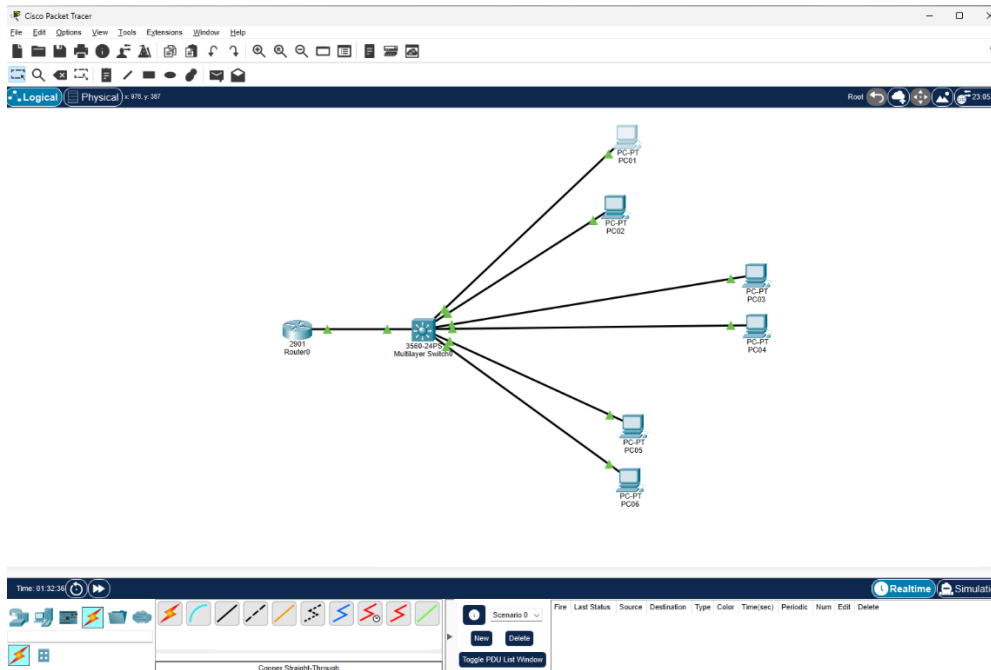


## LAB COMPLETED REMOTELY

### Logical View



### Successful Ping

```
PC01
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.20.3
Pinging 192.168.20.3 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

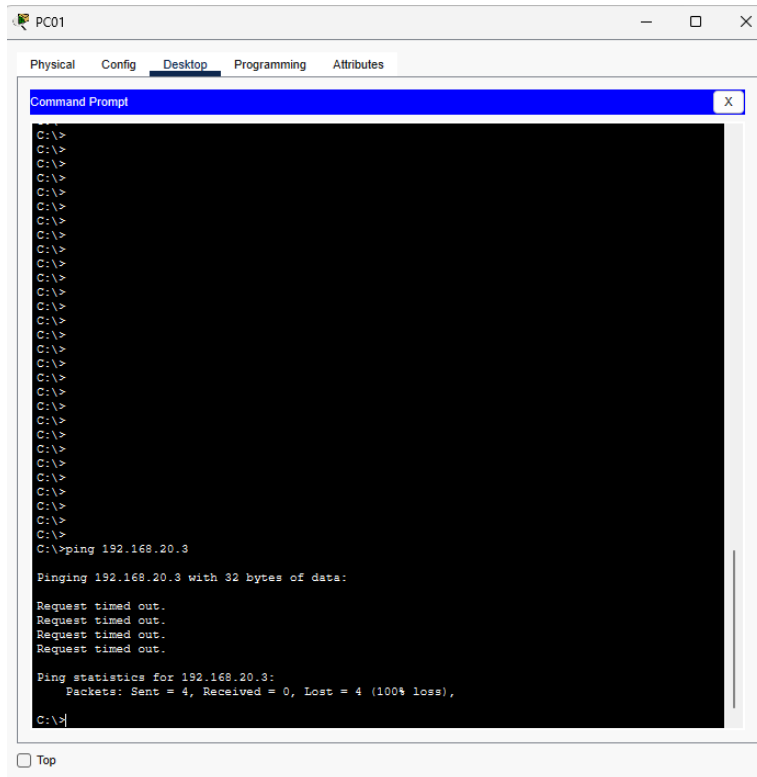
C:\>ping 192.168.10.1
Pinging 192.168.10.1 with 32 bytes of data:
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.20.1
Pinging 192.168.20.1 with 32 bytes of data:
Reply from 192.168.20.1: bytes=32 time<1ms TTL=255
Reply from 192.168.20.1: bytes=32 time<1ms TTL=255
Reply from 192.168.20.1: bytes=32 time<1ms TTL=255
Reply from 192.168.20.1: bytes=32 time=3ms TTL=255
Ping statistics for 192.168.20.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 0ms

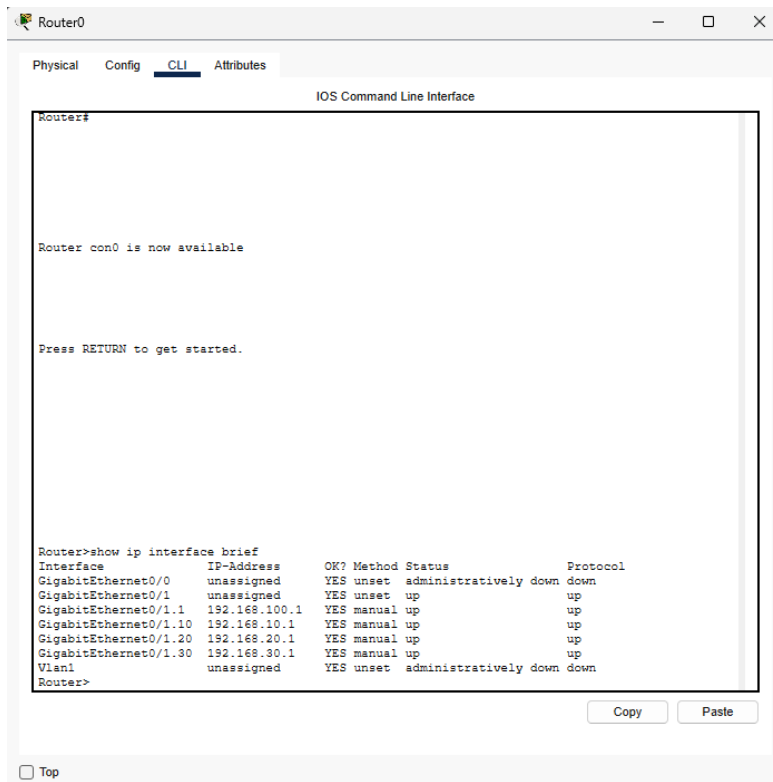
C:\>
```

