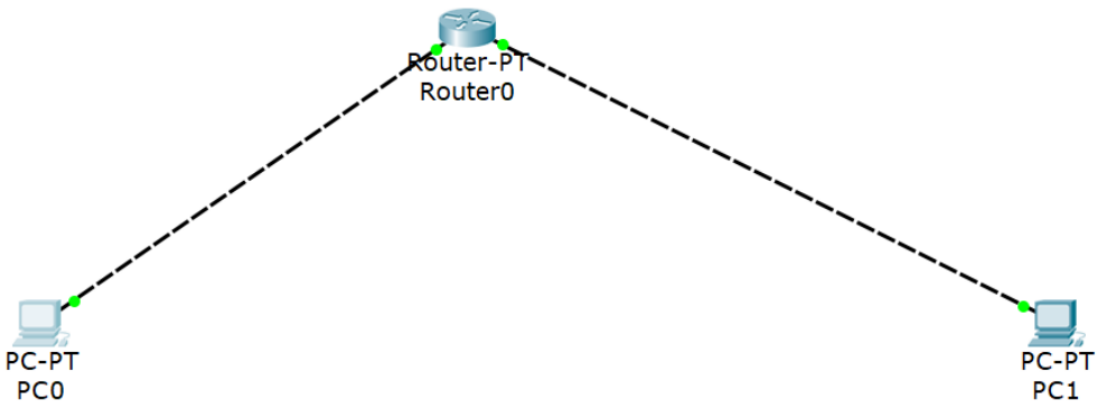
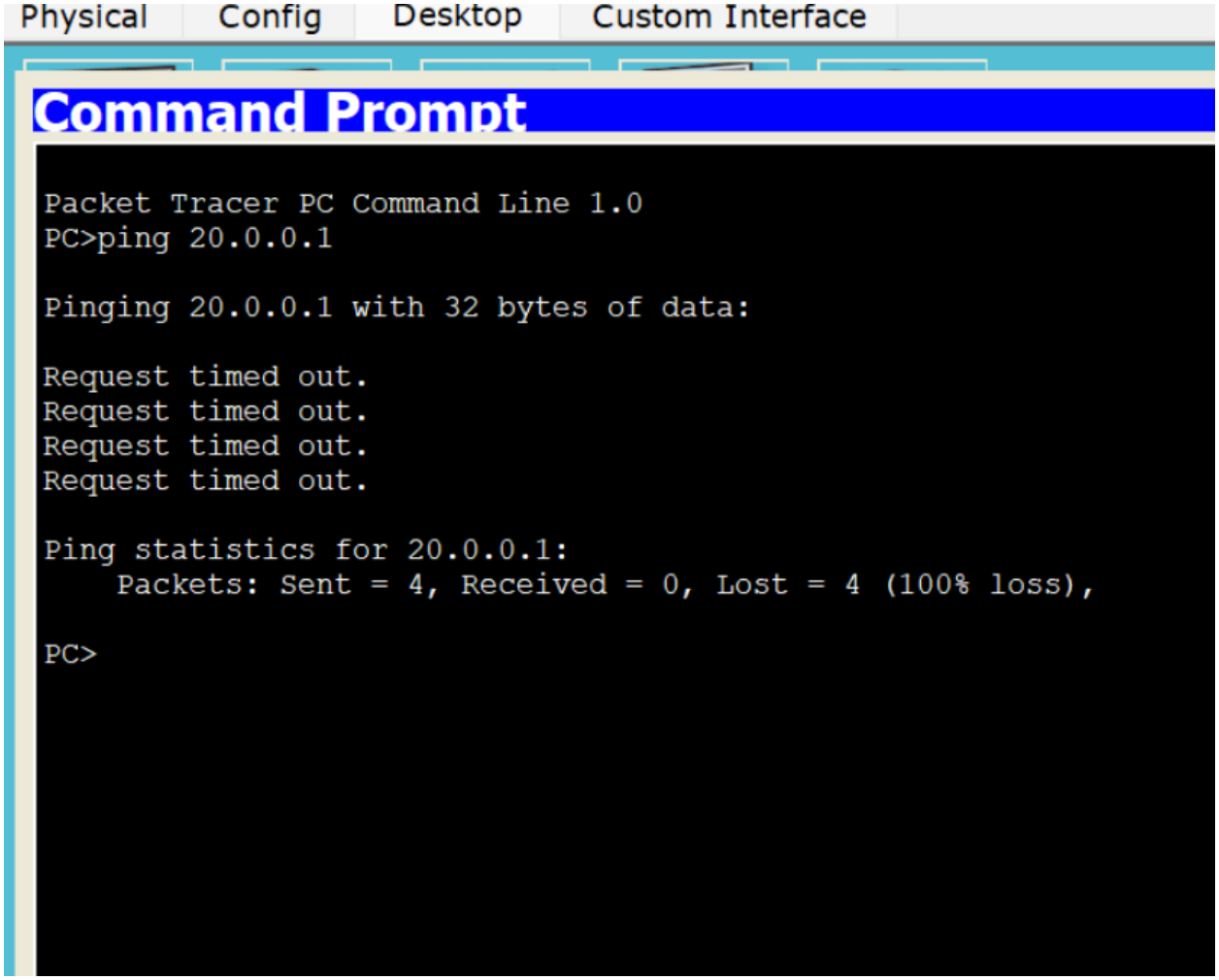
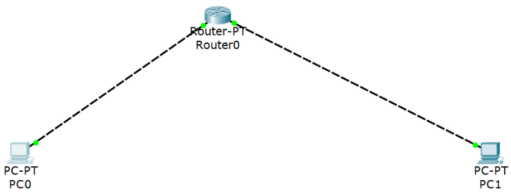
