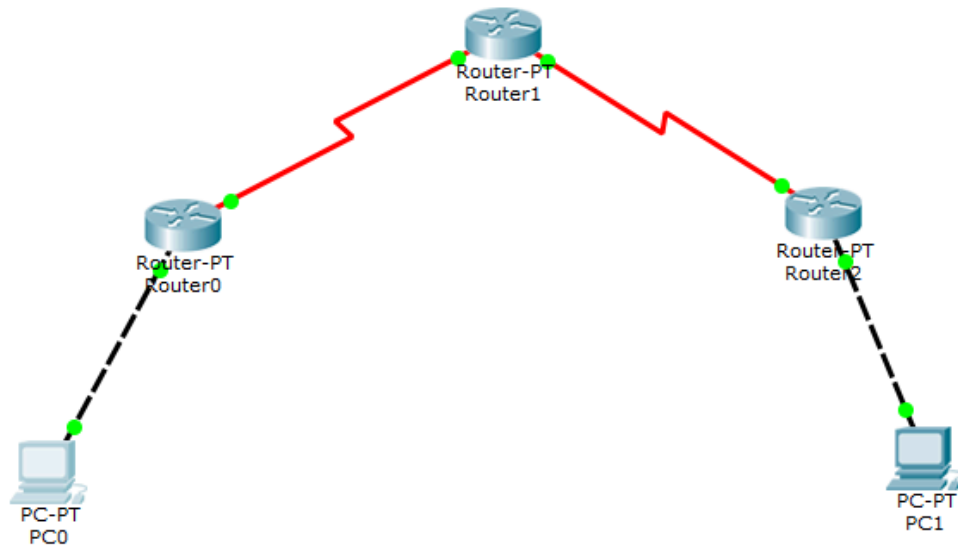


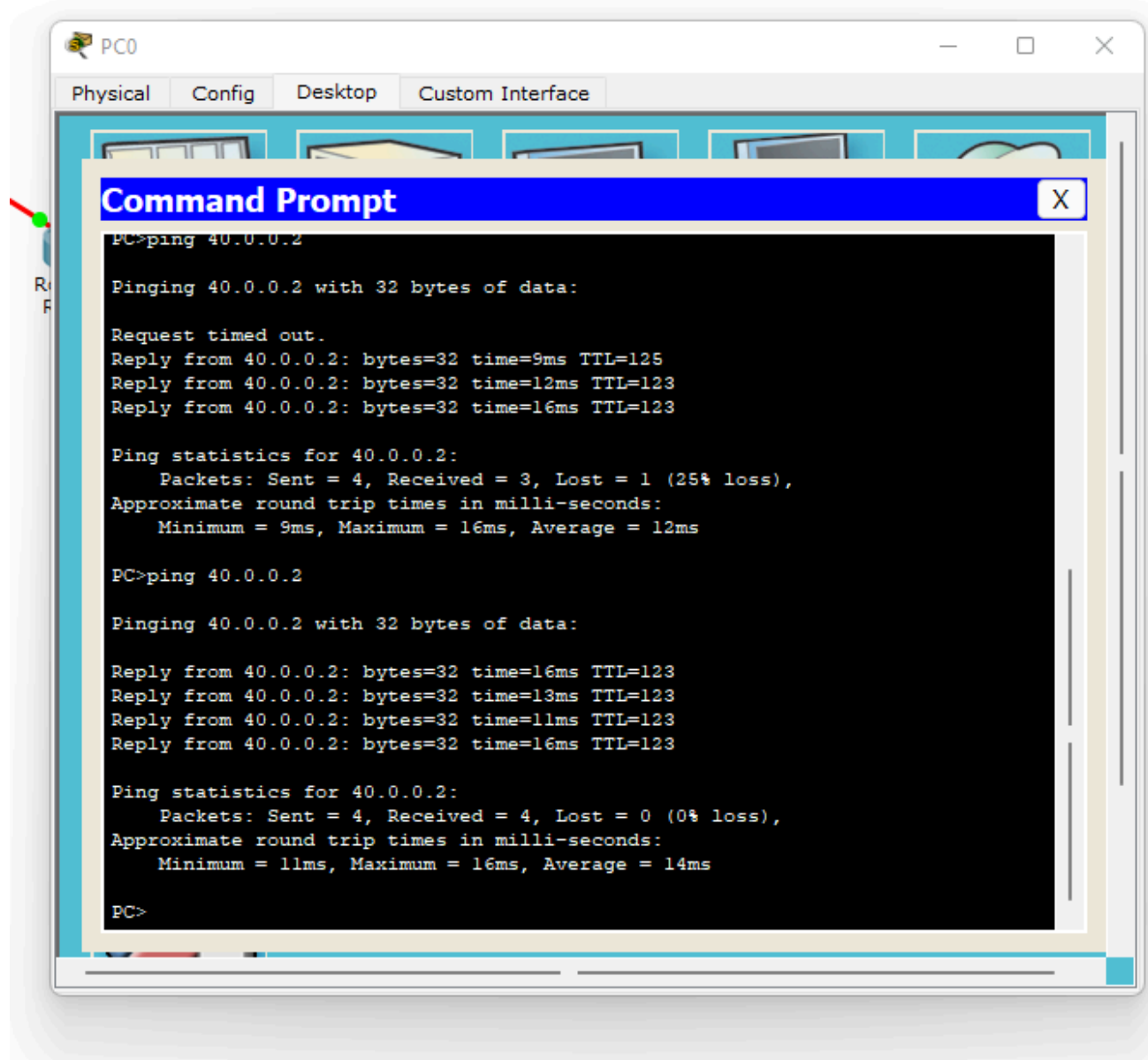
Experiment - 4

Aim: To demonstrate the