IT352: Information Assurance and Security
Lab Program 1

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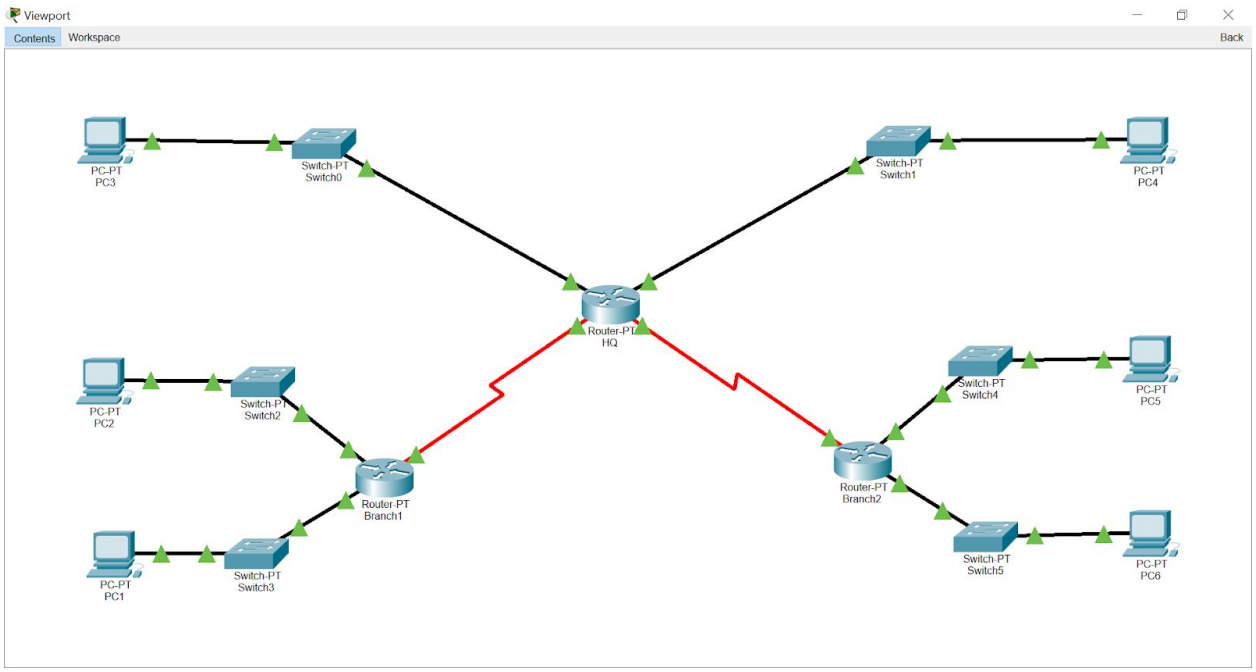
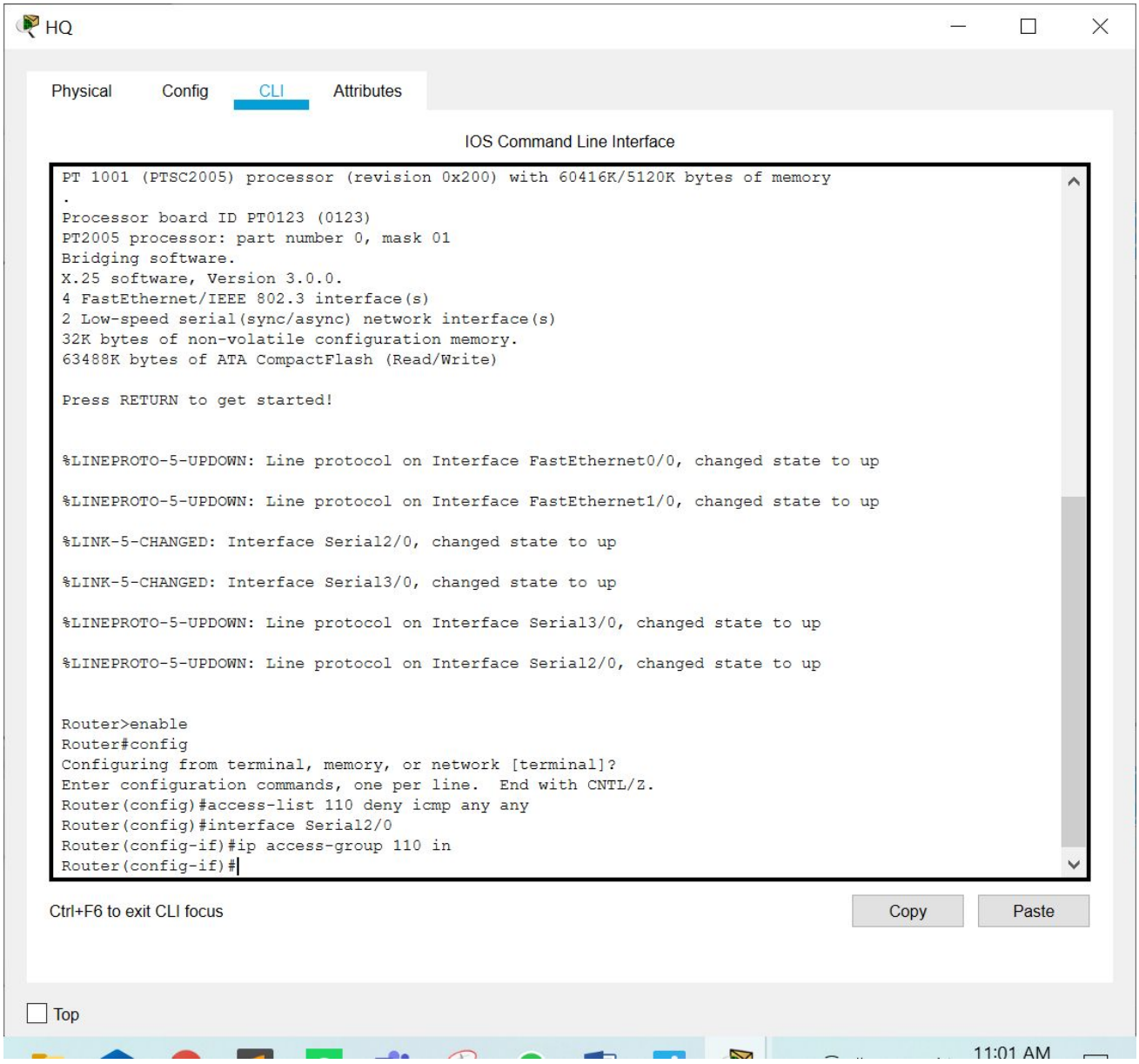
Topology



