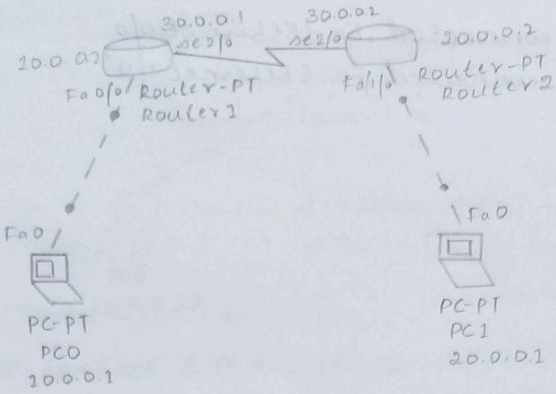
LAB-3

LAB: 03 16/10/24

EXPERIMENT 02



Aim: Configuration of 2 routers

Topology: Connect 2 routers and 1 PC to each of the 2 routers

Procedure:
1. Add 2 routers and 2 PC's, one connecting to 1 router and the other PC to the other routers using a copper cross-over cable
2. Connect both the routers using a serial DTE
3. Configure the IP addresses, subnet mask and Gateway for both the PC's
4. Configure the ip addresses and connection with PC by clicking on the router → CLI and manually type the following commands

```
Router>enable
Router# config terminal
Router(config)#interface fastethernet/serial
[fastethernet → PC, serial → router]
Router(config-if)# ip address 10.0.0.2 255.0.0.0
Router(config-if)# no shutdown
exit
```

5. This completes the connection between 2 routers and router to PC.

6.

Observation: The PC's are not communicating even when they are connected through the routers.

- On pinging PC0 to Fa0/0 part of the router the message is pinged
- On pinging PC0 to the other network, the message isn't reachable.

EXPERIMENT: 03 (a)

Aim: TO connect the default, static route to the router

Procedure:

1. By continuing the perious procedure, to connect the PC's so they can communicate with each other, go to router, CLI and continue with the following commands.

ip route 20.0.0.0 255.0.0.0 30.0.0.2

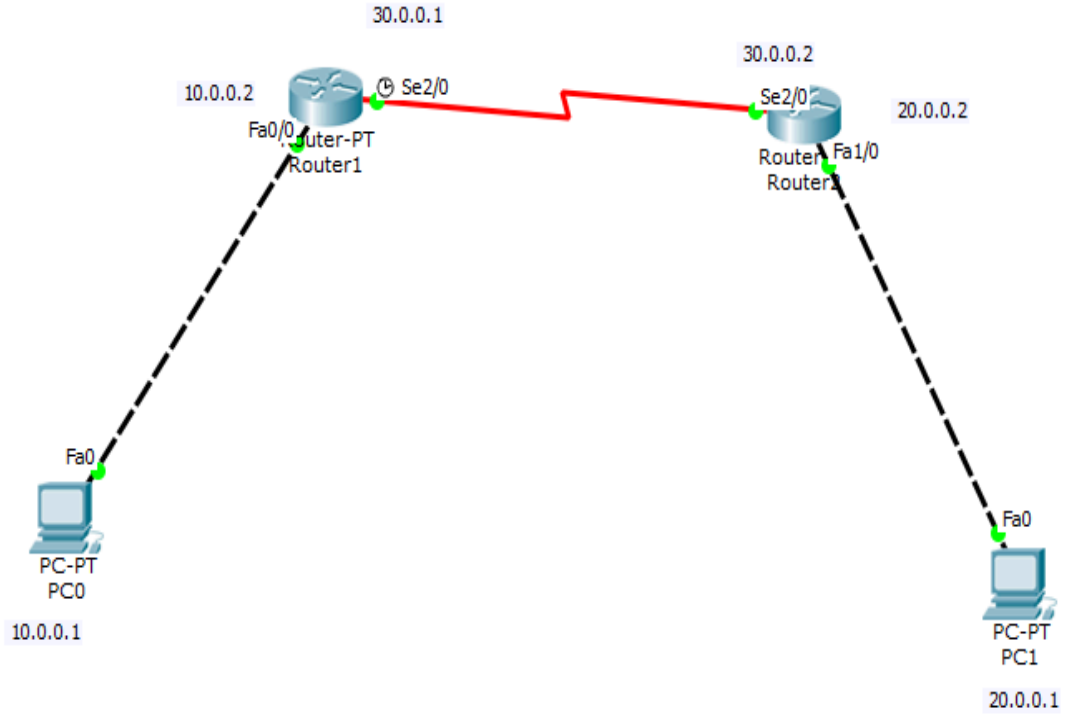
(ipaddress of neighbour network (router))

2. This should be repeated for the other router, which completes the static routing.

Observation: The PC's are now communicated with each other.

