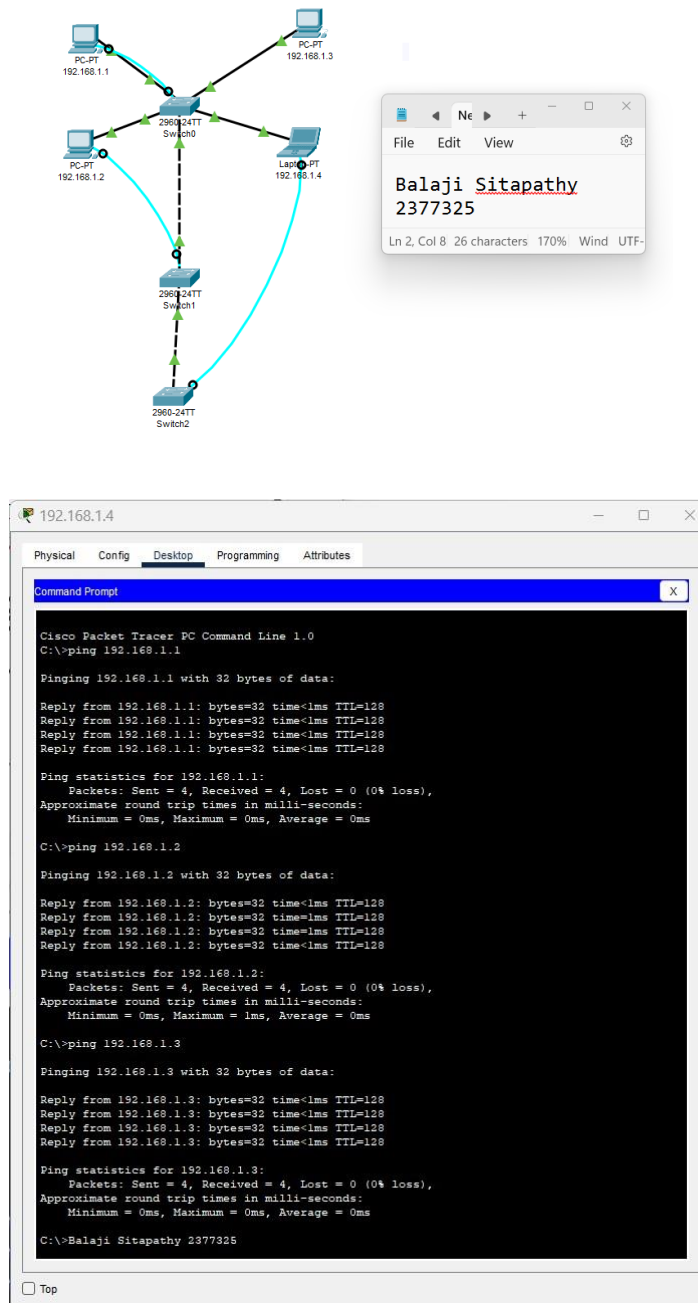
Next, I connected the three switches using cross-over cables. This type of cable is required when connecting two devices of the same type, such as switch-to-switch connections. I connected Switch0 to Switch1 and then Switch1 to Switch2 using these cables. This physical setup was crucial for enabling communication between the switches, ensuring that data could flow seamlessly across the network.

STEP 5: CONFIGURING TRUNK PORTS ON THE SWITCHES

After physically connecting the switches, I configured the GigabitEthernet ports on each switch as trunk ports. Trunking is necessary in a network with multiple switches because it allows the switches to carry traffic for multiple VLANs over a single link. This configuration was applied to ensure that the network could handle traffic efficiently across different VLANs and switches.

STEP 6: FINAL TESTING AND VALIDATION

To complete the activity, I performed a series of tests to ensure the network was operating as intended. This included repeating the ping tests from the laptop to each desktop to verify successful communication across the network. Additionally, I used the "Check Results" feature within Packet Tracer to confirm that all tasks had been completed correctly. The connectivity tests returned a "Correct" status for all tasks, indicating that the network setup was accurate and met all the requirements.



Overall Feedback Assessment Items <u>Connectivity Tests</u>						
Below are the results of your connectivity tests:						
	Status	Test Condition	Points	Source	Destination	Type
1	Correct	Successful	1	192.168.1.4	192.168.1.2 : 192.168.1.2	ICMP
2	Correct	Successful	1	192.168.1.4	192.168.1.1 : 192.168.1.1	ICMP
3	Correct	Successful	1	192.168.1.4	192.168.1.3 : 192.168.1.3	ICMP
4						
5						
6						
7						
8						
9						
10						
11						

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Balaji Sitapathy
2377325
Ln 1, Col 1 26 characters 200% Wind UTF-8

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Score	: 38/38
Item Count	: 38/38
Component	Items/Total Score
Other	15/15 15/15
Physical	16/16 16/16
Switching	4/4 4/4
Connectivity	
Connectivity Tests	3/3 3/3

CONCLUSION

This lab exercise involved configuring network interfaces on Cisco Catalyst 2960 switches, establishing trunk connections between switches, and validating the overall network functionality. Through this activity, I gained practical experience in managing switch interfaces, configuring VLANs, and understanding the importance of trunk connections in a multi-switch network. The successful completion of the network tests and the "Correct" status on the connectivity checks confirmed that the configurations were implemented successfully. This experience has reinforced my understanding of essential networking concepts and their practical application in real-world scenarios.