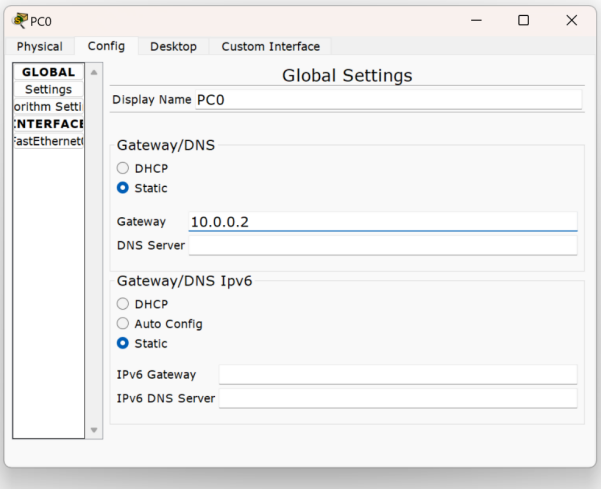
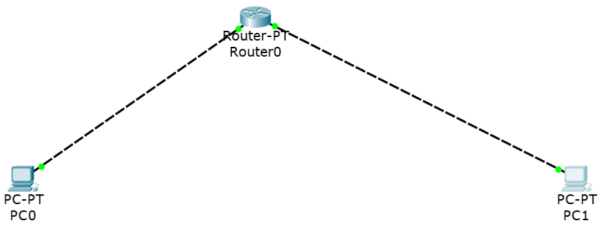

