

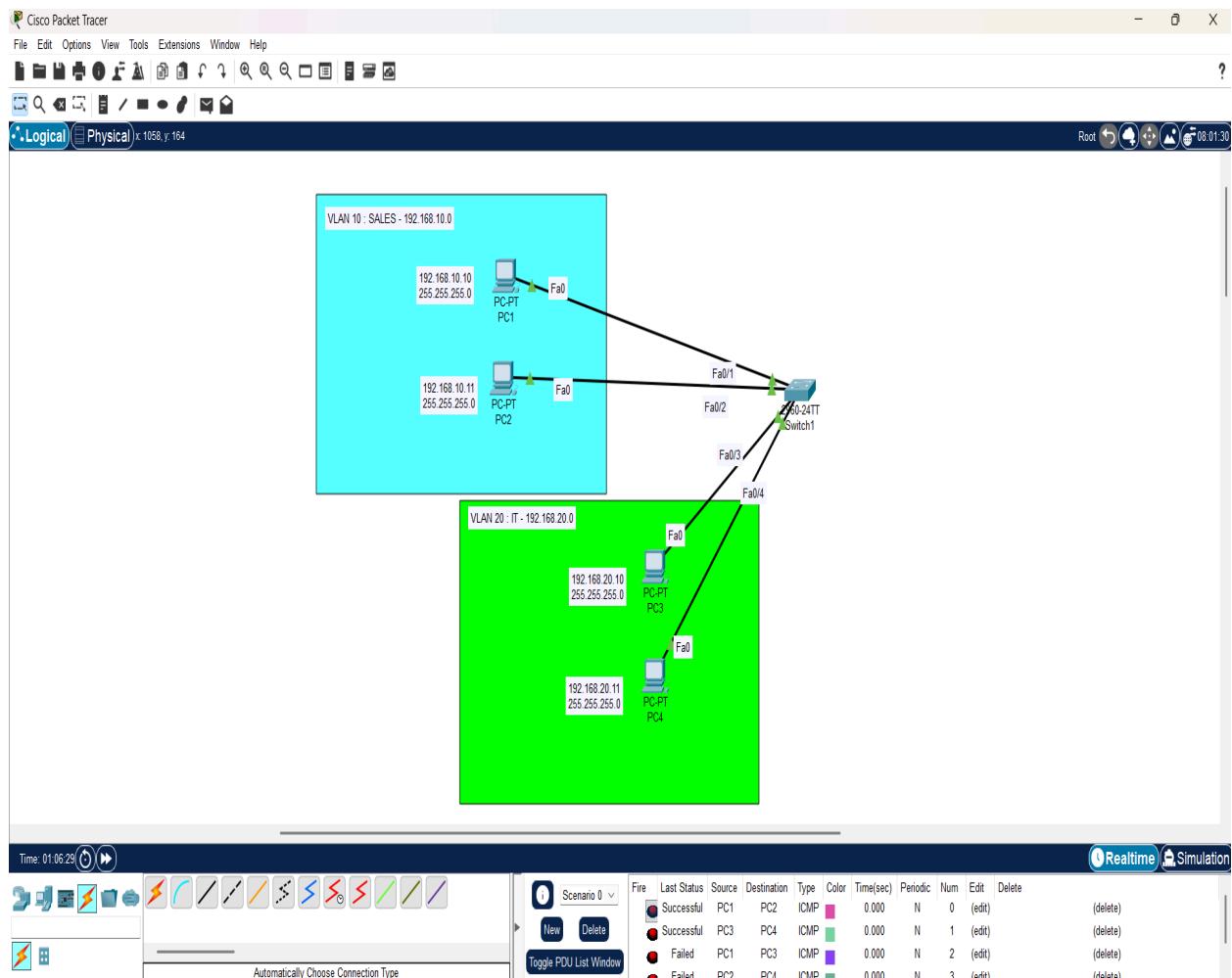
Lab 06 – VLANs

Objective:

To configure VLANs on a switch to logically separate devices and test network isolation.

Topology:

Single switch with four PCs assigned to two VLANs (VLAN 10 and VLAN 20).



