Observation Book:

16|10|24   LAB-3 (Experiment 2)

AIM: To connect 2 routers belonging to different Network network, to each other.

Topology: 30.0.0.1   30.0.0.2

10.0.0.2   Se 2/0   Se 2/0   20.0.0.2
           Fa 0/0   Router-PT fa 0/0
      Router-PT 119   at router 2

FaO   Fa'0a/0
PC-PT   PC-PT
PC0.01   PC 1
10.0.0.1   20.0.0.1

Procedure:
(i) Create a 2 network of 10.0.0.0 and 20.0.0.0 by connecting a end device to the router
(ii) Set up IP address, gateway, subnet mask of both networks
(iii) In router set up Its IP address.(fast ethernet)
(iv) Set up another network 30.0.0. by connecting the 2 routers.

In CLI of router enter
Router #enable
Router # config terminal
Router (config) # interface fast Ethernet0/0
Router (config) # no shutdown
exit
do the same for router 2.
router # enable
router # config terminal

#Router (config) # interface Serial 2/0

Router (config - if) # ip addum 30.0.0.1 255.0.0.0

router (config) #no shubdown.

router (config - if) #exit.

OBSERVATION:

* On pinging PC0 to PC1, it will shows that it is unable to ping and show the devices are not reachable.

Shows - "destination host unreachable"

* on pinging PC0 to fa0/0 part of router the message is pinged (Pinging 10.0.0.2)

* On ping PC0 to SE 2/0 router 2, the message is not pinged.

* For static connection from PC0 to PC1

EXP-3

AIM: configure default route, static route to router configure static connection to route.

Topology :   Same   as   Experiment - 2

Procedure: * Go to CLI of router0 and in CLI enter

Router #enable

Router# config terminal

Router (config) # ip route 20.0.0.0 255.0.0.0

30.0.0.2

Router (config) # exit

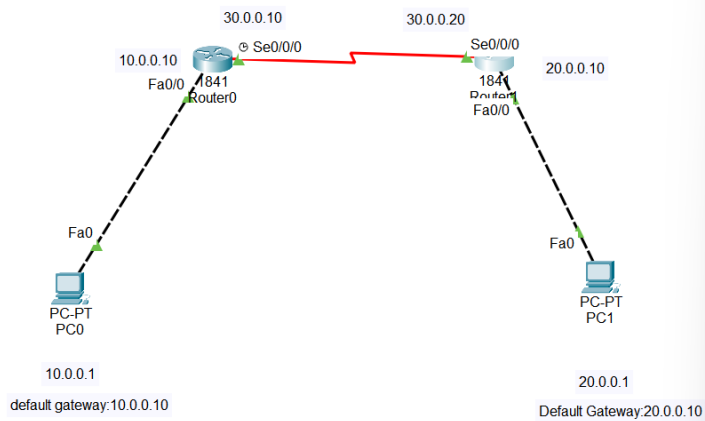* Repeat the same for router0 by changing 20 to 10 and 30.0.0.2 to 30.0.0.1

OBSERVATION. In CLI

show ip route

(for router2)

S 10.0.0.0/8 [1/0] via 30.0.0.1

C 20.0.0.0/8 is directly connected, Fast Ethernet0/0

C 30.0.0.0/8 is directly connected, Serial2/0

OUTPUT: on pinging end devices, the message is send. also router are also

Topology:

Output:(Before Static Routing)


```
Router>enable
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, Serial0/0/0
```



```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.10

Pinging 10.0.0.10 with 32 bytes of data:

Reply from 10.0.0.10: bytes=32 time<1ms TTL=255
Reply from 10.0.0.10: bytes=32 time<1ms TTL=255
Reply from 10.0.0.10: bytes=32 time<1ms TTL=255
Reply from 10.0.0.10: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 30.0.0.20

Pinging 30.0.0.20 with 32 bytes of data:

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

Ping statistics for 30.0.0.20:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.

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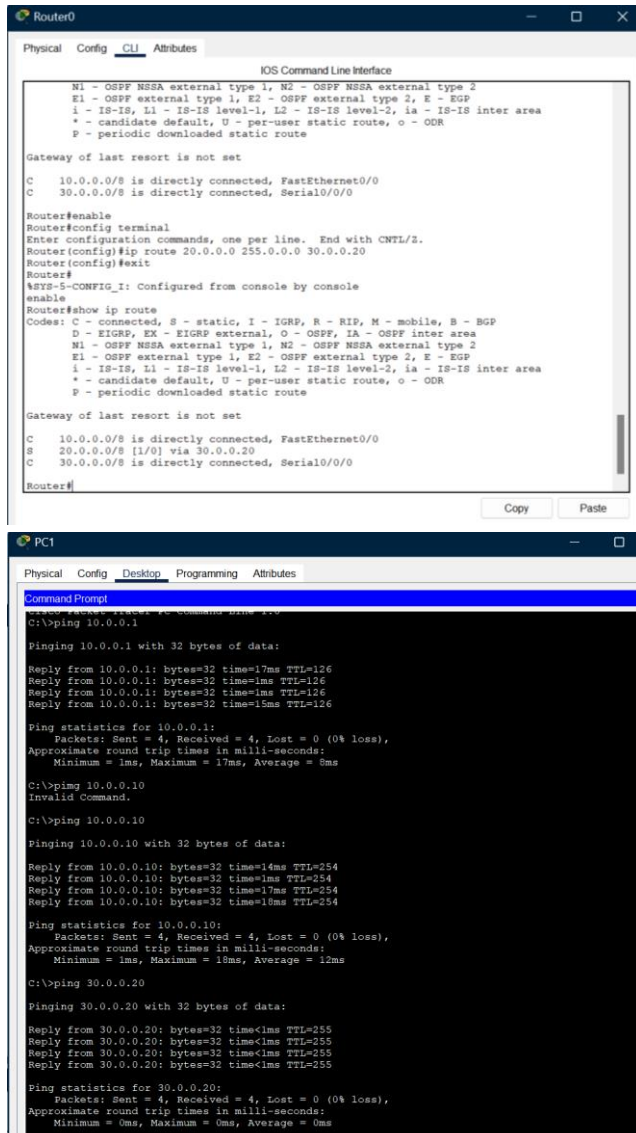
(After Static Routing)

Router0 — IOS Command Line Interface

```
          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, Serial0/0/0

Router#enable
Router#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 20.0.0.0 255.0.0.0 30.0.0.20
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
enable
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
S    20.0.0.0/8 [1/0] via 30.0.0.20
C    30.0.0.0/8 is directly connected, Serial0/0/0

Router#
```


PC1 — Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: bytes=32 time=17ms TTL=126
Reply from 10.0.0.1: bytes=32 time=1ms TTL=126
Reply from 10.0.0.1: bytes=32 time=1ms TTL=126
Reply from 10.0.0.1: bytes=32 time=15ms TTL=126

Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 17ms, Average = 8ms

C:\>pimg 10.0.0.10
Invalid Command.

C:\>ping 10.0.0.10

Pinging 10.0.0.10 with 32 bytes of data:

Reply from 10.0.0.10: bytes=32 time=14ms TTL=254
Reply from 10.0.0.10: bytes=32 time=1ms TTL=254
Reply from 10.0.0.10: bytes=32 time=17ms TTL=254
Reply from 10.0.0.10: bytes=32 time=18ms TTL=254

Ping statistics for 10.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 18ms, Average = 12ms

C:\>ping 30.0.0.20

Pinging 30.0.0.20 with 32 bytes of data:

Reply from 30.0.0.20: bytes=32 time<1ms TTL=255
Reply from 30.0.0.20: bytes=32 time<1ms TTL=255
Reply from 30.0.0.20: bytes=32 time<1ms TTL=255
Reply from 30.0.0.20: bytes=32 time<1ms TTL=255

Ping statistics for 30.0.0.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```