Router-PT
Router0
PC-PT
PC0
PC-PT
PC1

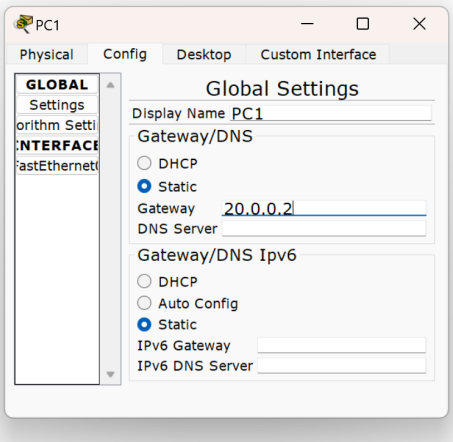


Without configuring the gateway we see that the ping command shows request timed out
Now we will configure the gateway









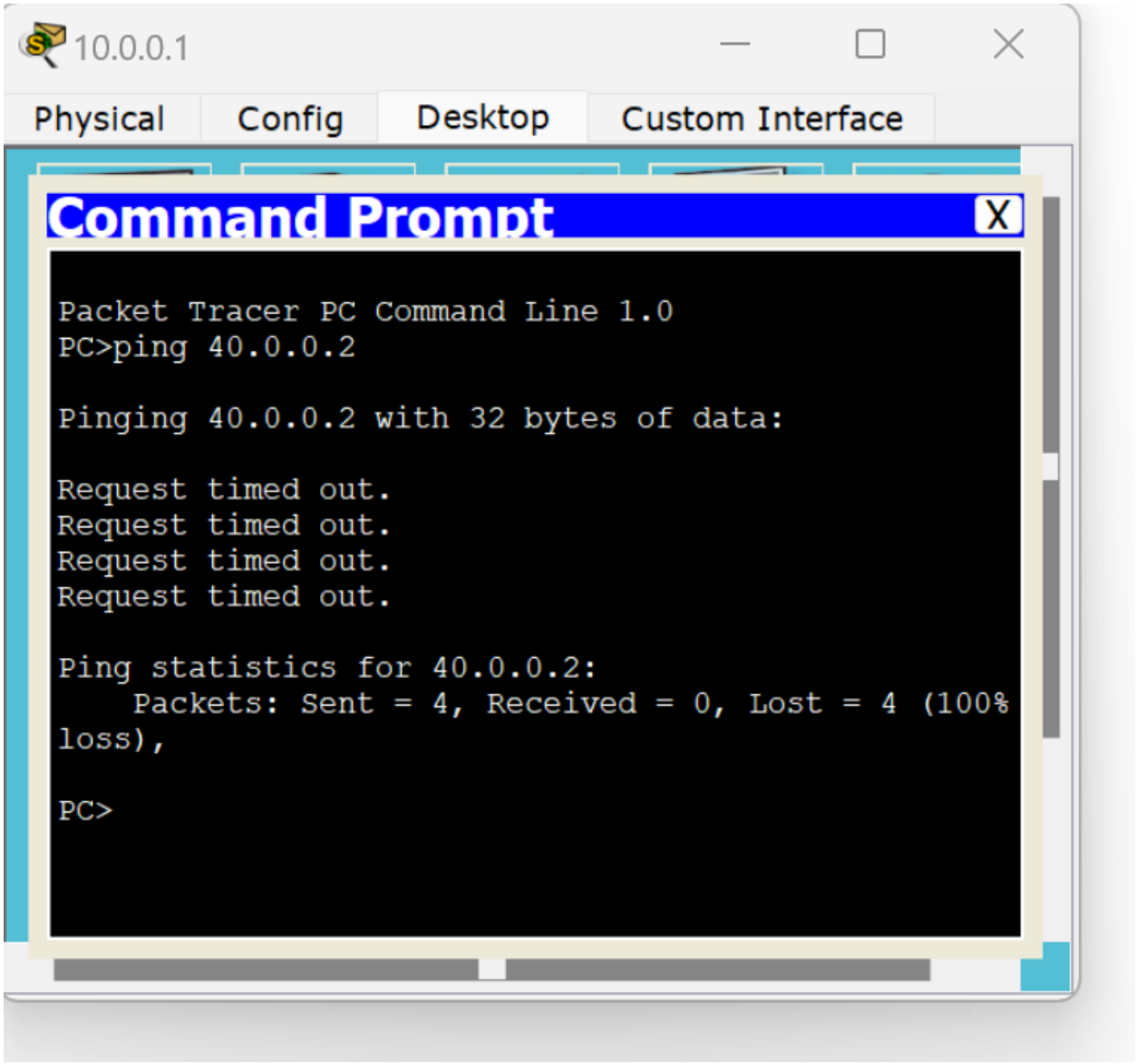
Packet los occurs in the first try

```
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:

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
```