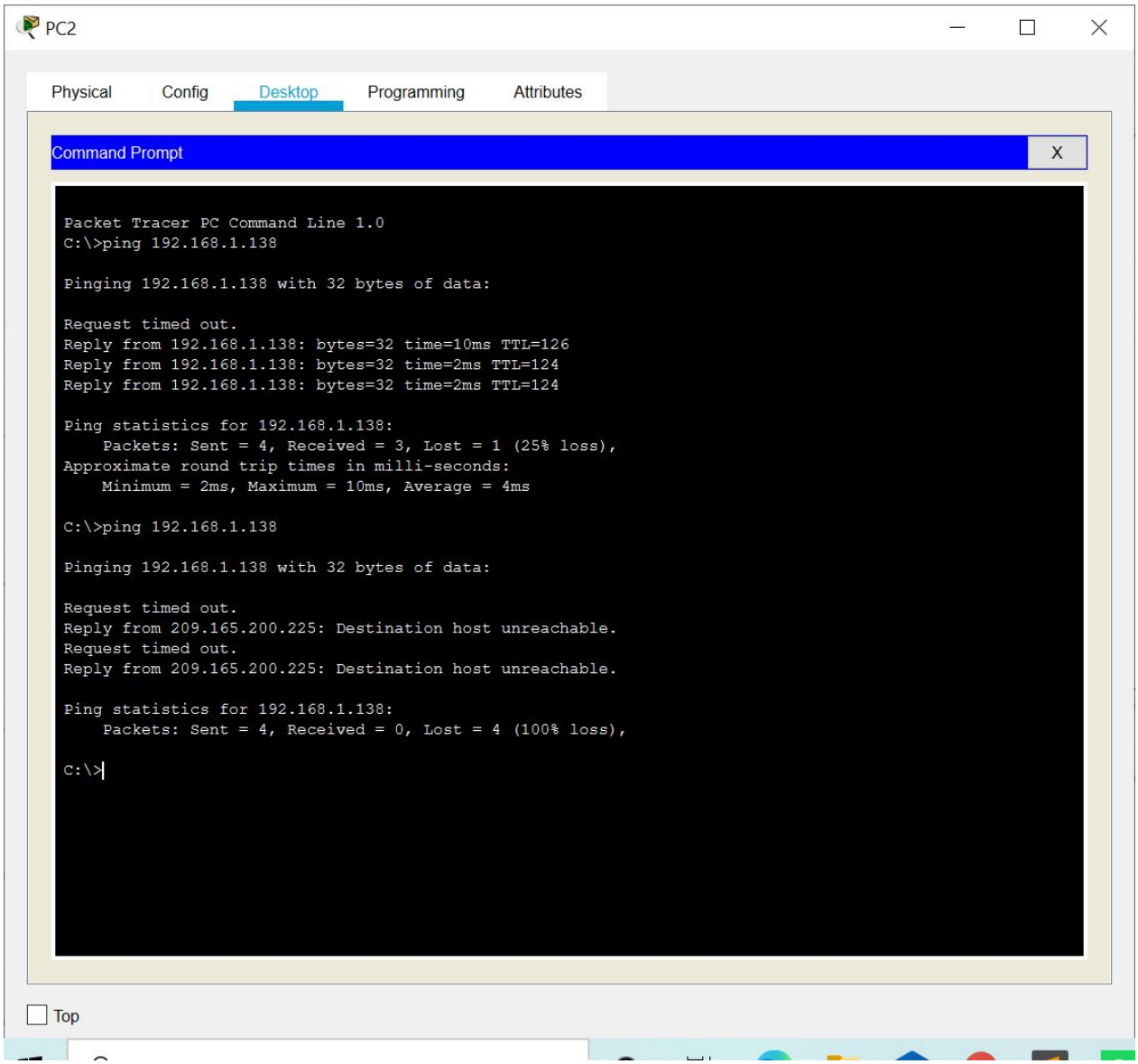
The topology consists of three routers separating traffic to 6 PCS. Firewall policies can be applied at each router to restrict traffic to each one of the network. Different firewall policies are independently applied at each router to understand how traffic is restricted in a network.

Test Case 1

HQ Router Firewall Policy: Blocks all incoming ICMP Echo requests.