☐ Top

## Unsuccessful ping



## Router Interface



## Vlan Switch

Multilayer Switch0

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch>show vlan
```

VLAN Name	Status	Ports
1 default	active	Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15, Fa0/16, Fa0/17, Fa0/18 Fa0/19, Fa0/20, Fa0/21, Fa0/22 Fa0/23, Gig0/1, Gig0/2
10 Zone10	active	Fa0/1, Fa0/2
20 Zone20	active	Fa0/3, Fa0/4
30 Zone30	active	Fa0/5, Fa0/6
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	0	0
20	enet	100020	1500	-	-	-	-	0	0
30	enet	100030	1500	-	-	-	-	0	0
--More--	1002 fddi	101002	1500	-	-	-	-	0	0
1003 tr	101003	1500	-	-	-	-	-	0	0
1004 fddnet	101004	1500	-	-	-	ieee	-	0	0
1005 trnet	101005	1500	-	-	-	ibm	-	0	0

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	0	0
20	enet	100020	1500	-	-	-	-	0	0
30	enet	100030	1500	-	-	-	-	0	0
--More--	1002 fddi	101002	1500	-	-	-	-	0	0
1003 tr	101003	1500	-	-	-	-	-	0	0
1004 fddnet	101004	1500	-	-	-	ieee	-	0	0
1005 trnet	101005	1500	-	-	-	ibm	-	0	0

Remote SPAN VLANs

Primary	Secondary	Type	Ports
---------	-----------	------	-------

\* Unknown command or computer name, or unable to find computer address

Switch>

Copy Paste

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## PingWorkstationToWorkstation

PC01

Physical Config Desktop Programming Attributes

Command Prompt

```
C:\>ping 192.168.20.3
```

Pinging 192.168.20.3 with 32 bytes of data:

Request timed out.  
Request timed out.  
Request timed out.  
Request timed out.

Ping statistics for 192.168.20.3:  
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

```
C:\>ping 192.168.10.3
```

Pinging 192.168.10.3 with 32 bytes of data:

Reply from 192.168.10.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.3:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms