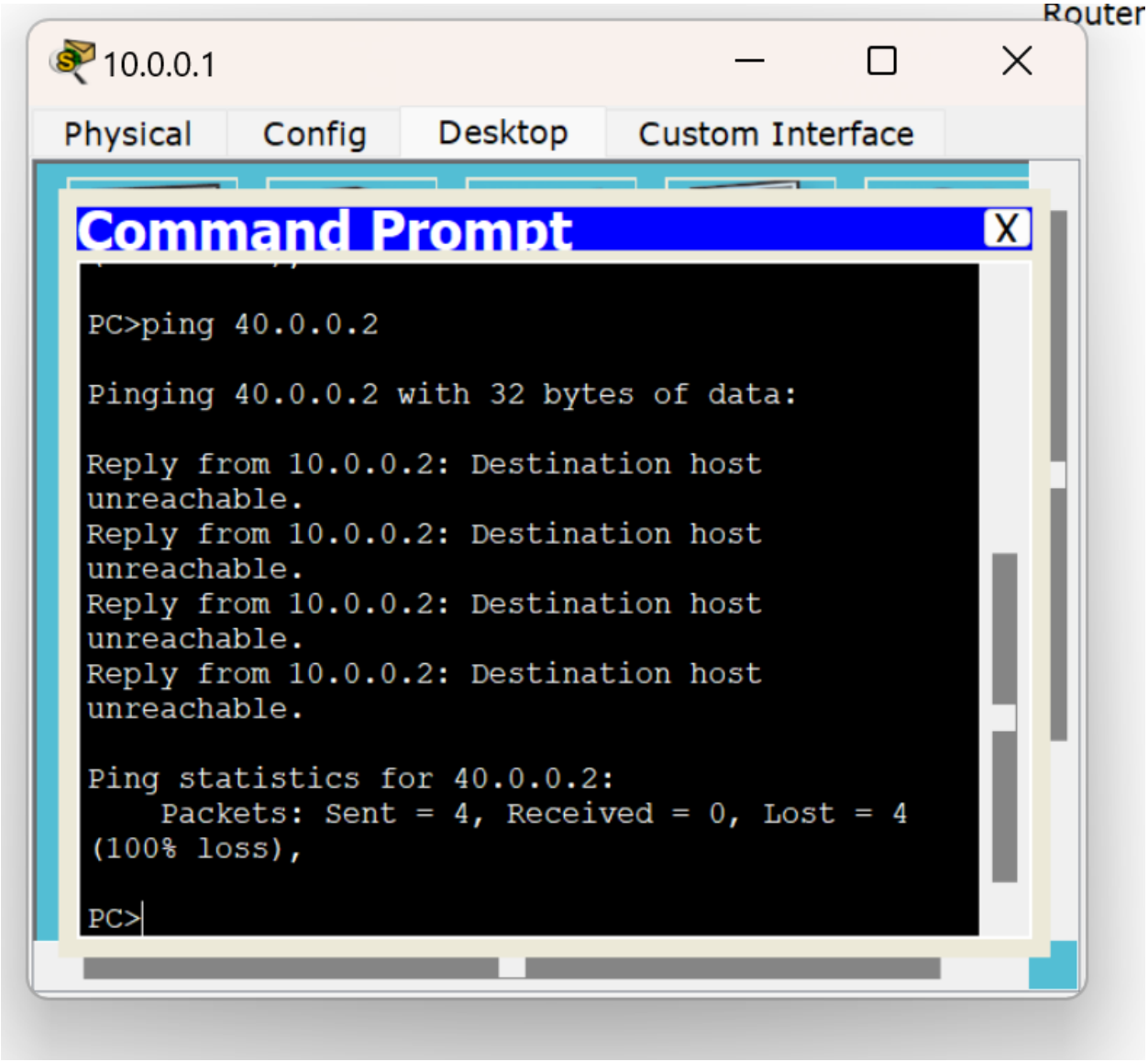
```
PC>ping 20.0.0.1

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),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Multiple router
Static routing

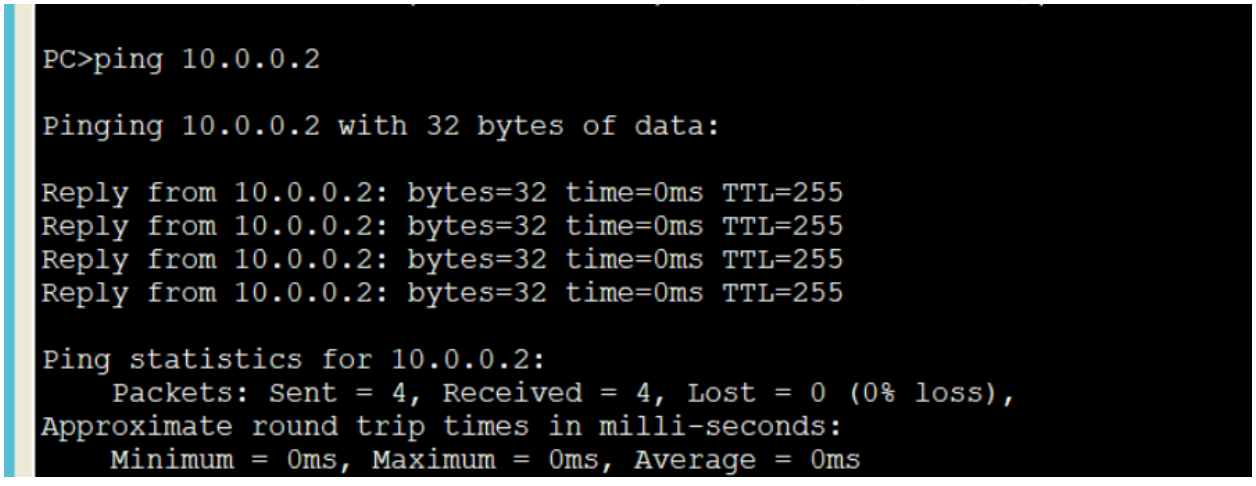
Note : Here the first router is Router1 and the second is Router 0 and the third is Router 2



