Exp 4 Construction of Different VLANS and TRUNKING using cisco packet tracer.

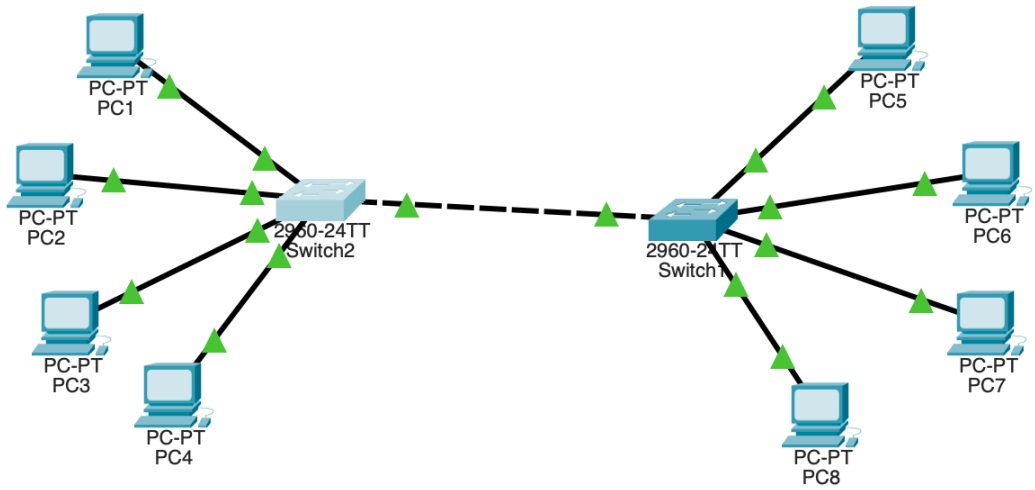
Creating the Network in Cisco Packet Tracer

Step 1: Place Network Devices
1. Open Cisco Packet Tracer.
2. Add the Devices:
  - Go to the End Devices section and add 8 PCs.
  - Go to the Switches section and add 2 switches (2960-24TT).

3. Position the Devices as per the diagram:
  - Switch1 (2960-24TT) connects to PC5, PC6, PC7, and PC8.
  - Switch2 (2960-24TT) connects to PC1, PC2, PC3, and PC4.

Step 2: Connect the Devices
1. Use copper straight-through cables to connect each PC to a switch port:
  - PC1, PC2, PC3, and PC4 are connected to Switch2.
  - PC5, PC6, PC7, and PC8 are connected to Switch1.

2. Trunk the Switches:
  - Use a crossover cable to connect the two switches on any available interface (e.g., Fa0/24 on both switches).



Step 3: VLAN Configuration
1. Open CLI for Switch1 and Switch2.

Configure Switch1 (VLANs and Trunk)
Switch> enable
Switch configure terminal
Switch(config) vlan 10

Switch(config-vlan) name VLAN10
Switch(config-vlan) exit
Switch(config) vlan 20
Switch(config-vlan) name VLAN20
Switch(config-vlan) exit

! Assigning ports to VLAN 10 (PC5 and PC6)
Switch(config) interface range fa0/1 - 2
Switch(config-if-range) switchport mode access
Switch(config-if-range) switchport access vlan 10
Switch(config-if-range) exit

! Assigning ports to VLAN 20 (PC7 and PC8)
Switch(config) interface range fa0/3 - 4
Switch(config-if-range) switchport mode access
Switch(config-if-range) switchport access vlan 20
Switch(config-if-range) exit

! Configure trunk port (Fa0/24) connecting to Switch2
Switch(config) interface fa0/24
Switch(config-if) switchport mode trunk
Switch(config-if) switchport trunk allowed vlan 10,20
Switch(config-if) exit