```
C:\>ping 192.168.20.3
```

Pinging 192.168.20.3 with 32 bytes of data:

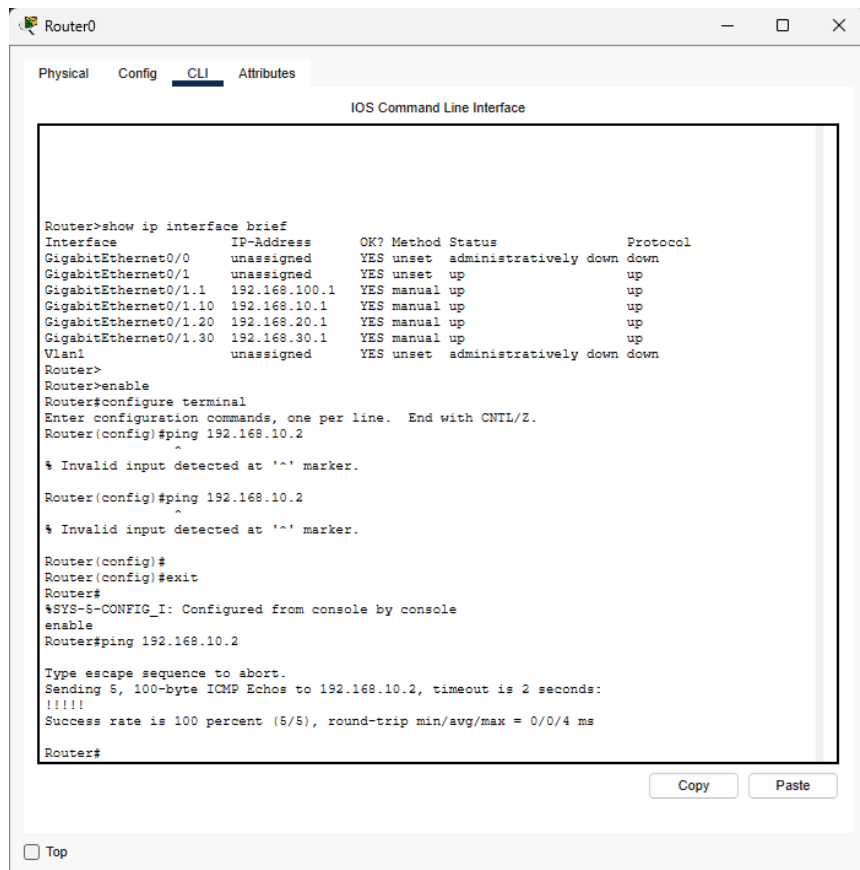
Reply from 192.168.20.3: bytes=32 time<1ms TTL=127  
Reply from 192.168.20.3: bytes=32 time<1ms TTL=127  
Reply from 192.168.20.3: bytes=32 time<1ms TTL=127  
Reply from 192.168.20.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.20.3:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>

Top

## PingFromRouterToWorkstation



The screenshot shows a Cisco Router CLI window titled "Router0". The "CLI" tab is selected, displaying the "IOS Command Line Interface". The user has entered the command "show ip interface brief", which returns a table of interface configurations. Subsequently, the user enters "enable" to reach the privileged EXEC mode, then "configure terminal" to enter global configuration mode. In configuration mode, the user attempts to enter "ping 192.168.10.2" but is interrupted by an "Invalid input detected at '^' marker." error. After exiting configuration mode with "exit", the user returns to privileged EXEC mode and successfully executes "ping 192.168.10.2". The output shows a successful ping with a 100% success rate (5/5) and a round-trip time of 0/0/4 ms. The window includes "Copy" and "Paste" buttons at the bottom right and a "Top" link at the bottom left.

```
Router>show ip interface brief
Interface                IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0       unassigned      YES unset  administratively down down
GigabitEthernet0/1       unassigned      YES unset  up          up
GigabitEthernet0/1.1     192.168.100.1   YES manual up          up
GigabitEthernet0/1.10    192.168.10.1    YES manual up          up
GigabitEthernet0/1.20    192.168.20.1    YES manual up          up
GigabitEthernet0/1.30    192.168.30.1    YES manual up          up
Vlan1                    unassigned      YES unset  administratively down down
Router>
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ping 192.168.10.2
^
% Invalid input detected at '^' marker.

Router(config)#ping 192.168.10.2
^
% Invalid input detected at '^' marker.

Router(config)#
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
enable
Router#ping 192.168.10.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.10.2, timeout is 2 seconds:
!!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/4 ms

Router#
```

### LAB 5 Questions:

1) On the CISCO Router/Switch:

a. How many sub-interfaces were used?

4 sub-interfaces were used (1,10,20,30)

b. What is the command to check how the interfaces are configured?

Command to check interface configuration: show interface brief

c. What is the command to check what VLANs are set?

Command to check VLANs: show vlan

d. Which port(s) were trunked?

Port FastEthernet0/24 was trunked

2) How many Mask Bits are there in a 192.168.100.0/28 subnet?

a. What is the subnet mask? Convert this mask to binary.

For 192.168.100.0/28

A Mask bit: 28

Subnet mask: 255.255.255.240

Binary: 11111111.11111111.11111111.11110000v

b. How many addresses are available in this subnet?

14 available addresses (16 total minus network and broadcast)

3) What is the maximum length you can run CAT5e?

100 meters (328 feet)

4) What is a MAC Address?

A mac address is a unique hardware identifier assigned to network interfaces

5) What is a gateway and what purpose does it serve on a network?

Is a network node that serves as an access point to another network, routing traffic between different networks or subnets