VLAN Design:

VLAN 10 (SALES): PC1, PC2

VLAN 20 (IT): PC3, PC

IP Addressing:

VLAN 10:

PC1 – 192.168.10.10/24
PC2 – 192.168.10.11/24

VLAN 20:

PC3 – 192.168.20.10/24
PC4 – 192.168.20.11/24

Switch Configuration Summary:

- Created VLAN 10 and VLAN 20
- Assigned access ports to respective VLANs
- (Optional) Configured trunk port for multi-switch connectivity

The screenshot shows a Windows-style application window titled "Switch1". The tab bar at the top has four tabs: "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tabs is a title bar "IOS Command Line Interface". The main area of the window contains the following text:

```
Press RETURN to get started!

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/4, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up

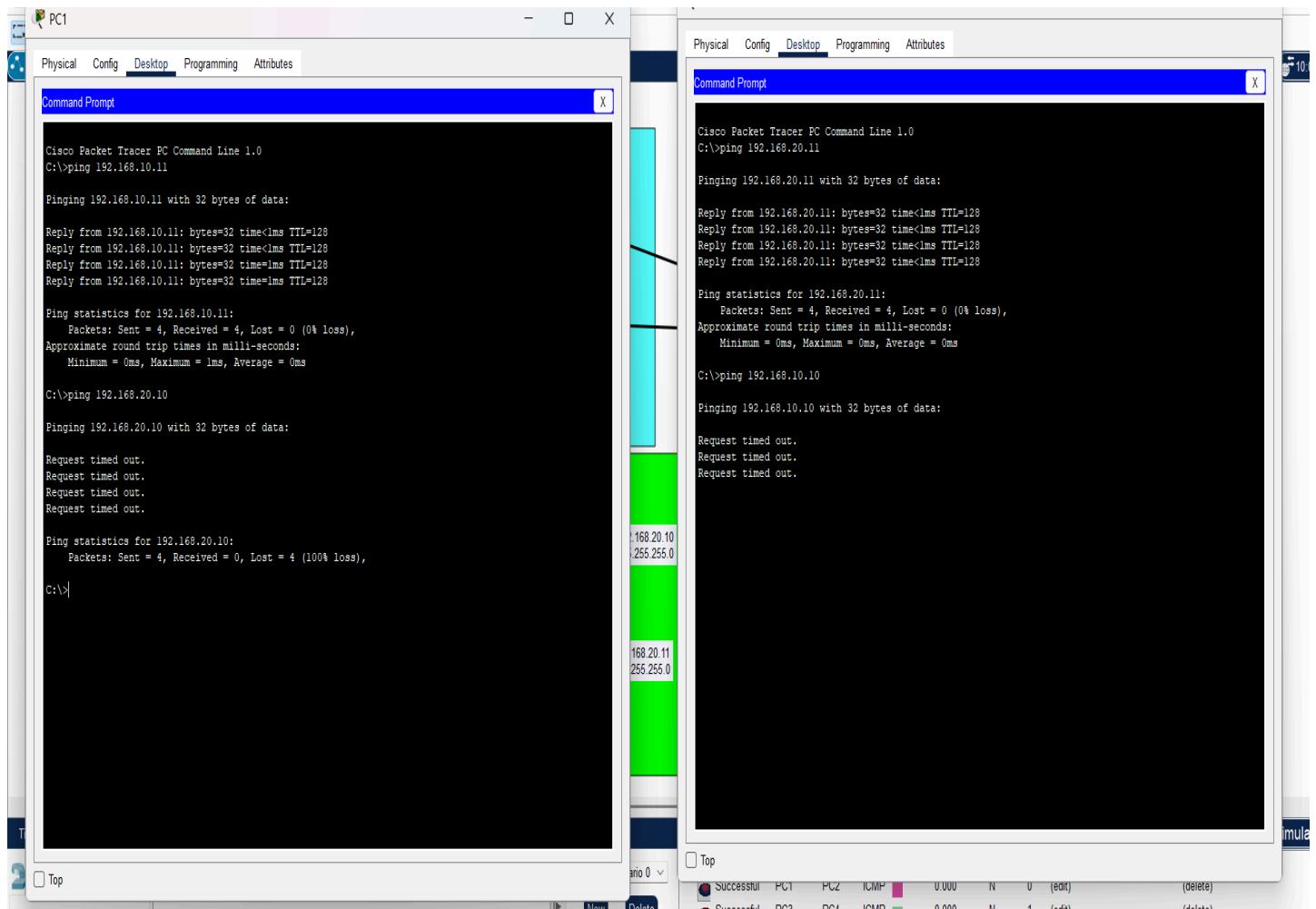
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name SALES
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name IT
Switch(config-vlan)#exit
Switch(config)#interface range fa0/1-2
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#exit
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
Switch(config)#

```

At the bottom right of the main window are two buttons: "Copy" and "Paste". At the bottom left is a "Top" button.

Verification:

- Devices in the same VLAN can communicate
- Devices in different VLANs cannot communicate



Lessons Learned:

- VLANs logically segment a network
- VLANs reduce broadcast traffic
- Trunk ports carry traffic for multiple VLANs