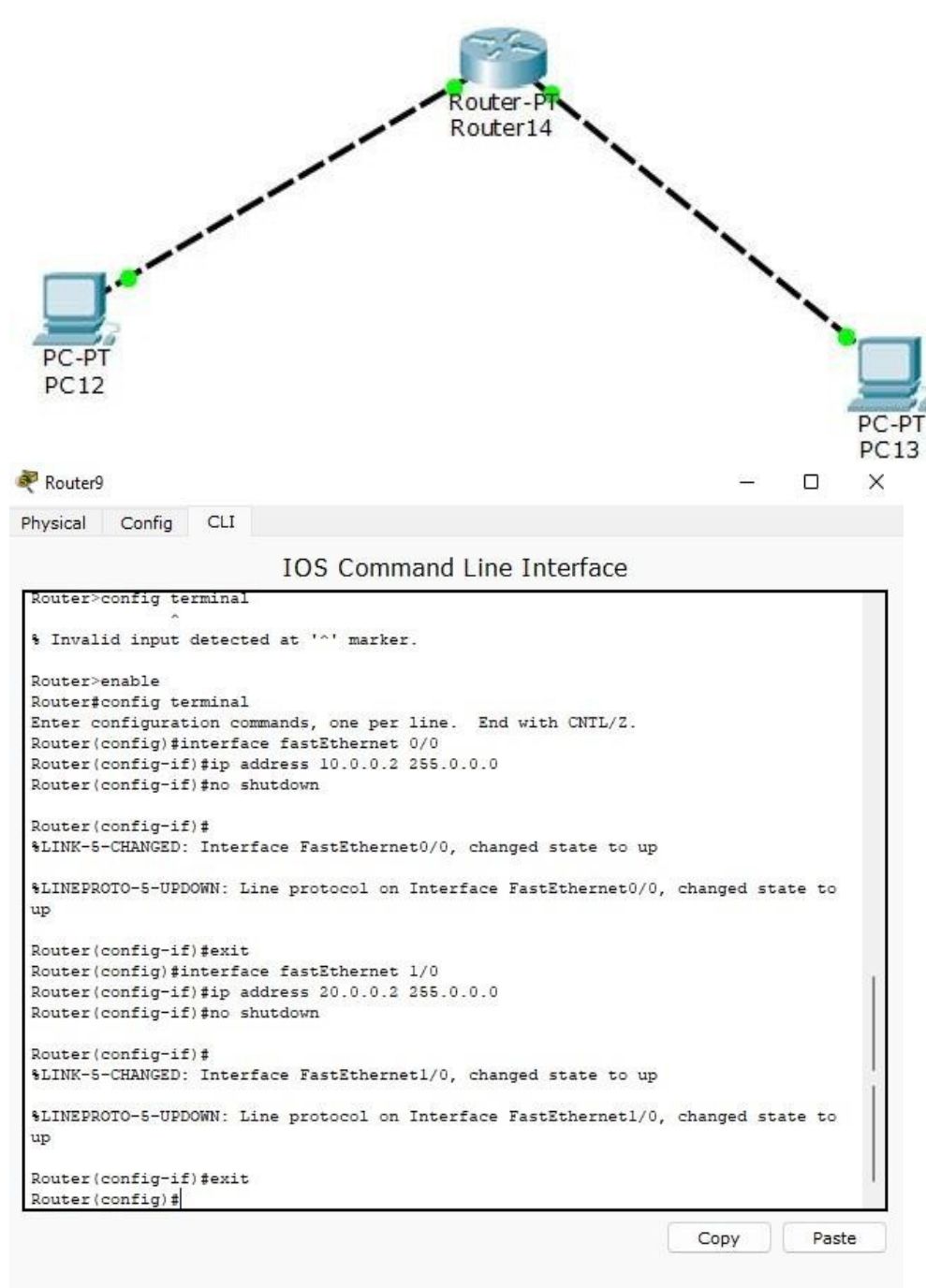
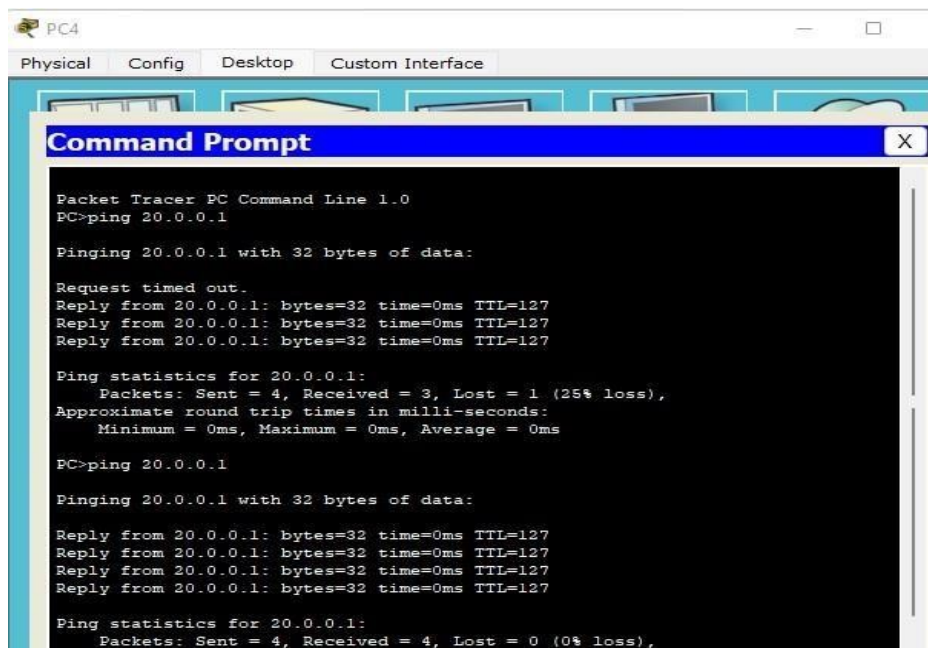