Without configuring the gateway and the static routing



Configuring only the gateway and not static routing we get destination host unreachable

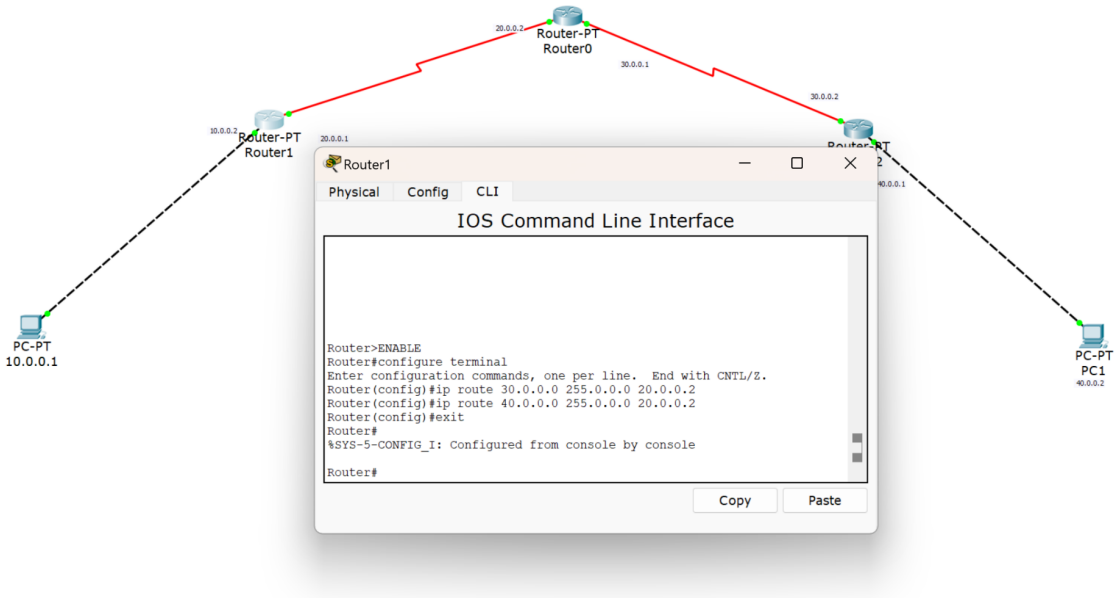


Since PC0 is directly connected to router1 even without static routing the ping works