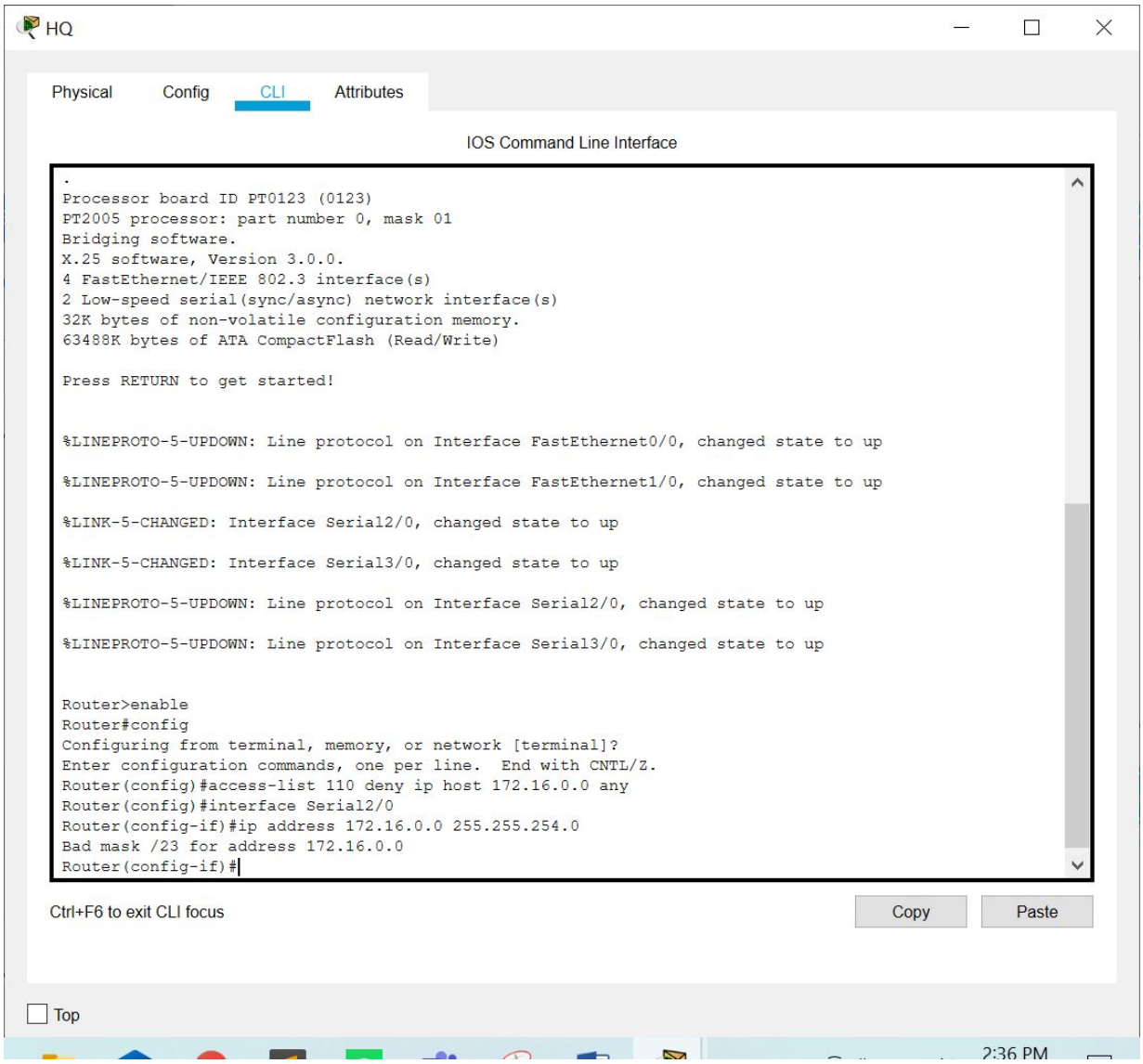


Before and after firewall policy: The traffic from PC2 is restricted by HQ Router.