2) Configure IP address to routers in packet tracer. Explore the following messages: ping responses, destination unreachable, request timed out, reply





PC4

Physical Config Desktop Custom Interface

Command Prompt X

```
Packet Tracer PC Command Line 1.0
PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127

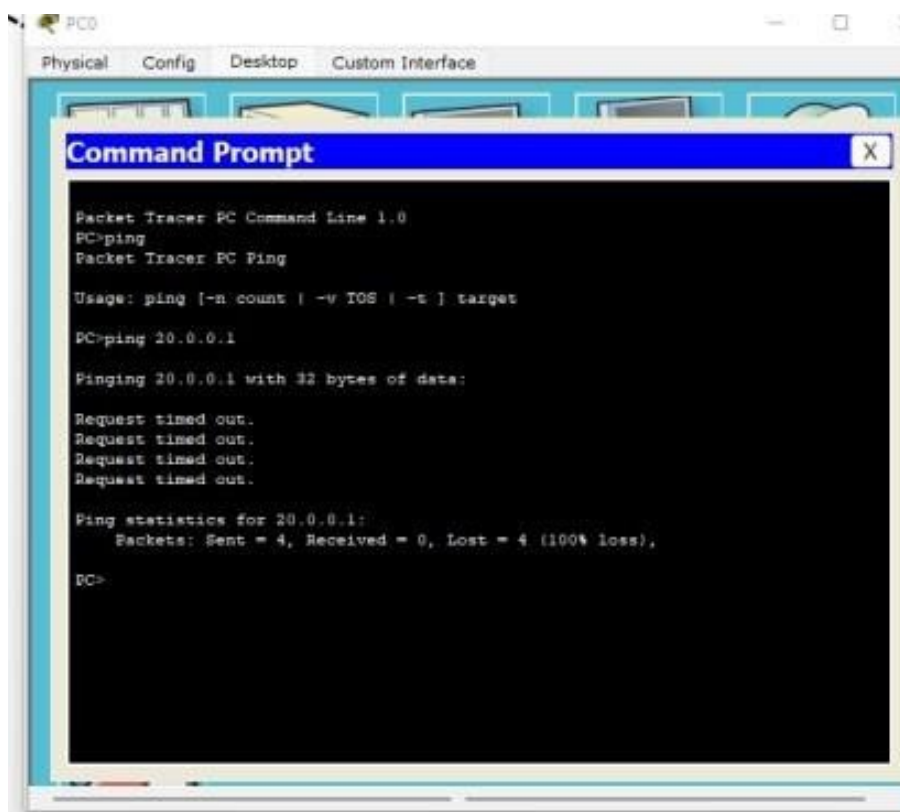
Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

Reply from 20.0.0.1: bytes=32 time=0ms TTL=127
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127

Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```



PC0

Physical Config Desktop Custom Interface

Command Prompt X