```
PC>ping 20.0.0.2

Pinging 20.0.0.2 with 32 bytes of data:

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

Ping statistics for 20.0.0.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>
```

Now we configure the static routing

Static routing



```
% Invalid input detected at     marker.

Router#configure terminal
Enter configuration commands, one per line.  End
with CNTL/Z.
Router(config)#ip route 10.0.0.0 255.0.0.0 20.0.0.1
Router(config)#ip route 40.0.0.0 255.0.0.0 30.0.0.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

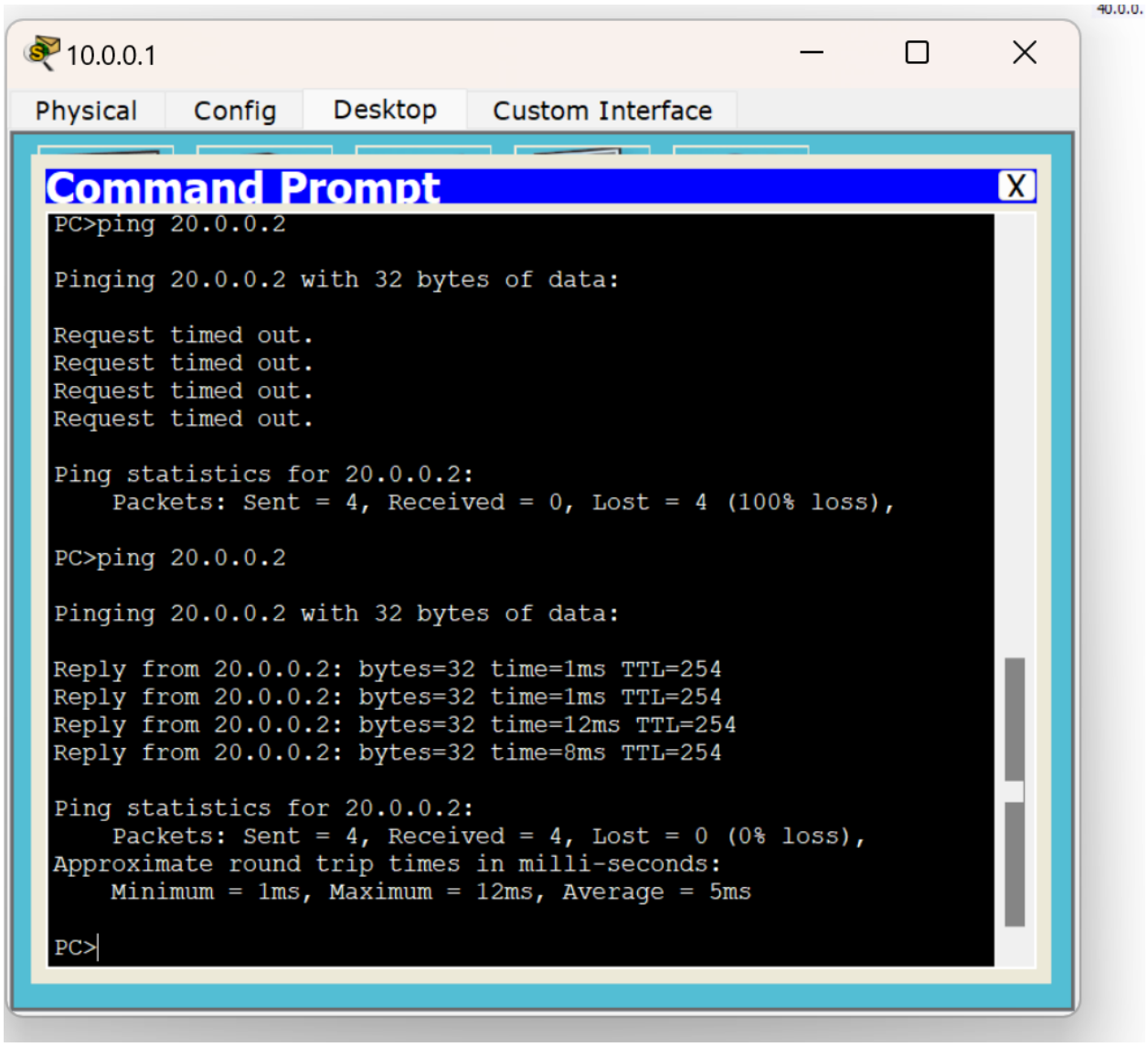
Copy Paste

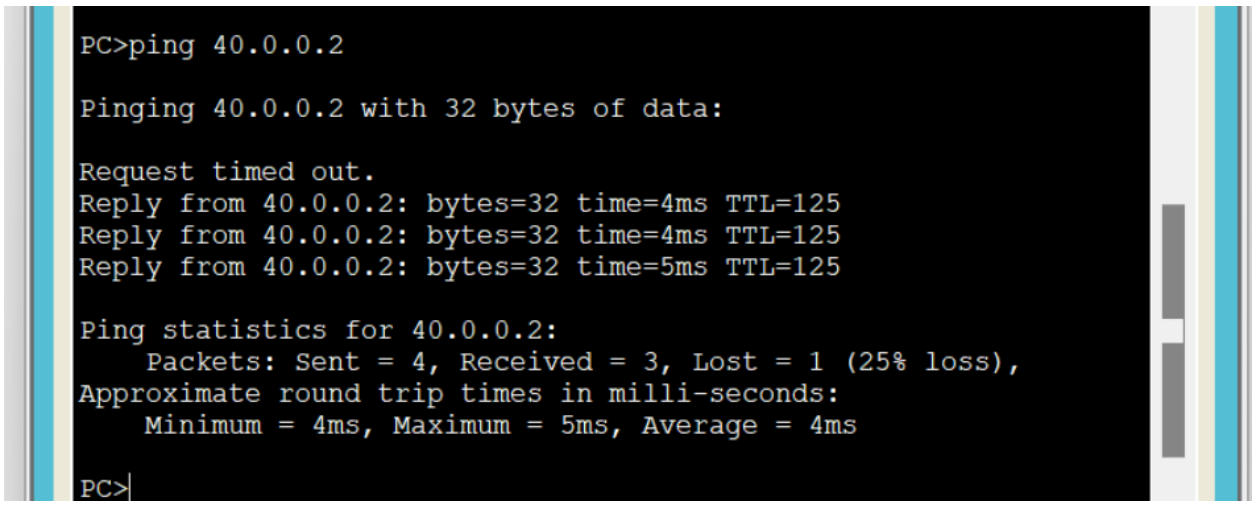
Router 0

Router 2

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End
with CNTL/Z.
Router(config)#ip route 10.0.0.0 255.0.0.0 30.0.0.1
Router(config)#ip route 20.0.0.0 255.0.0.0 30.0.0.1
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Now pinging after configuring the static routing


10.0.0.1
Physical
Config
Desktop
Custom Interface
Command Prompt
PC>ping 20.0.0.2
Pinging 20.0.0.2 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 20.0.0.2:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PC>ping 20.0.0.2
