

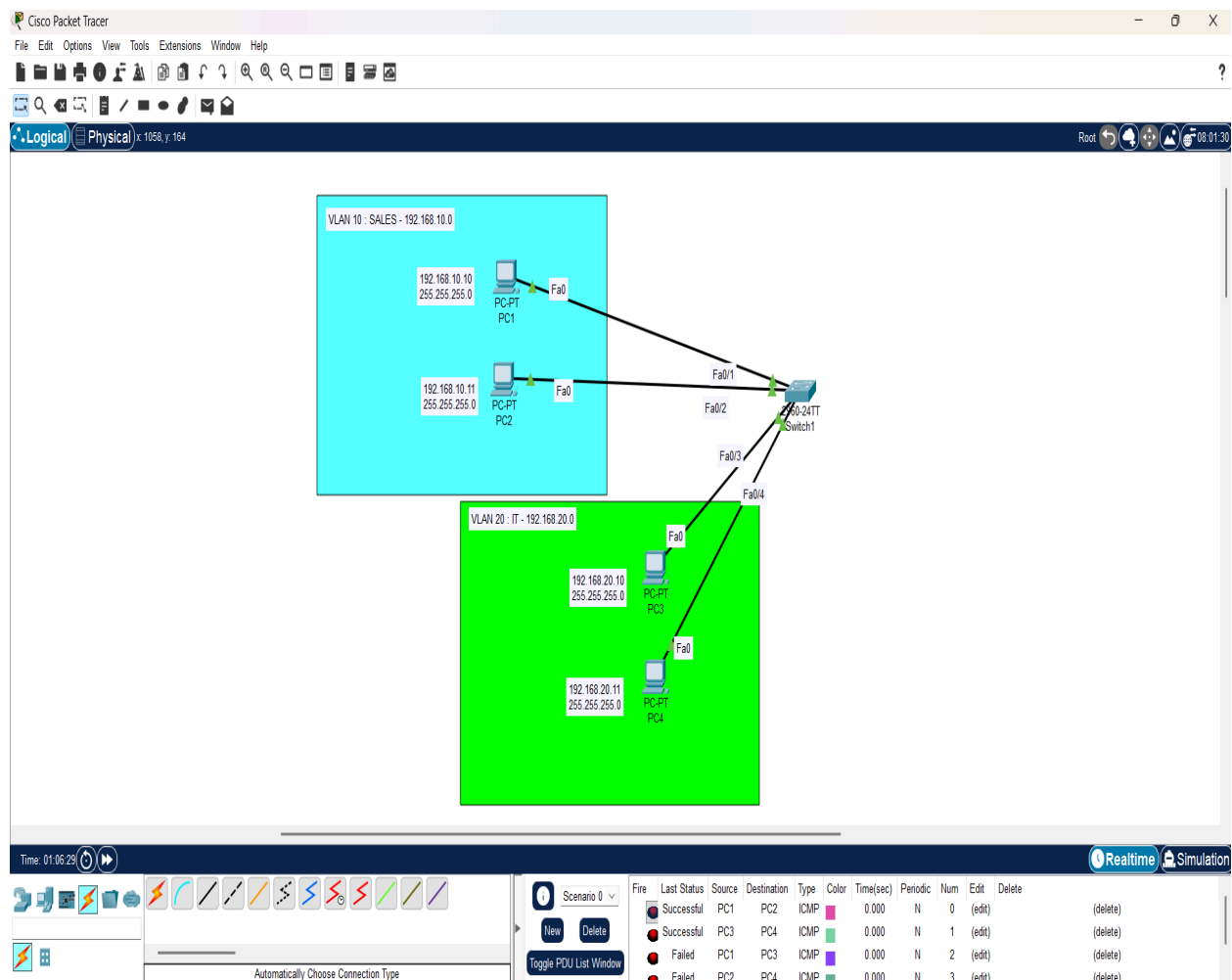
## Lab 06 – VLANs

### 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

```
Switch1
Physical Config CLI Attributes
IOS Command Line Interface

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

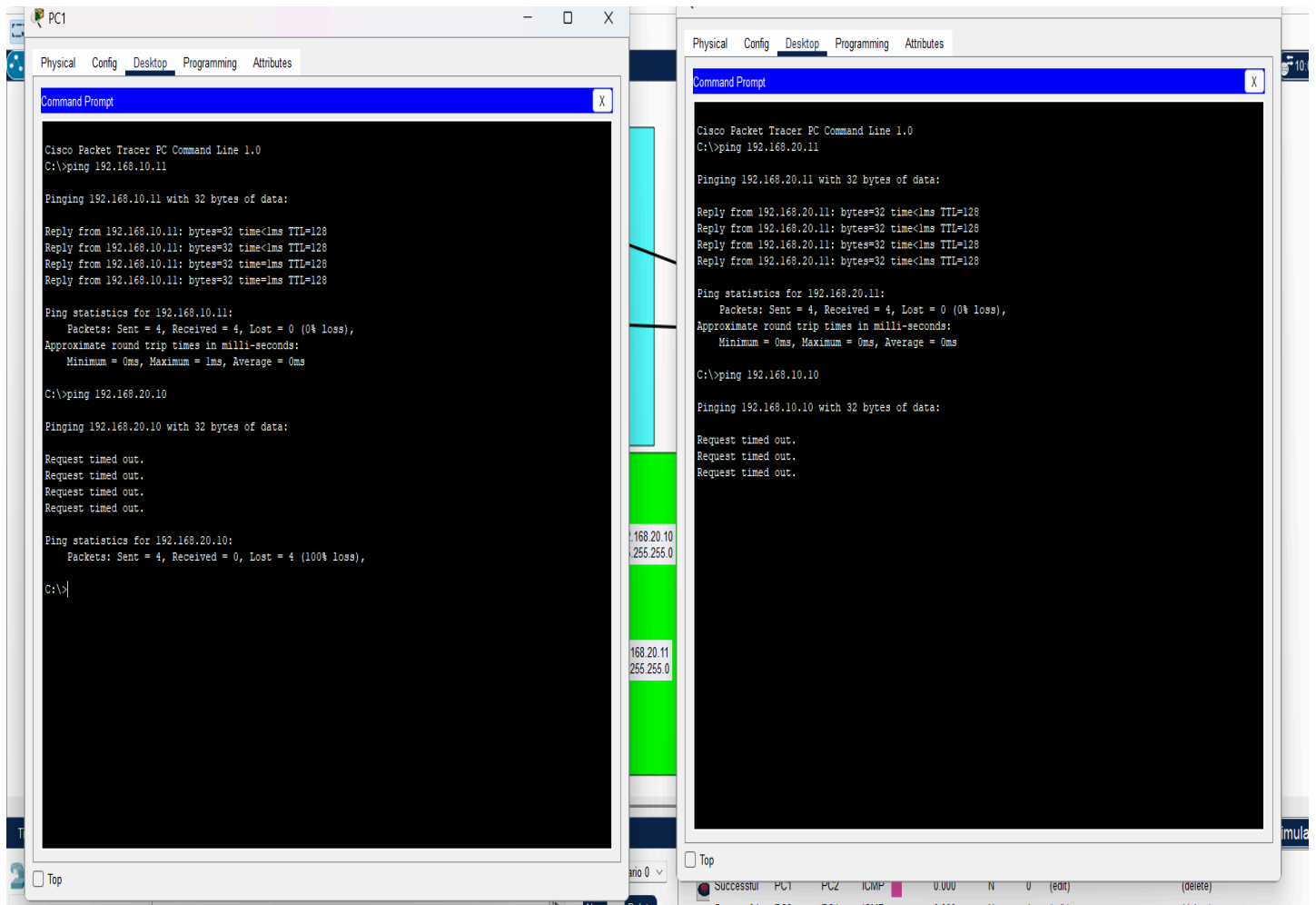
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name SALES
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name IT
Switch(config-vlan)#exit
Switch(config)#interface range fa0/1-2
Switch(config-if-range)#switchport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

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## 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