```
Packet Tracer PC Command Line 1.0
PC>ping
Packet Tracer PC Ping

Usage: ping [-n count | -v TOS | -t ] target

PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

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

Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>
```

Observation:

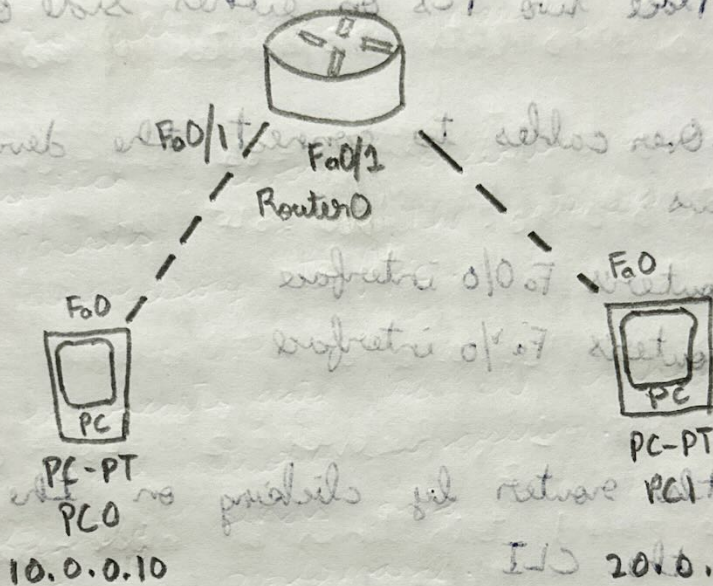
9 - Oct - 24

Lab 2: Connecting two PCs on different networks using a router

Q) Configure IP address to routers in packet tracers. Explore the following messages: ping, response, destination, unreachable, request time out, reply

Aim: To configure a network with a router with two PCs connected using crossover cable, and to enable communication between them.

Topology:



default gateway 10.0.0.1

default gateway 20.0.0.1

1. PC0: Connected to router's interface Fa 0/0 using a cross-over cable
IP address: 10.0.0.10
Default Gateway: 10.0.0.1
2. PC1: Connected to the router's interface Fa 1/0 using a cross over cable
IP address: 20.0.0.10
Default Gateway: 20.0.0.1

- Router:
 - Interface Fa 0/0 connected to PC0
 - Interface Fa 1/0 connected to PC1
 - IP address of Fa 0/0: 10.0.0.1
 - IP address of Fa 1/0: 20.0.0.1

Procedure:

- open ciscopacket tracer and drag the following components onto the workspace:
 - Router: Place on router in the middle
 - PCs: Place two PCs on either side of the router

- Use Crossover cables to connect the devices as follows:

PC0 → Router's Fa 0/0 interface

PC1 → Router's Fa 1/0 interface

- Configure the router by clicking on the router and enter the CLI

Assign IP address to the router interface:

```
Router> enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 1/0
ip address 20.0.0.1 255.0.0.0
no shutdown
```

- Configure the PCs:

For PC0:

- click on PC0 and set the IP address to 10.0.0.10, subnet mask to 255.0.0.0 and default gateway to 10.0.0.1

For PC1:

- click on PC1 and set the IP Address to 20.0.0.10 subnet mask to 255.0.0.0 and default gateway to 20.0.0.1

- Test Connectivity by opening the command prompt on PC0 & PC1

Use the ping command to check connectivity

From PC0, ping PC1's IP (20.0.0.10)

From PC1, ping PC0's IP (10.0.0.10)

Observation:

- If the configuration and cabling are correct, you will receive successful ping replies b/w the two PCs
- If there is no connectivity, troubleshoot by verifying: correct IP addressing, cabling type, both router interfaces are up & running.

Show IP route was observed to be:

Codes: C - Connected, S - static, I - IGRP, R - RIP, M - Mobile, B - BGP, D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area, N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2, E1 - OSPF external type 1, E2 - OSPF external type 2, i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

* - candidate result, 0 - per-user static route, 0 - ODR
P - periodic download static route

Gateway of last resort is not set

C 10.0.0.0/8 is directly connected, Fast Ethernet 0/0
C 20.0.0.0/8 is directly connected, Fast Ethernet 0/1

ping from PC0 to PC1

> ping 20.0.0.10

pinging 20.0.0.10 with 32 bytes of data:

Reply from 20.0.0.10: bytes = 64 time = 0ms TTL = 127

Reply from 20.0.0.10: bytes = 64 time = 1ms TTL = 127

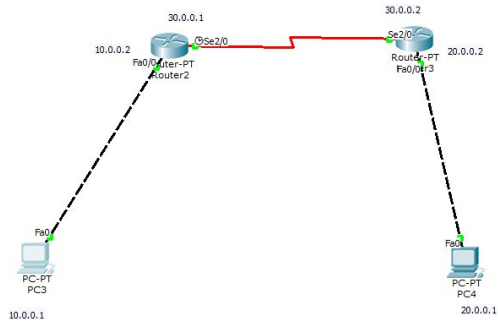
Ping statistics for 20.0.0.10

Packets: Sent = 2, Received = 2, Lost = 0

approximate round trip times in milli-seconds:

Minimum = 0, Maximum = 1ms, Average = 0ms

2/10/24



```

PC3
Physical Config Desktop Custom Interface

Command Prompt

Packet Tracer PC Command Line 1.0
PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:
Reply from 10.0.0.2: Destination host unreachable.
Reply from 10.0.0.2: Destination host unreachable.
Reply from 10.0.0.2: Destination host unreachable.
Reply from 10.0.0.2: Destination host unreachable.

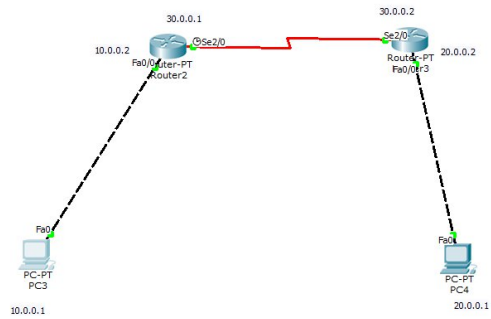
Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:
Reply from 10.0.0.2: Destination host unreachable.
Reply from 10.0.0.2: Destination host unreachable.
Reply from 10.0.0.2: Destination host unreachable.
Reply from 10.0.0.2: Destination host unreachable.

Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>
  
```



```

PC3
Physical Config Desktop Custom Interface

Command Prompt

Reply from 30.0.0.1: bytes=32 time=0ms TTL=255
Reply from 30.0.0.1: bytes=32 time=0ms TTL=255
Reply from 30.0.0.1: bytes=32 time=0ms TTL=255
Reply from 30.0.0.1: bytes=32 time=0ms TTL=255

Ping statistics for 30.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:
Request timed out.
Reply from 20.0.0.1: bytes=32 time=5ms TTL=126
Reply from 20.0.0.1: bytes=32 time=5ms TTL=126
Reply from 20.0.0.1: bytes=32 time=4ms TTL=126

Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 5ms, Average = 4ms

PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:
Reply from 20.0.0.1: bytes=32 time=3ms TTL=126
Reply from 20.0.0.1: bytes=32 time=3ms TTL=126
Reply from 20.0.0.1: bytes=32 time=5ms TTL=126
Reply from 20.0.0.1: bytes=32 time=4ms TTL=126

Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 5ms, Average = 3ms

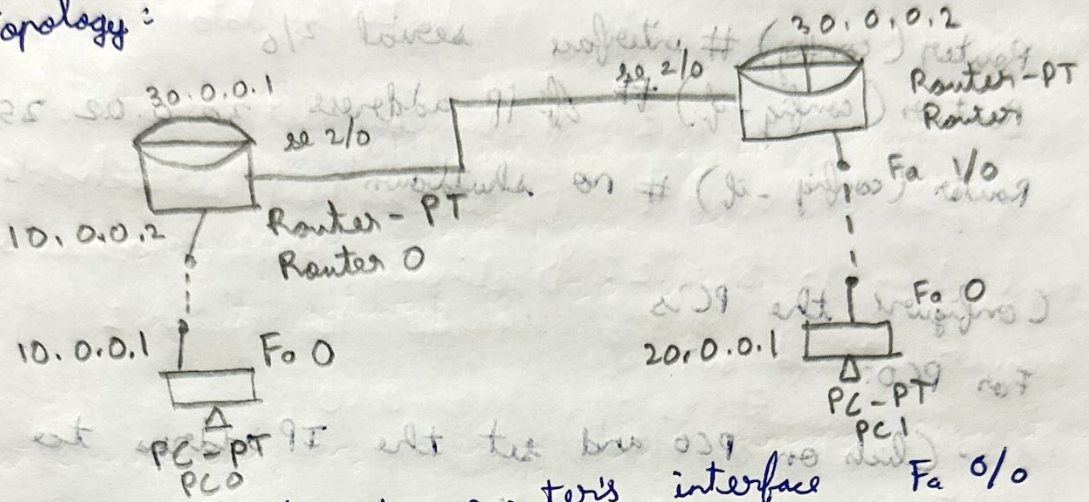
PC>S
  
```


16-oct-24

Ecp 26

Aim: To connect two PC's on two networks via two routers

Topology:



1. PC0 - Connected to router's interface Fa 0/0 using a cross-over cable
IP address: 10.0.0.1
Default Gateway: 10.0.0.2
2. PC1 - connected to router's (Router 1) interface Fa 1/0 using a cross-over cable
IP address: 20.0.0.1
Default Gateway: 20.0.0.2

3. Router 0

- Interface Fa 0/0 connected to PC-0
- Interface Se 2/0 connected to Router-1
- IP address of Fa 0/0: 10.0.0.2
- IP address of Se 2/0: 30.0.0.1

Configure Router 1 similarly

Router > enable

Router # configure terminal

Router (config) # interface fast ethernet 1/0

Router (config-if) # ip address 20.0.0.2 255.0.0.0

Router (config-if) # exit

Router (config) # interface serial 2/0

Router (config-if) # ip address 30.0.0.2 255.0.0.0

Router (config-if) # no shutdown

5. Configure the PC's

For PC0:

- Click on PC0 and set the IP address to 10.0.0.1, subnet mask to 255.0.0.0 and default gateway to 10.0.0.2

For PC1:

- Click on PC1 and set the IP address to 20.0.0.1, subnet mask to 255.0.0.0 and default gateway to 20.0.0.2

Test connectivity by opening command prompt on PC0, use the ping command to check connectivity from PC0, ping PC1's IP address (20.0.0.1)

Observation:

The configuration and cabling are correct, will receive successful ping replies b/w two PC's

4. Router 2:

- Interface Fa 1/0 connected to PC-1
- Interface Se 2/0 connects to Router 0
- IP address of Fa 1/0 : 20.0.0.2
- IP address of Se 2/0 : 30.0.0.2

Procedure:

- Open Cisco Packet Tracer and drag the following components onto workspace:

Router: Place two routers in the middle

PC: Place two PCs on either side of the routers

- Use Cross-over cables to connect the devices as follows:

PC0 → Router's (0) Fa 0/0 interface

PC1 → Router's (1) Fa 1/0 interface

- Configure Router 0 by clicking on the router & enter CLI

(Assign IP addresses to the router interface:

Router > enable

Router (config) # interface fast ethernet 0/0

Router (config-if) # ip address 10.0.0.2 255.0.0.0

Router (config-if) # exit

Router (config) # interface serial 2/0

Router (config-if) # ip address 30.0.0.1 255.0.0.0

Router (config-if) # no shutdown

The ping results are as follows:

PC > ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data

Request timed out

Request timed out

Request timed out

Request timed out

Ping statistics for 20.0.0.1

Packet sent = 4, Received = 0, loss = 4 (100% loss)

PC > Ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

reply from 10.0.0.2: Destination host unreachable

reply from 16.0.0.2: Destination host unreachable

reply from 10.0.0.2: Destination host unreachable

request timed out

Ping statistics for 20.0.0.1

Packet: sent = 4, received = 0, lost = 4
(100% loss)

IP route was observed to be

C 10.0.0.0/8 is directly connected, Fast Ethernet 0/0

S 20.0.0.0/8 [1/0] via 30.0.0.2

C 30.0.0.0/8 is directly connected, serial 2/0