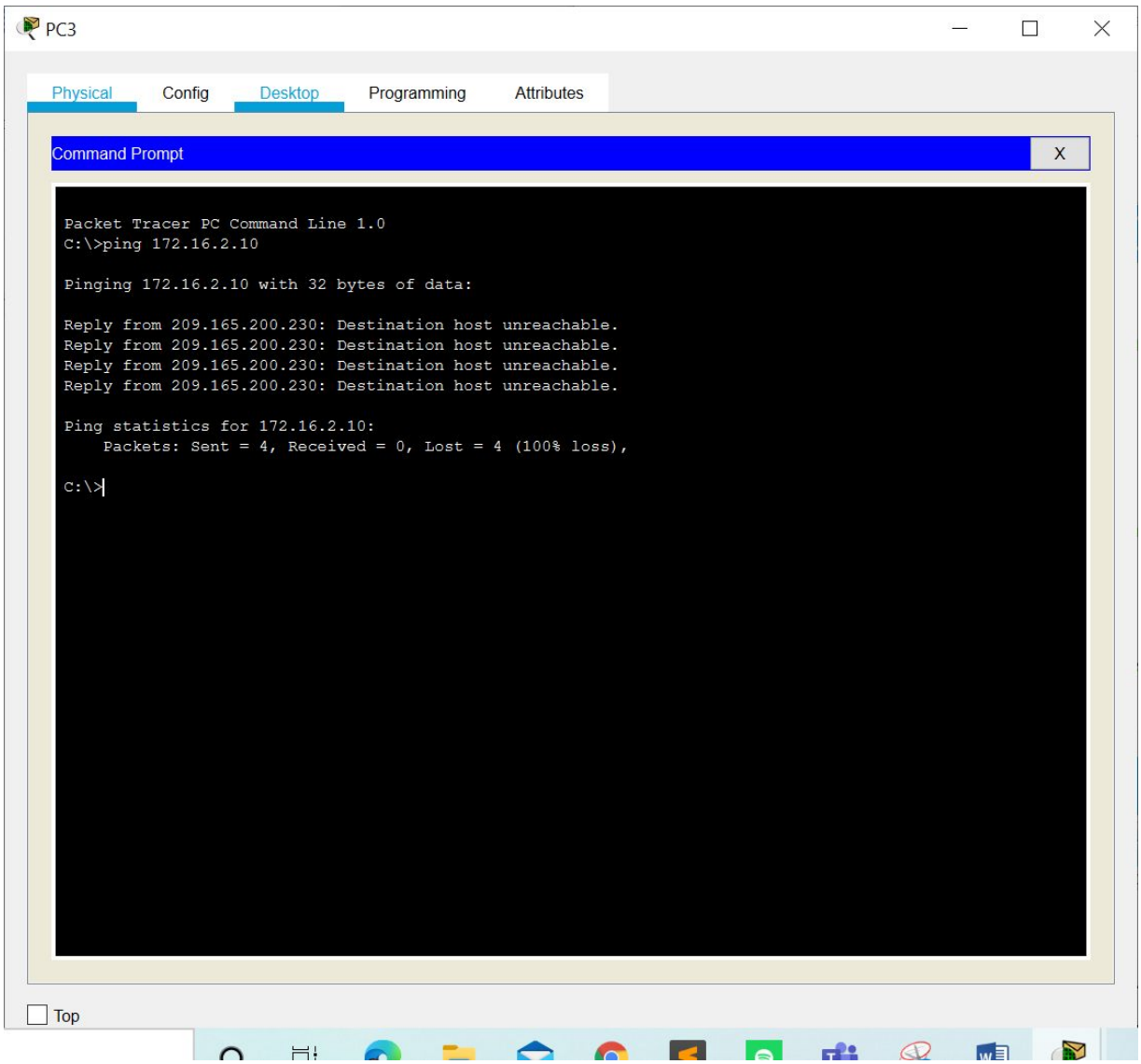


Test Case 2

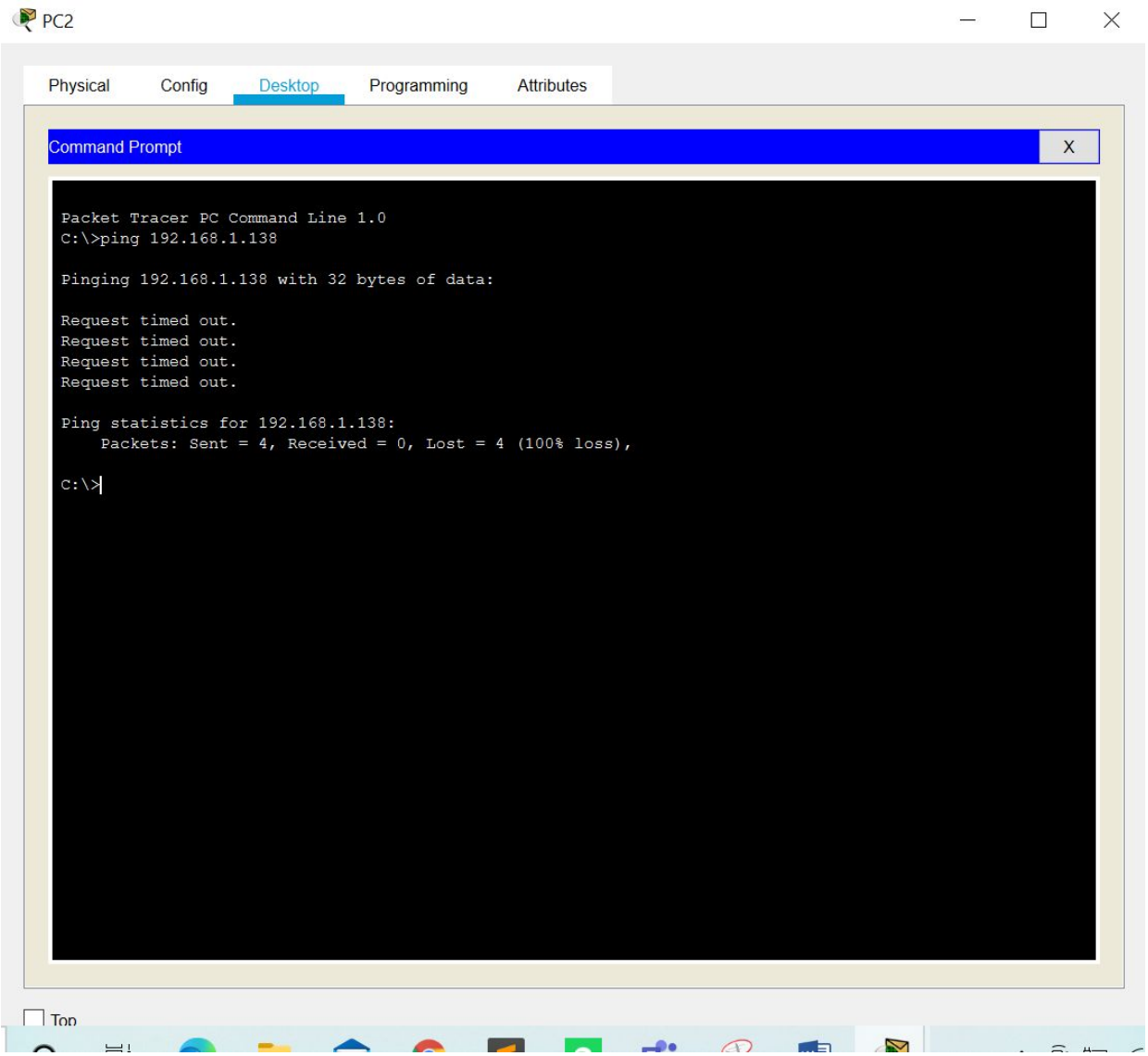
HQ Router Firewall Policy: Blocks any traffic incoming coming from 172.16.0.0/23 network.



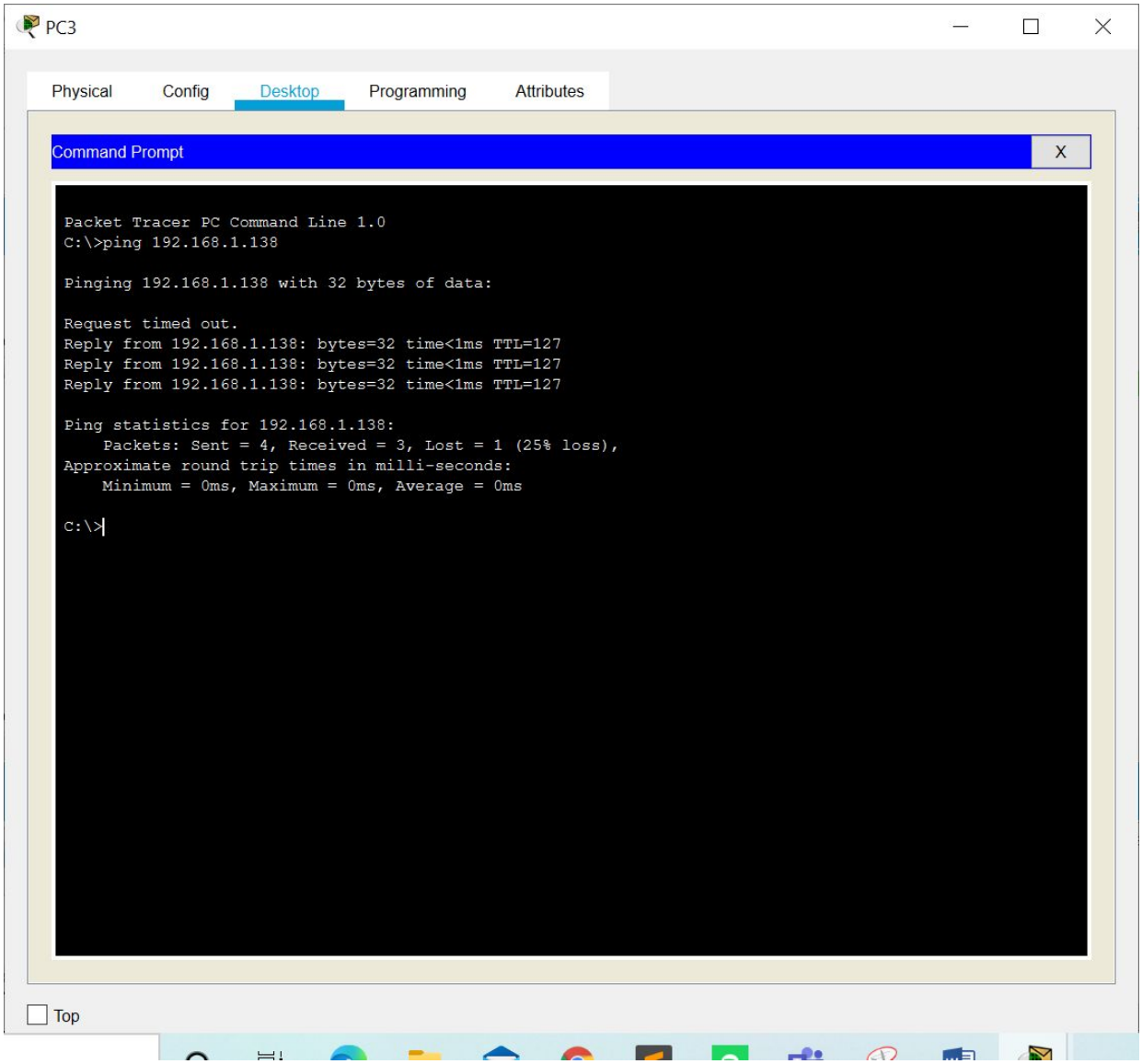
PC3 is unable to send the message to 172.16.0.0/23 network.



PC2 is unable to send message to an external network due to the restriction at HQ Router.

