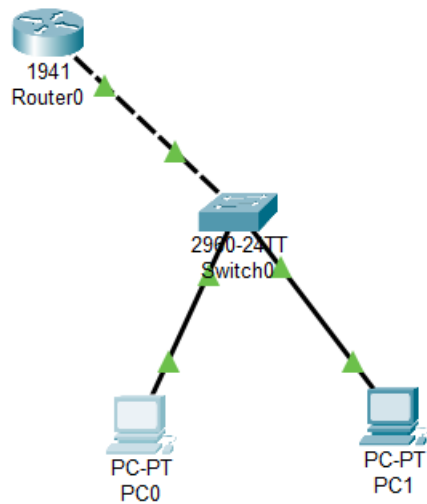


Use Cisco packet tracer for the below Set up trunk ports between switches and try ping between different VLANs.

Network Topology :

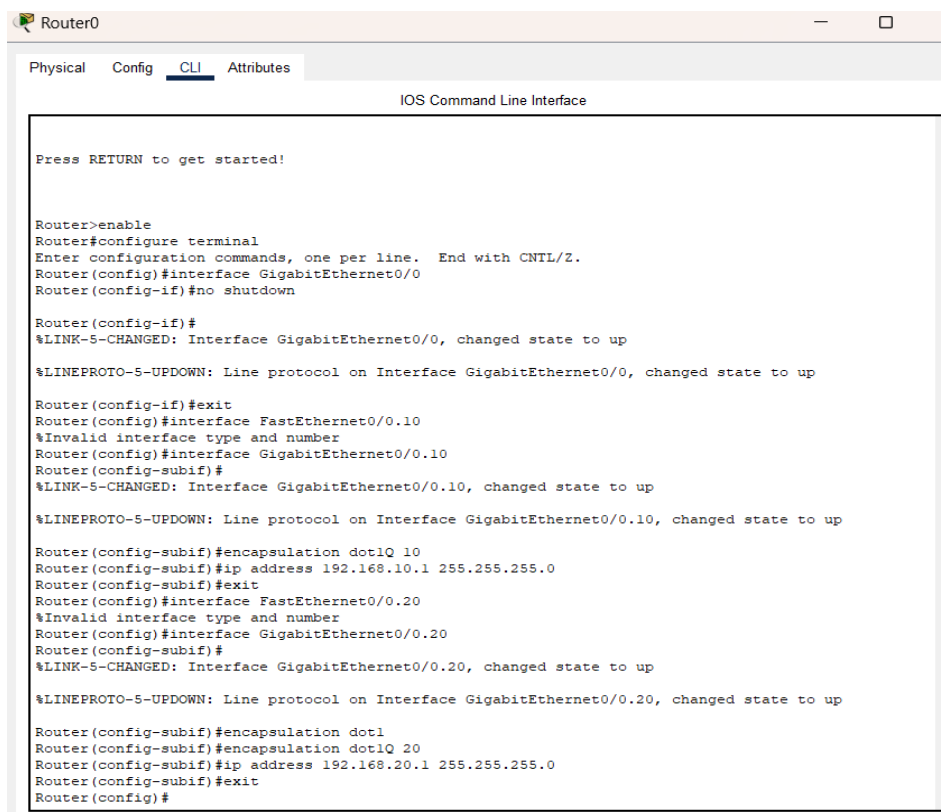


Configuring Switch to vlans 10 and 20 :

```
Switch0
Physical Config CLI Attributes
IOS Command Line Interface

Switch>enable
Switch#configure terminal
Switch(config)#vlan 10
Switch(config-vlan)#name HR
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name Sales
Switch(config-vlan)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#switchport mode trunk
Switch(config-if)#exit
Switch(config)#
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
```