Configure Switch2 (VLANs and Trunk)

```
Switch> enable
Switch configure terminal
Switch(config) vlan 10
Switch(config-vlan) name VLAN10
Switch(config-vlan) exit
Switch(config) vlan 20
Switch(config-vlan) name VLAN20
Switch(config-vlan) exit

! Assigning ports to VLAN 10 (PC1 and PC2)
Switch(config) interface range fa0/1 - 2
Switch(config-if-range) switchport mode access
Switch(config-if-range) switchport access vlan 10
Switch(config-if-range) exit

! Assigning ports to VLAN 20 (PC3 and PC4)
Switch(config) interface range fa0/3 - 4
Switch(config-if-range) switchport mode access
Switch(config-if-range) switchport access vlan 20
Switch(config-if-range) exit

! Configure trunk port (Fa0/24) connecting to Switch1
Switch(config) interface fa0/24
Switch(config-if) switchport mode trunk
Switch(config-if) switchport trunk allowed vlan 10,20
Switch(config-if) exit
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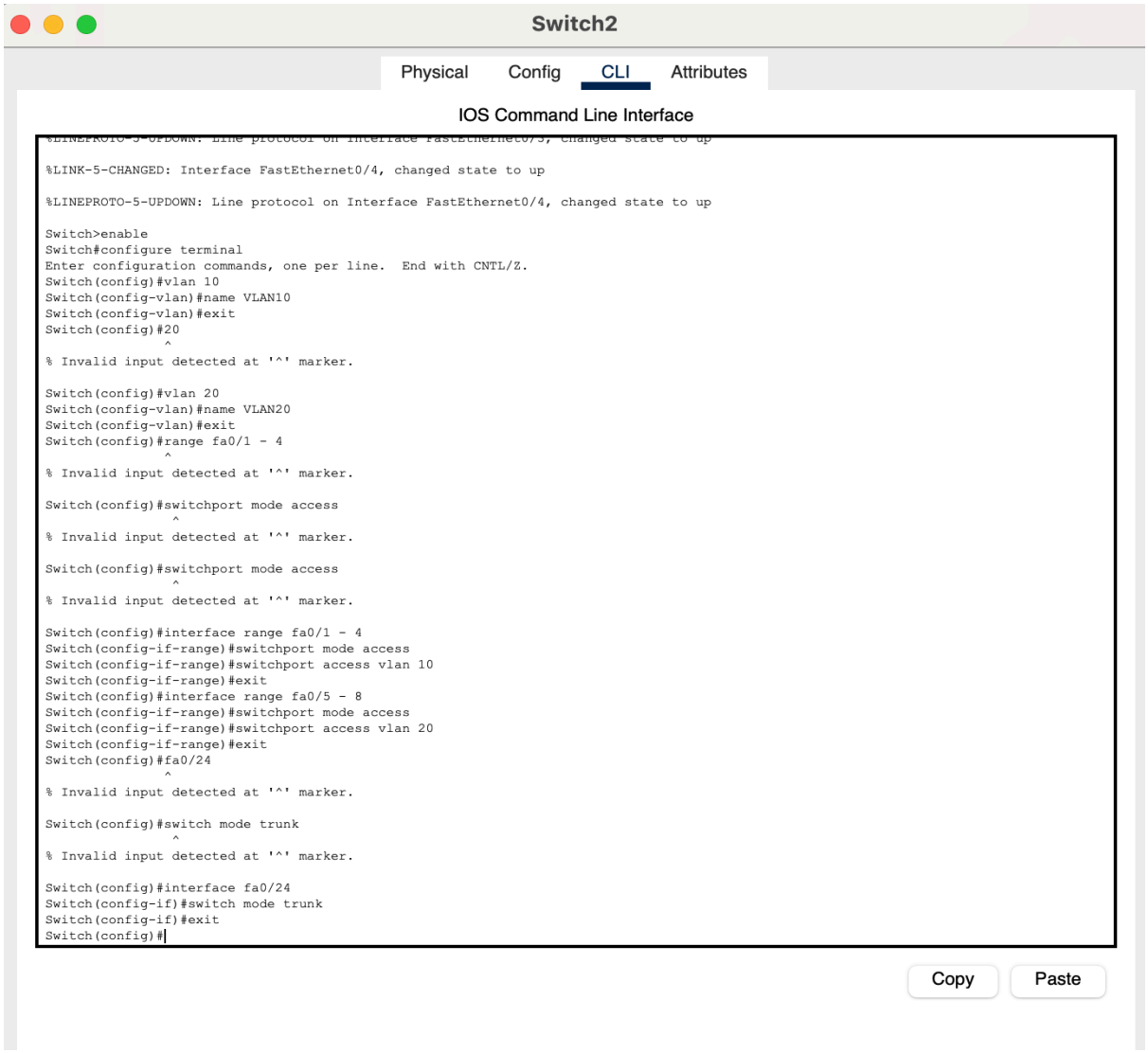

Step 4: Configure IP Addresses for PCs

1. Click on each PC (PC1 to PC8) and configure the IP addresses as follows:

For PCs in VLAN 10:

- PC1: IP: 192.168.10.1, Subnet: 255.255.255.0
- PC2: IP: 192.168.10.2, Subnet: 255.255.255.0
- PC5: IP: 192.168.10.3, Subnet: 255.255.255.0
- PC6: IP: 192.168.10.4, Subnet: 255.255.255.0

For PCs in VLAN 20:

- PC3: IP: 192.168.20.1, Subnet: 255.255.255.0
- PC4: IP: 192.168.20.2, Subnet: 255.255.255.0
- PC7: IP: 192.168.20.3, Subnet: 255.255.255.0
- PC8: IP: 192.168.20.4, Subnet: 255.255.255.0

Step 5: Verify the Configuration

1. Save the configurations on both switches:

Switch write memory

2. Test Connectivity:
  - Go to PC1 and ping PC2 (which is in VLAN 10).
  - Ping across VLANs (e.g., from PC1 to PC3) will fail unless a router is added for inter-VLAN routing.

Additional Considerations
- If you want to enable inter-VLAN routing, you will need to add a router or configure a Layer 3 Switch for routing between VLANs.