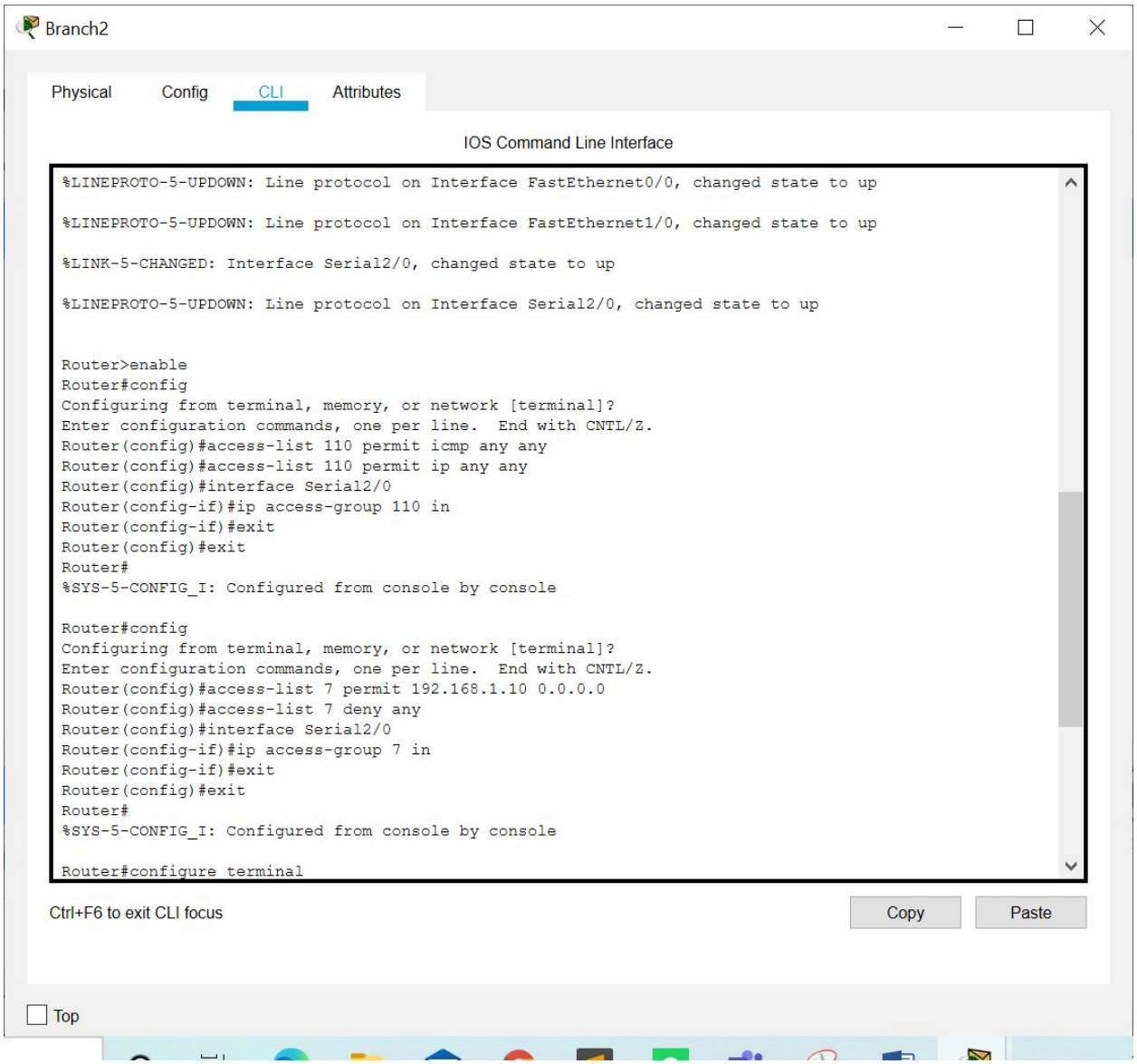


PC3 can send the message to the network 192.168.1.0/25. HQ Router has no firewall policy against network 192.168.1.0/25.

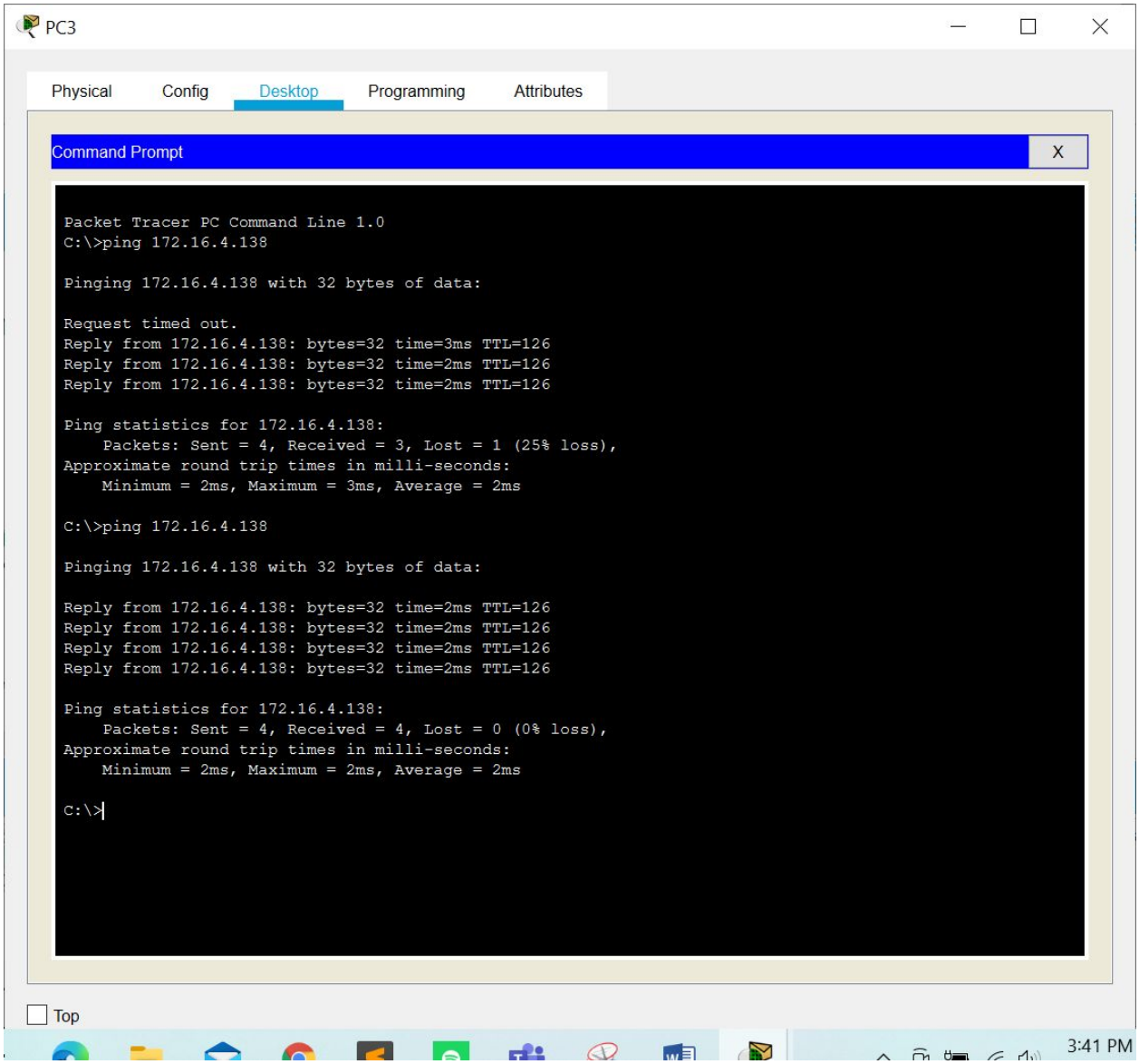


Test Case 3:

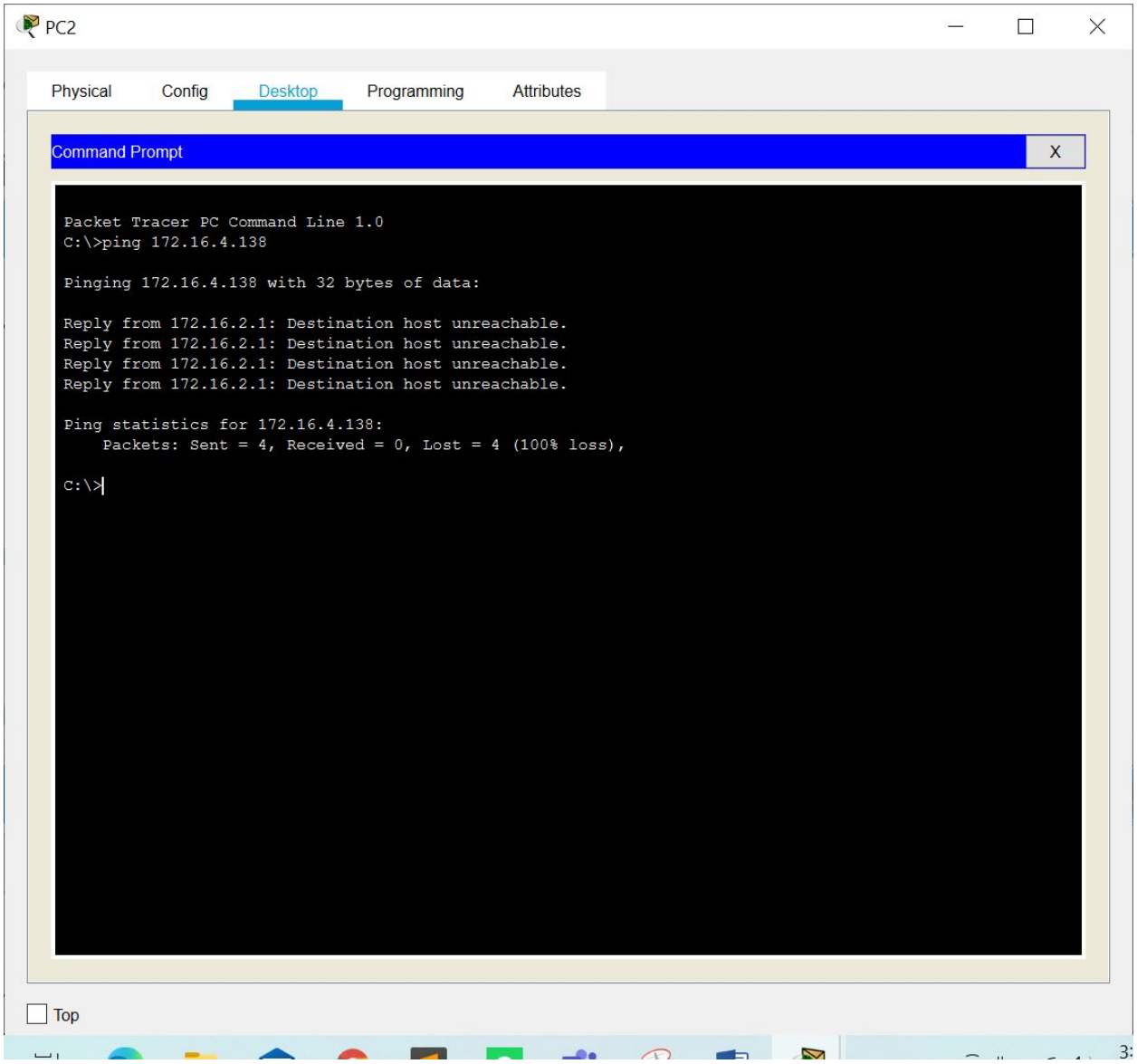
Branch2 Router Firewall Policy: Allow any traffic incoming coming from PC3 and rest of the traffic is blocked.



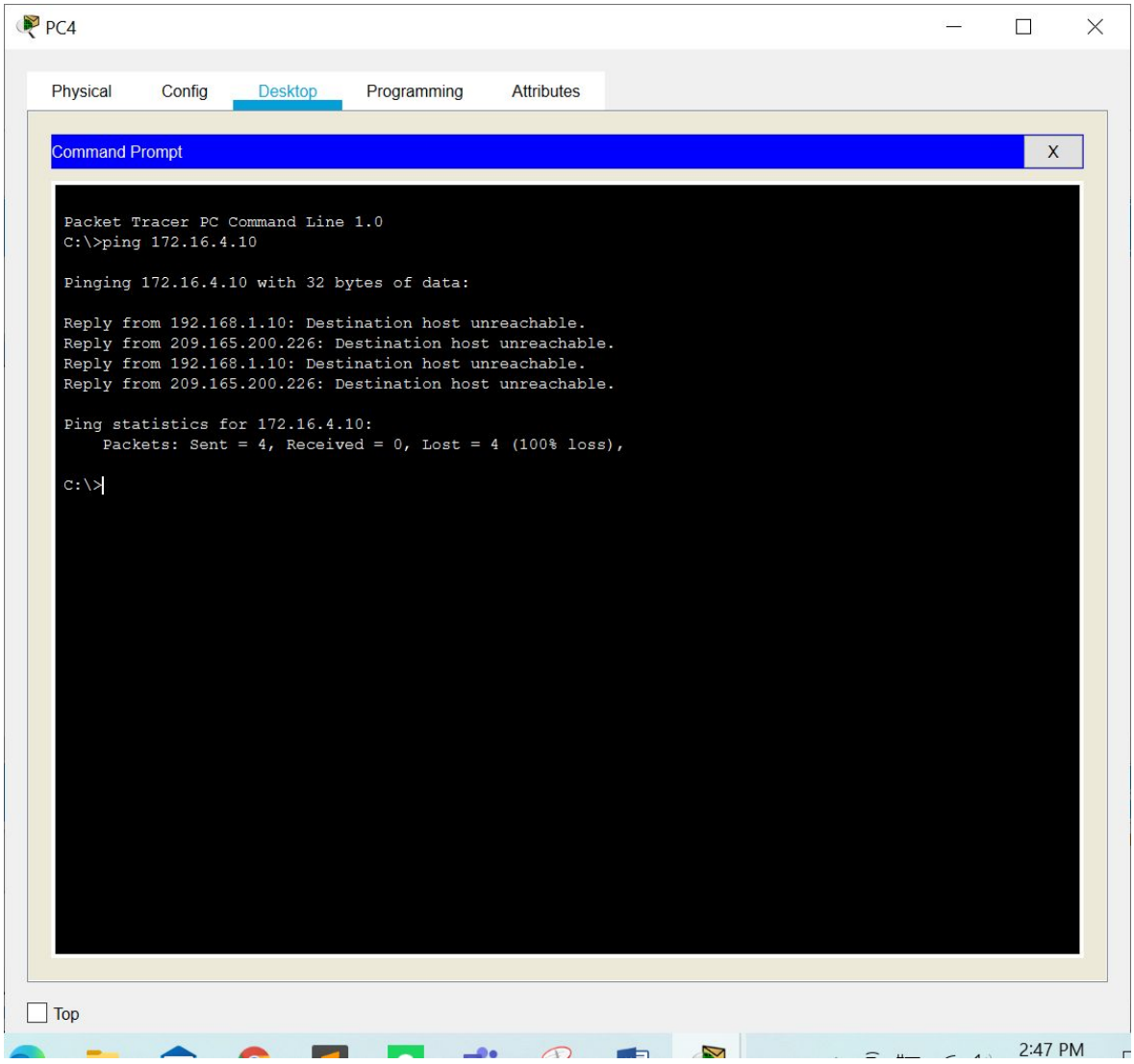
PC3 can send a message to the network at Branch1 Router.