Configuring Router :



```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started!

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#interface FastEthernet0/0.10
%Invalid interface type and number
Router(config)#interface GigabitEthernet0/0.10
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.10, changed state to up

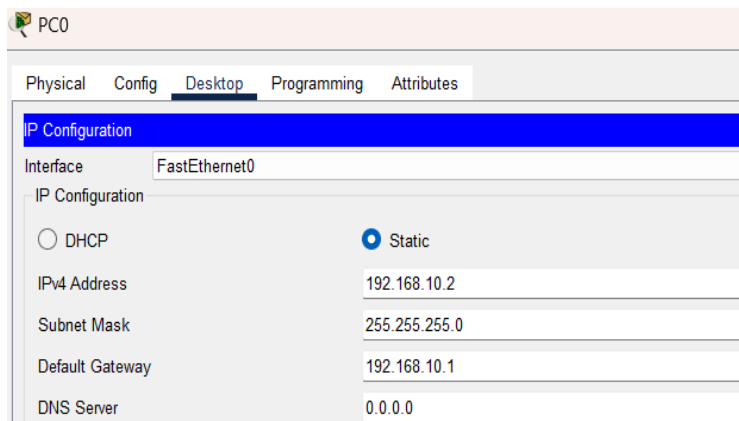
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.10, changed state to up

Router(config-subif)#encapsulation dot1Q 10
Router(config-subif)#ip address 192.168.10.1 255.255.255.0
Router(config-subif)#exit
Router(config)#interface FastEthernet0/0.20
%Invalid interface type and number
Router(config)#interface GigabitEthernet0/0.20
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.20, changed state to up

Router(config-subif)#encapsulation dot1
Router(config-subif)#encapsulation dot1Q 20
Router(config-subif)#ip address 192.168.20.1 255.255.255.0
Router(config-subif)#exit
Router(config)#
```

Configuring pc0 to vlan 10 and pc0 vlan 20 :



PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

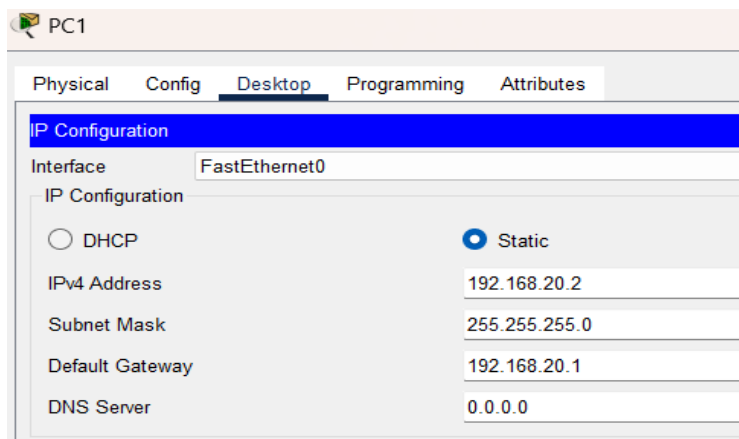
☐ DHCP ☒ Static

IPv4 Address: 192.168.10.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0



PC1

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

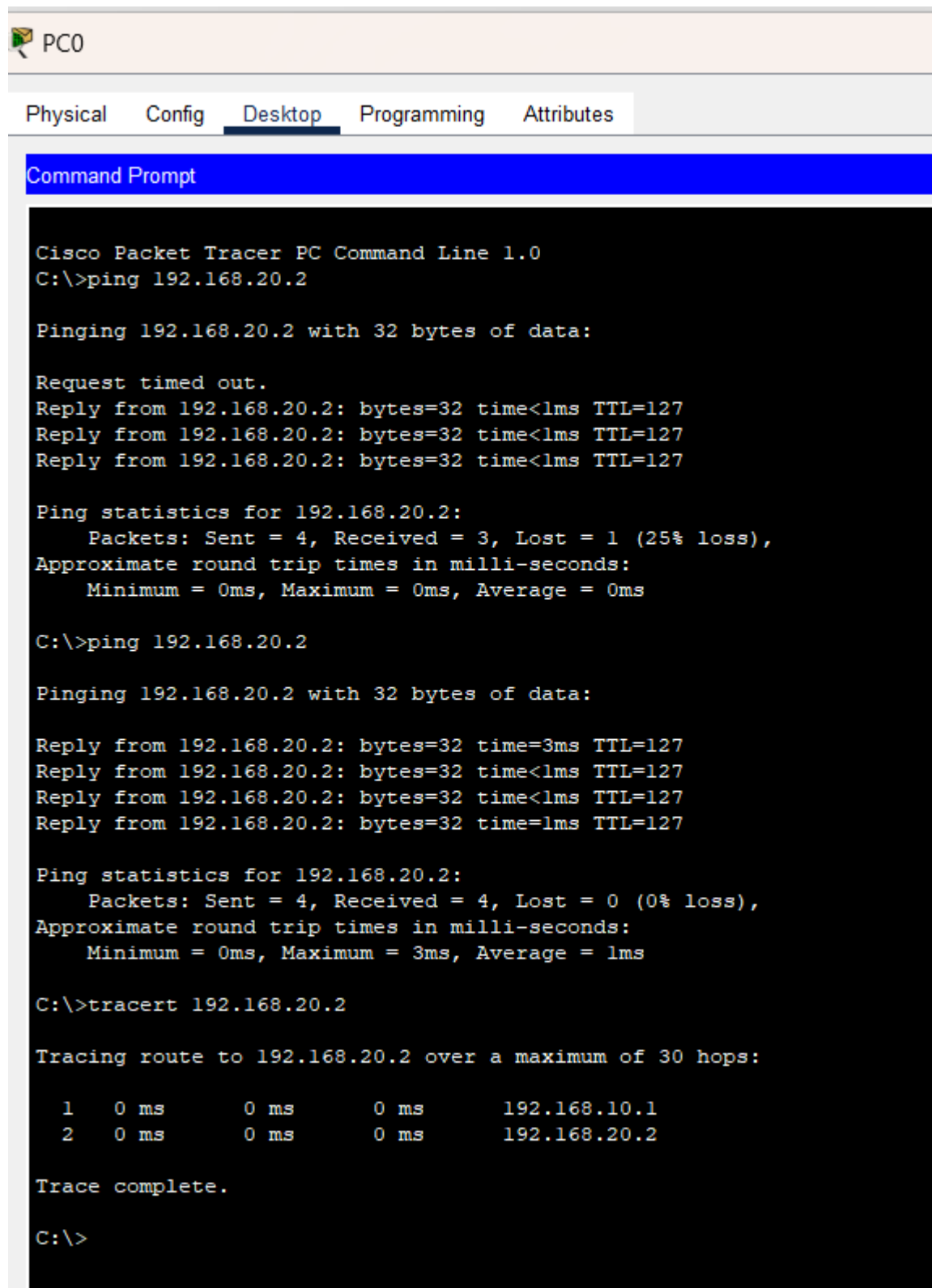
IPv4 Address: 192.168.20.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.20.1

DNS Server: 0.0.0.0

Using ping and traceroute command :



The screenshot shows the Cisco Packet Tracer interface for PC0. The 'Desktop' tab is selected, displaying a 'Command Prompt' window. The command prompt shows the execution of 'ping 192.168.20.2' and 'tracert 192.168.20.2' commands. The first ping attempt shows a 25% loss (1 out of 4 packets received). The second ping attempt shows 0% loss (4 out of 4 packets received). The traceroute command shows a path from 192.168.10.1 to 192.168.20.2 over 2 hops.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.2: bytes=32 time<1ms TTL=127
Reply from 192.168.20.2: bytes=32 time<1ms TTL=127
Reply from 192.168.20.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time=3ms TTL=127
Reply from 192.168.20.2: bytes=32 time<1ms TTL=127
Reply from 192.168.20.2: bytes=32 time<1ms TTL=127
Reply from 192.168.20.2: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 1ms

C:\>tracert 192.168.20.2

Tracing route to 192.168.20.2 over a maximum of 30 hops:

  1  0 ms    0 ms    0 ms    192.168.10.1
  2  0 ms    0 ms    0 ms    192.168.20.2

Trace complete.

C:\>
```