Pinging 20.0.0.2 with 32 bytes of data:
Reply from 20.0.0.2: bytes=32 time=1ms TTL=254
Reply from 20.0.0.2: bytes=32 time=1ms TTL=254
Reply from 20.0.0.2: bytes=32 time=12ms TTL=254
Reply from 20.0.0.2: bytes=32 time=8ms TTL=254
Ping statistics for 20.0.0.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 12ms, Average = 5ms
PC>


PC>ping 40.0.0.2
Pinging 40.0.0.2 with 32 bytes of data:
Request timed out.
Reply from 40.0.0.2: bytes=32 time=4ms TTL=125
Reply from 40.0.0.2: bytes=32 time=4ms TTL=125
Reply from 40.0.0.2: bytes=32 time=5ms TTL=125
Ping statistics for 40.0.0.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 4ms, Maximum = 5ms, Average = 4ms
PC>

Show IP route commands after static routing :

Router 1

```
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    20.0.0.0/8 is directly connected, Serial2/0
S    30.0.0.0/8 [1/0] via 20.0.0.2
S    40.0.0.0/8 [1/0] via 20.0.0.2
Router>
```

Router 0

```
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 20.0.0.1
C    20.0.0.0/8 is directly connected, Serial2/0
C    30.0.0.0/8 is directly connected, Serial3/0
S    40.0.0.0/8 [1/0] via 30.0.0.2
Router>
```