PC2 cannot send any message to the network at the Branch1 Router due to firewall policy at the router.

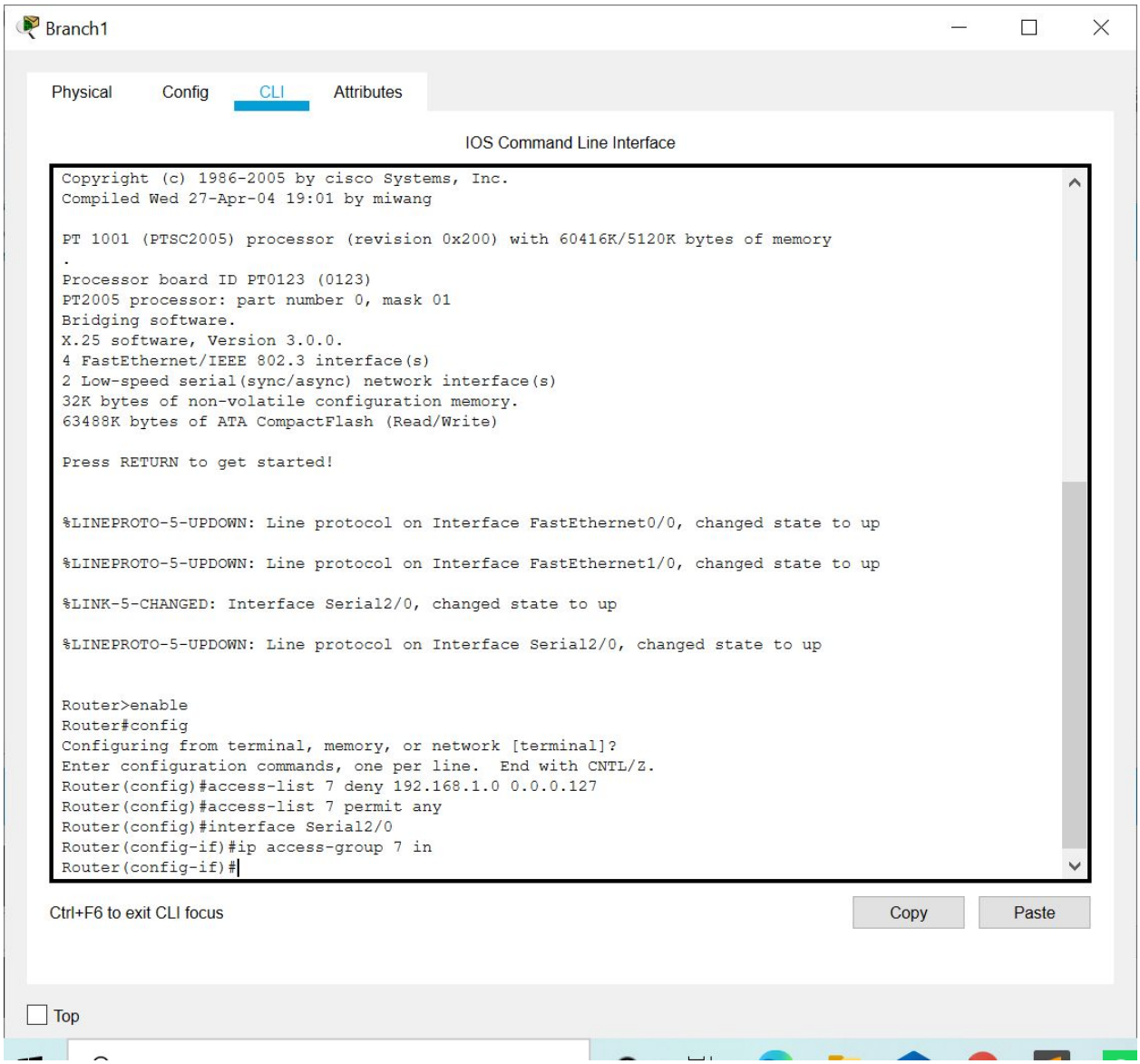


PC4 cannot send any message to the network at the Branch1 Router due to firewall policy at the router.

