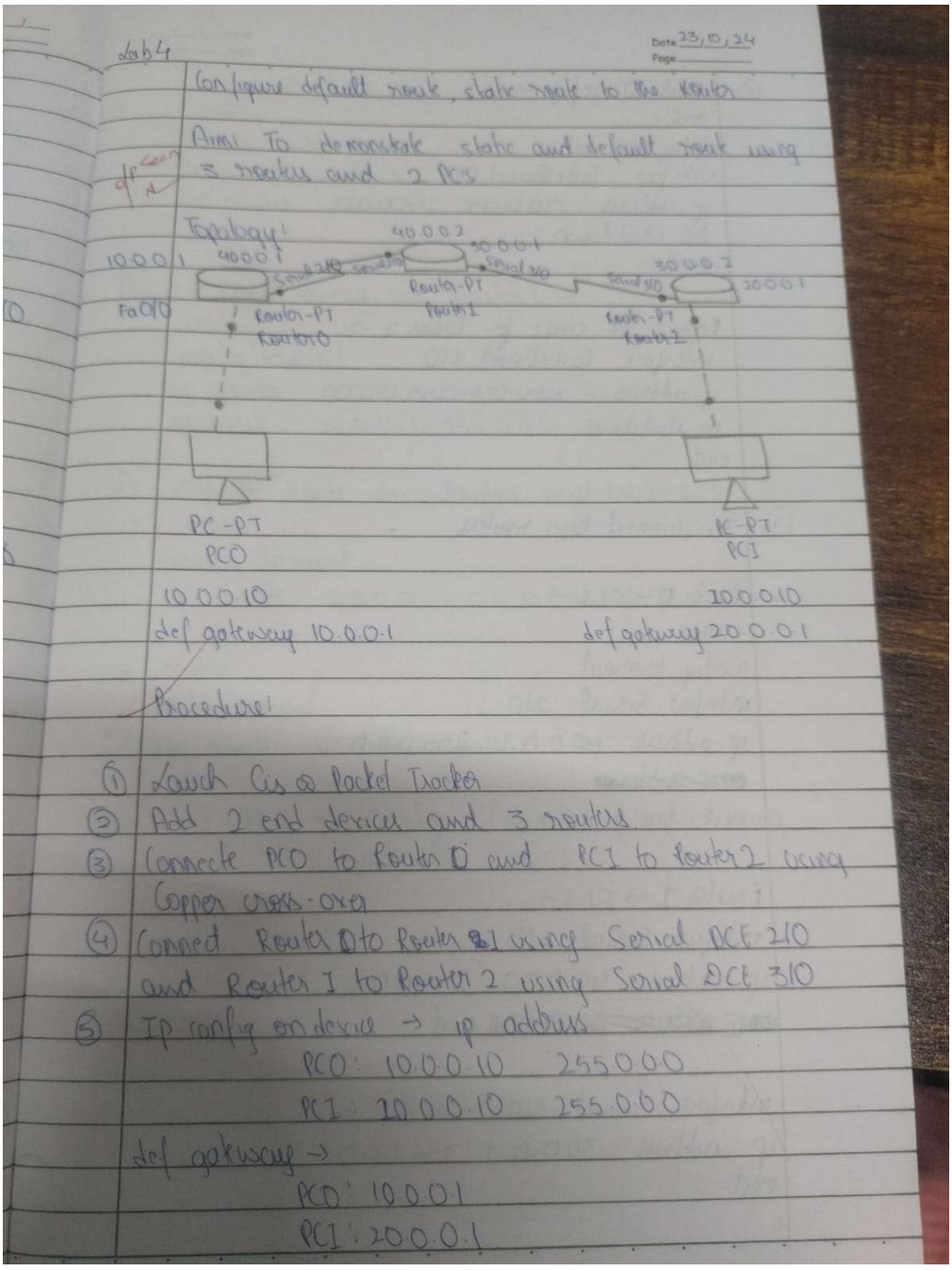
Static and Default Route

Configure default route, static route to the Router



⑥ Router 0 config → CLI
enable
config terminal
interface fastEthernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit

Repeat the same for Router 2 →
interface fastEthernet 1/0
ip address 20.0.0.1 255.0.0.0
no shutdown
exit