configuration of static and default routes to a connection of routers

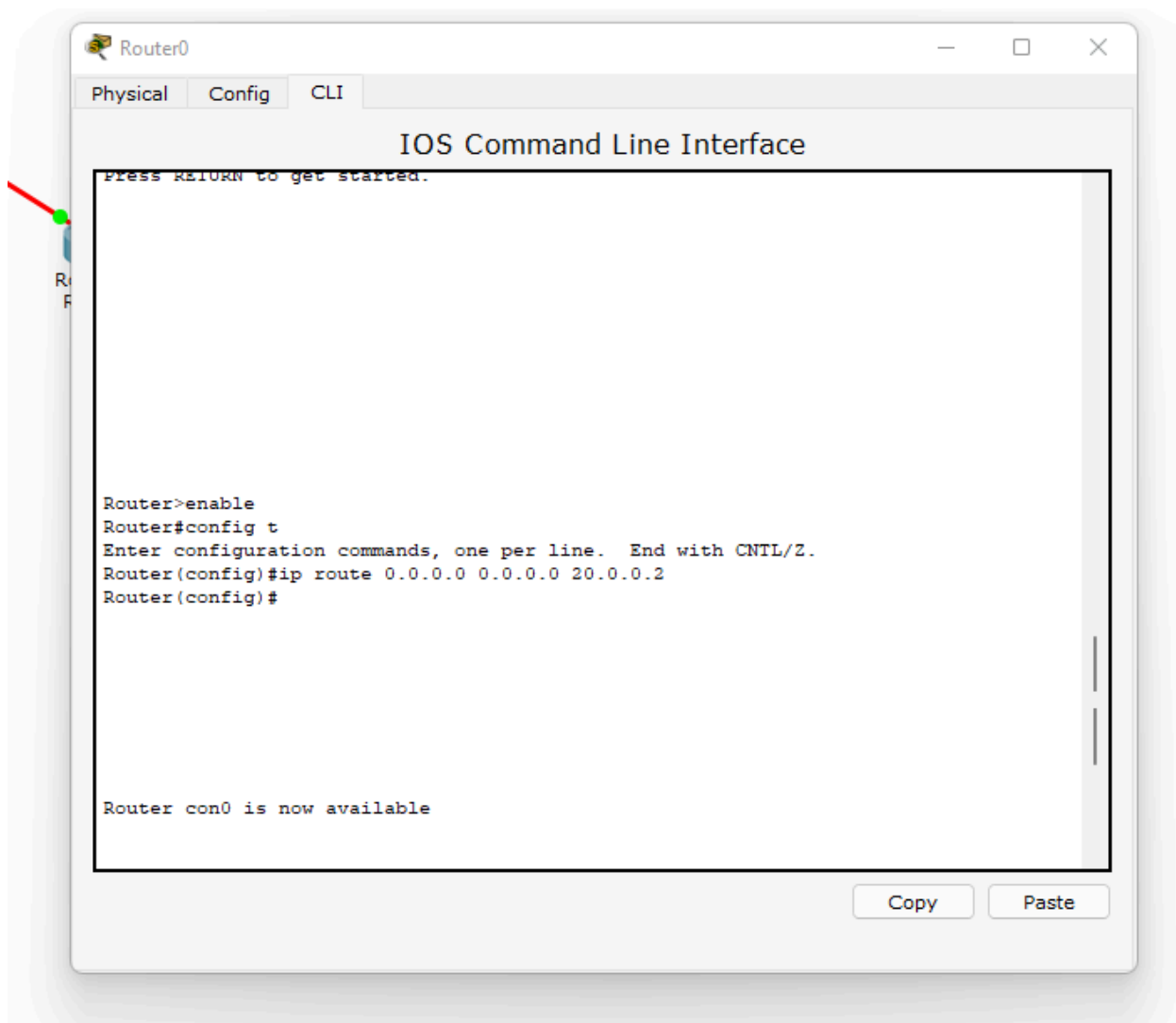
Topology:



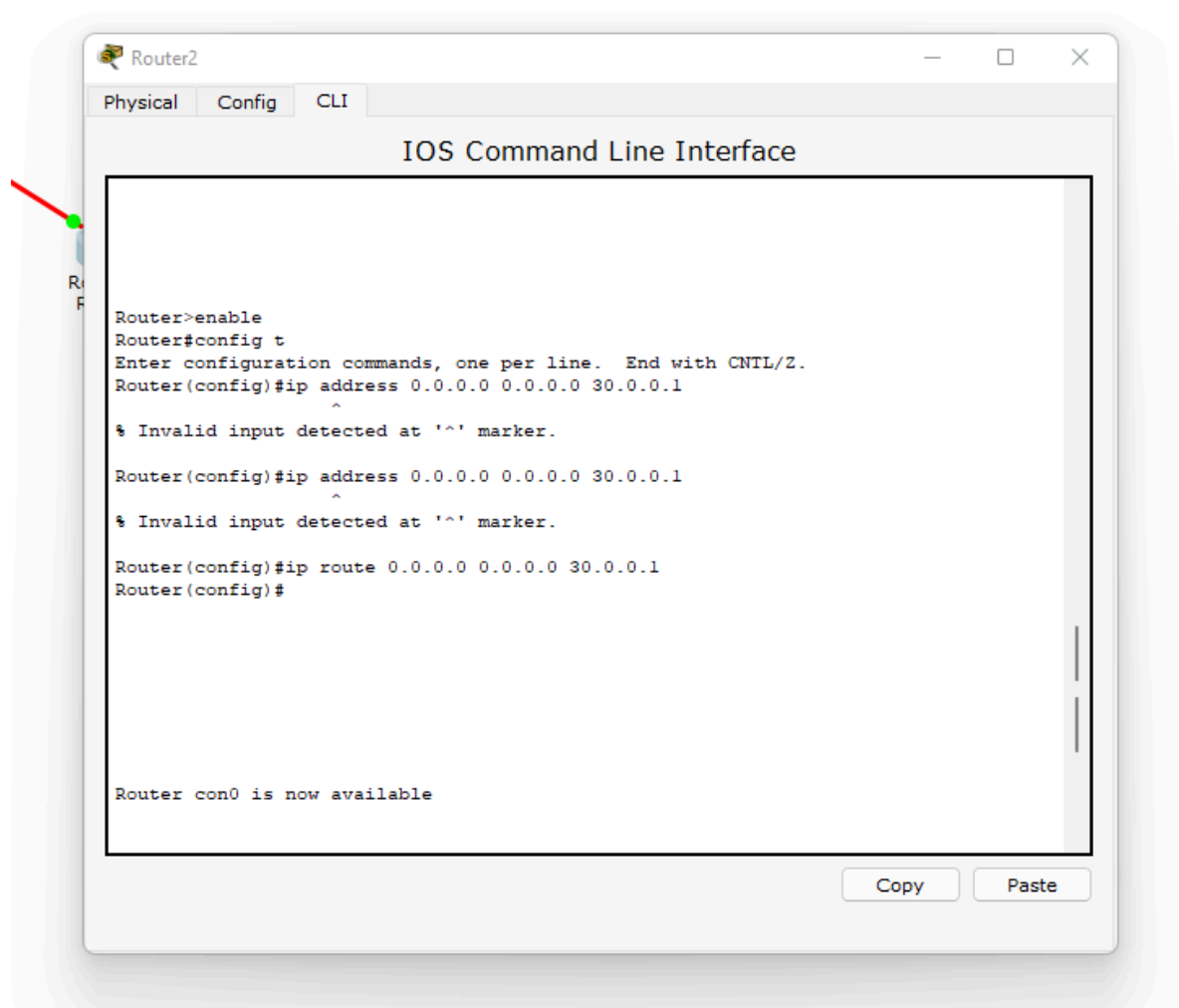
Output:



Default and static routes configuration :







Observation:

CLASSMATE
 Date _____
 Page _____

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Experiment-4

Aim: To configure default and static routes to a connection of routers.

Topology:

```

    graph TD
      R0((Router-PT  
20.0.0.1)) --- R1((Router-PT  
20.0.0.2))
      R1 --- R2((Router-PT  
30.0.0.1))
      R0 --- PC0[PC0  
10.0.0.1]
      R2 --- PC1[PC1  
40.0.0.1]
  
```

Configuration:

static → routes remain constant
 ↳ reduces the burden on the router
 But always follows the fixed path hence congestion.

Commands:

⇒ To configure default route

For R0 Router(config)# ip route 0.0.0.0 0.0.0.0 20.0.0.2

For R2 Router(config)# ip route 0.0.0.0 0.0.0.0 30.0.0.1

⇒ To configure static route.

	destination network	next hop
For R1 Router(config)# ip route	10.0.0.0	255.0.0.0 30.0.0.2
Router(config)# ip route	40.0.0.0	255.0.0.0 20.0.0.1

- (i) configure the generic routers and the end devices using the command line and setup gateway
- (ii) Once the routers and the PC are configured set up the static route using the above mentioned commands for router 1
- (iii) set up ^{default} dynamic route for the router 0 and router 2.
- (iv) carry out the ping command in PC 0 under command prompt.

Observation:

Static route ~~route~~ → routes remain constant. In case of a large number of routers the administrator has to configure each of the router. ~~It~~ Also increases congestion in the route.

PC > ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data

Reply from 40.0.0.2 : bytes=32 time=16ms TTL=123
 Reply from 40.0.0.2 : bytes=32 time=13ms TTL=123
 Reply from 40.0.0.2 : bytes=32 time=11ms TTL=123
 Reply from 40.0.0.2 : bytes=32 time=16ms TTL=123

Ping statistics for 40.0.0.2:
 Packets : sent = 4, Received = 4, lost = 0 (0% loss)

Approximate round trip time in milli-seconds:

Minimum = 11ms, maximum = 16ms, Average = 14ms.

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