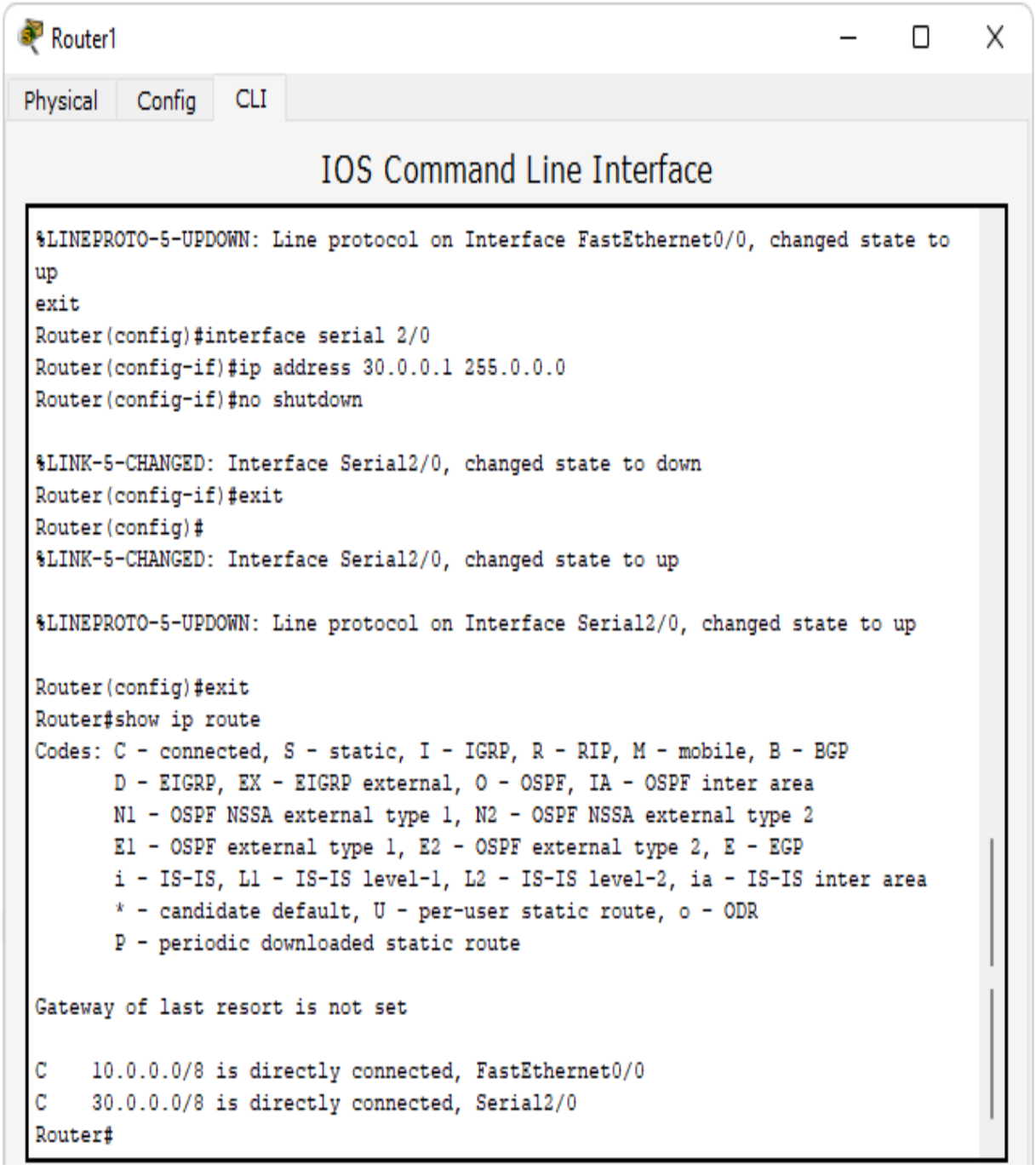
- On pinging.

TOPOLOGY:


30.0.0.1
30.0.0.2
10.0.0.2
Se2/0
Se2/0
20.0.0.2
Fa0/0
Router-PT
Router1
Router
Router1
Fa1/0
Fa0
Fa0
PC-PT
PC0
10.0.0.1
PC-PT
PC1
20.0.0.1

```
PC>ping 30.0.0.1

Pinging 30.0.0.1 with 32 bytes of data:

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 30.0.0.2

Pinging 30.0.0.2 with 32 bytes of data:

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

Ping statistics for 30.0.0.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 10.0.0.2
```

```
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 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=0ms TTL=255
Reply from 10.0.0.2: bytes=32 time=0ms TTL=255
Reply from 10.0.0.2: bytes=32 time=0ms TTL=255
Reply from 10.0.0.2: bytes=32 time=0ms TTL=255

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```


Router1
Physical
Config
CLI
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
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
%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#exit
Router(config)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up
Router(config)#exit
Router#show ip route
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, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 30.0.0.0/8 is directly connected, Serial2/0
Router#

```
Pinging 20.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 20.0.0.1: bytes=32 time=3ms TTL=126
Reply from 20.0.0.1: bytes=32 time=4ms TTL=126
Reply from 20.0.0.1: bytes=32 time=5ms 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 = 3ms, 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=5ms TTL=126
Reply from 20.0.0.1: bytes=32 time=1ms TTL=126
Reply from 20.0.0.1: bytes=32 time=1ms TTL=126
Reply from 20.0.0.1: bytes=32 time=1ms 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 = 1ms, Maximum = 5ms, Average = 2ms
```