⑦ To connect b/w routers

Router 0 → CLI →
enable
config terminal
interface Serial 2/0
ip address 40.0.0.1 255.0.0.0
~~exit~~
exit

Router 1 → CLI →
interface Serial 2/0
ip address 40.0.0.2 255.0.0.0
~~exit~~ exit

interface Serial 3/0
ip address 30.0.0.1 255.0.0.0
exit

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Router 2 → CLI →
enable
config terminal
interface Serial 3/0
ip address 30.0.0.2 255.0.0.0
exit

(9) Static Route on Router 1 →
enable
config terminal
ip route 10.0.0.1 255.0.0.0 40.0.0.1
ip route 20.0.0.1 255.0.0.0 30.0.0.2

(9) Default Route on Router 0 and Router 2 →
- enable
config terminal
ip route 0.0.0.0 0.0.0.0 40.0.0.2

- enable
config terminal
ip route 0.0.0.0 0.0.0.0 30.0.0.1

(10) Select PC0 → Desktop → Command Prompt → ping msg to PC1 and other Routers.

Observation:
After all the connection done when we try to ping msg from PC0 to PC1 and other Routers for PC1 (Destination host unreachable) for Router2 and Router1 (Request timed out) but only for Router0 (Packets: Sent = 4, Received = 4, lost = 0) as it is directly connected through Copper cross wire

ping 20.0.0.10
Destination host unreachable x4
Received = 0 Lost = 4

ping 30.0.0.2
Request timed out x4
Received = 0 Lost = 4

ping 10.0.0.1
Sent = 4 Received = 4 Lost = 0

So we have to manually connect all the devices to each other. This is shown in point (7)
now,

ping 20.0.0.10
Sent = 4 Received = 4 Lost = 0

ping 30.0.0.2
[redacted]
Sent = 4 Received = 4 Lost = 0

ping 30.0.0.1
Sent = 4 Received = 4 Lost = 0

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Ping

2

ort 0)

with

Routing has been observed as follows for Router 0:

C 10.0.0.0/8 is directly connected, FastEthernet 0/0
C 40.0.0.0/8 is directly connected, Serial 2/0
S* 0.0.0.0/0 [1/0] via 40.0.0.2

Routing has been observed as follows for Router 1:

S 10.0.0.0/8 [1/0] via 40.0.0.1
S 20.0.0.0/8 [1/0] via 30.0.0.2
C 30.0.0.0/8 is directly connected, Serial 3/0
C 40.0.0.0/8 is directly connected, Serial 2/0

Routing has been observed as follows for Router 2:

C 20.0.0.0/8 is directly connected, FastEthernet 1/0
C 30.0.0.0/8 is directly connected, Serial 3/0
S 0.0.0.0/0 [1/0] via 30.0.0.1

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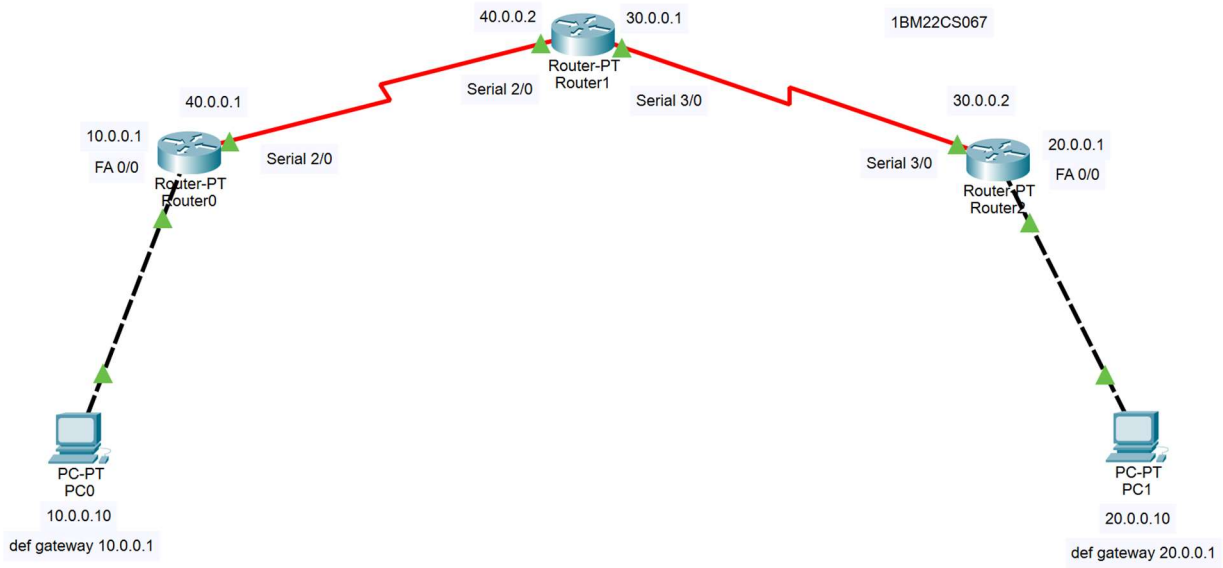

Command Prompt

```
C:\>ping 20.0.0.10

Pinging 20.0.0.10 with 32 bytes of data:

Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.

Ping statistics for 20.0.0.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 30.0.0.2

Pinging 30.0.0.2 with 32 bytes of data:

Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.

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

C:\>ping 30.0.0.1

Pinging 30.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Request timed out.
Reply from 10.0.0.1: Destination host unreachable.

Ping statistics for 30.0.0.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

```
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<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255

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

C:\>
```

```
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 40.0.0.2 to network 0.0.0.0

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    40.0.0.0/8 is directly connected, Serial2/0
S*   0.0.0.0/0 [1/0] via 40.0.0.2

Router#
```

```
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

S    10.0.0.0/8 [1/0] via 40.0.0.0
S    20.0.0.0/8 [1/0] via 30.0.0.2
C    30.0.0.0/8 is directly connected, Serial3/0
C    40.0.0.0/8 is directly connected, Serial2/0

Router#
```

```
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 30.0.0.1 to network 0.0.0.0

C    20.0.0.0/8 is directly connected, FastEthernet0/0
C    30.0.0.0/8 is directly connected, Serial3/0
S*   0.0.0.0/0 [1/0] via 30.0.0.1

Router#
```

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 20.0.0.10

Pinging 20.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 20.0.0.10: bytes=32 time=23ms TTL=125
Reply from 20.0.0.10: bytes=32 time=2ms TTL=125
Reply from 20.0.0.10: bytes=32 time=22ms TTL=125

Ping statistics for 20.0.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 23ms, Average = 15ms

C:\>ping 20.0.0.10

Pinging 20.0.0.10 with 32 bytes of data:

Reply from 20.0.0.10: bytes=32 time=58ms TTL=125
Reply from 20.0.0.10: bytes=32 time=23ms TTL=125
Reply from 20.0.0.10: bytes=32 time=56ms TTL=125
Reply from 20.0.0.10: bytes=32 time=25ms TTL=125

Ping statistics for 20.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 23ms, Maximum = 58ms, Average = 40ms

C:\>ping 30.0.0.2

Pinging 30.0.0.2 with 32 bytes of data:

Reply from 30.0.0.2: bytes=32 time=31ms TTL=253
Reply from 30.0.0.2: bytes=32 time=21ms TTL=253
Reply from 30.0.0.2: bytes=32 time=20ms TTL=253
Reply from 30.0.0.2: bytes=32 time=2ms TTL=253

Ping statistics for 30.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 31ms, Average = 18ms
```

```
C:\>ping 30.0.0.1

Pinging 30.0.0.1 with 32 bytes of data:

Reply from 30.0.0.1: bytes=32 time=39ms TTL=254
Reply from 30.0.0.1: bytes=32 time=26ms TTL=254
Reply from 30.0.0.1: bytes=32 time=28ms TTL=254
Reply from 30.0.0.1: bytes=32 time=14ms TTL=254

Ping statistics for 30.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 14ms, Maximum = 39ms, Average = 26ms

C:\>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Reply from 40.0.0.1: bytes=32 time<1ms TTL=255
Reply from 40.0.0.1: bytes=32 time<1ms TTL=255
Reply from 40.0.0.1: bytes=32 time<1ms TTL=255
Reply from 40.0.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```