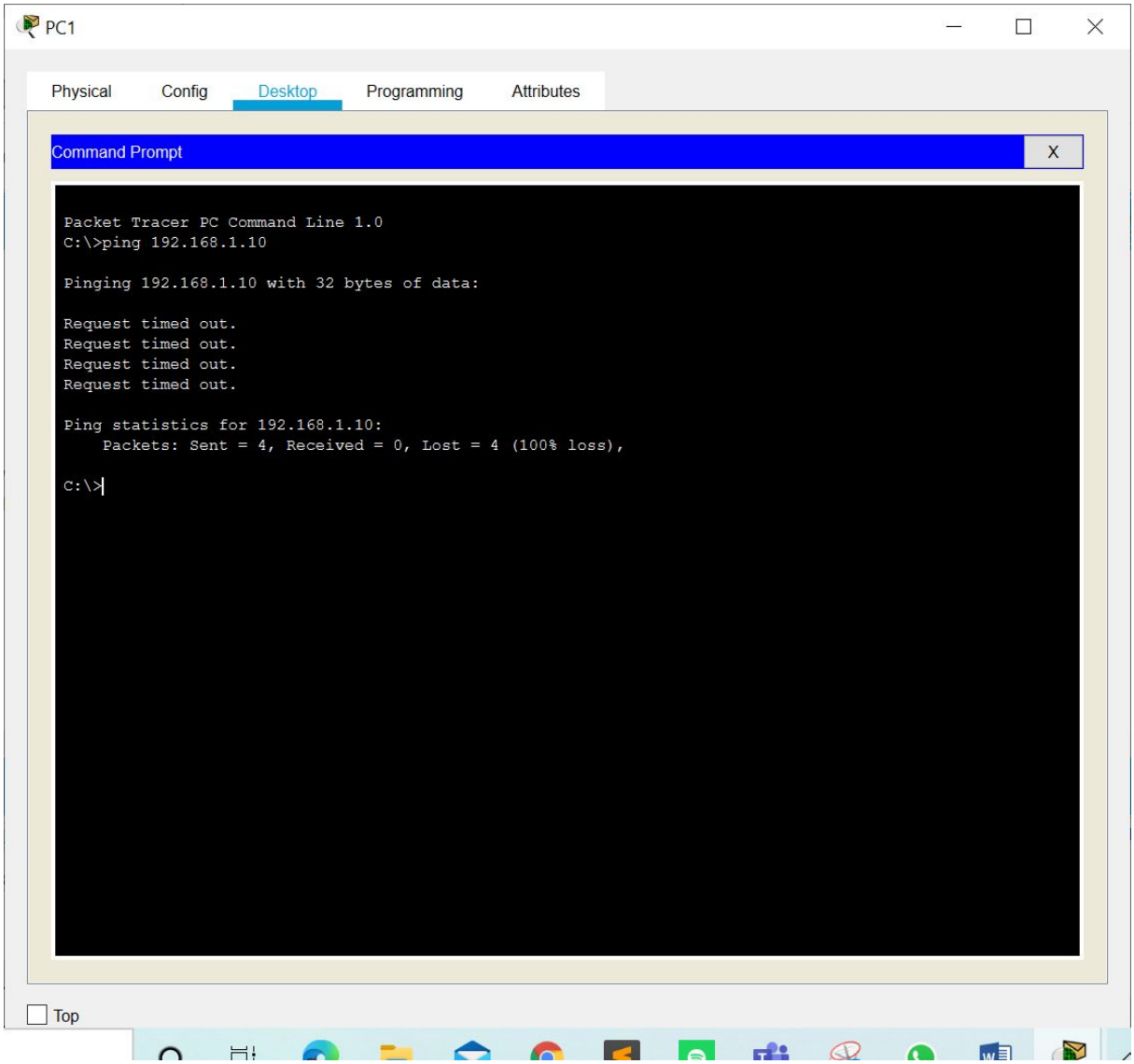


Test Case 4

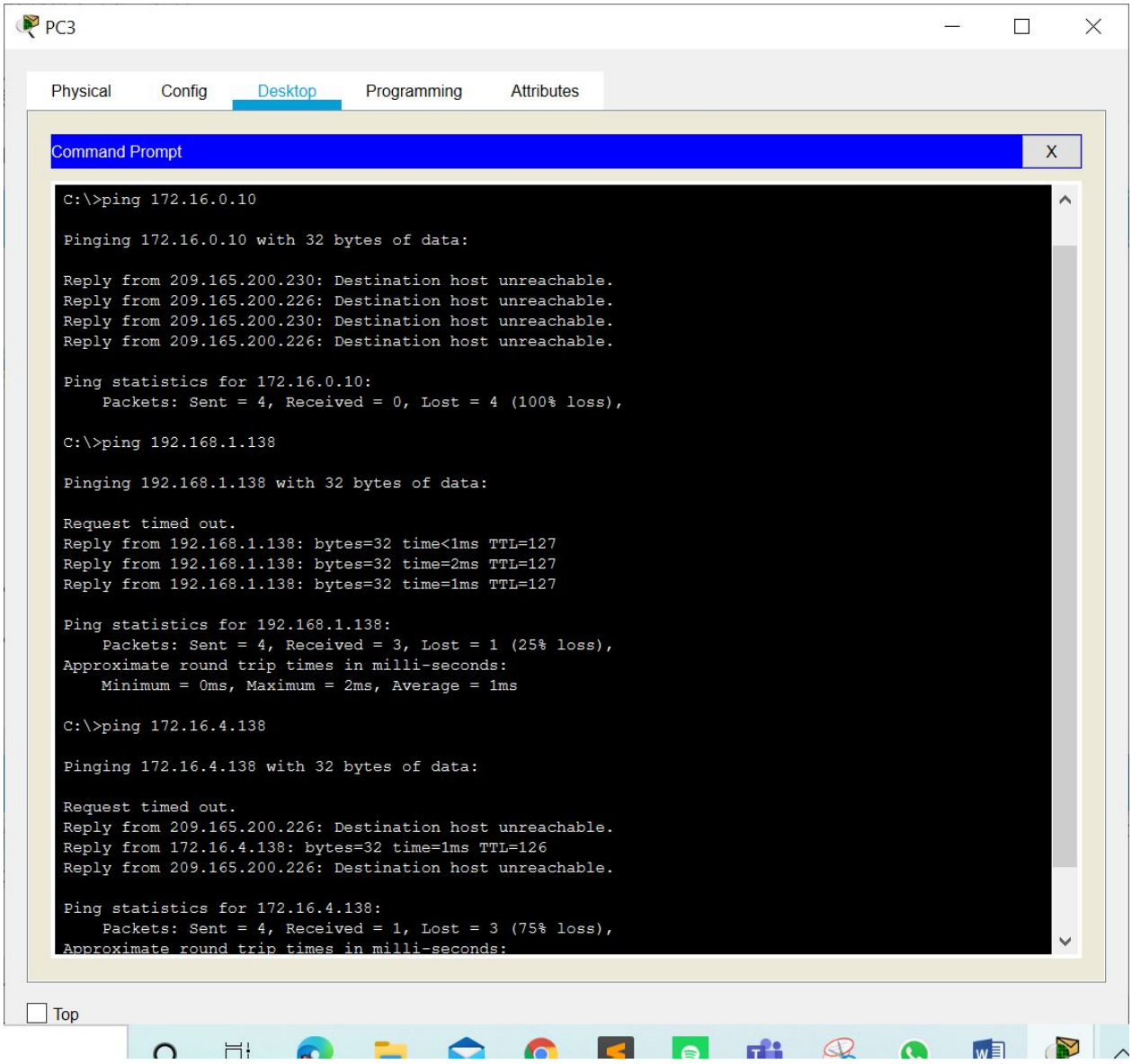
Branch1 Router Firewall Policy: Block any traffic incoming coming from any system belong to 192.168.1.0/25 network



PC1 -> PC3

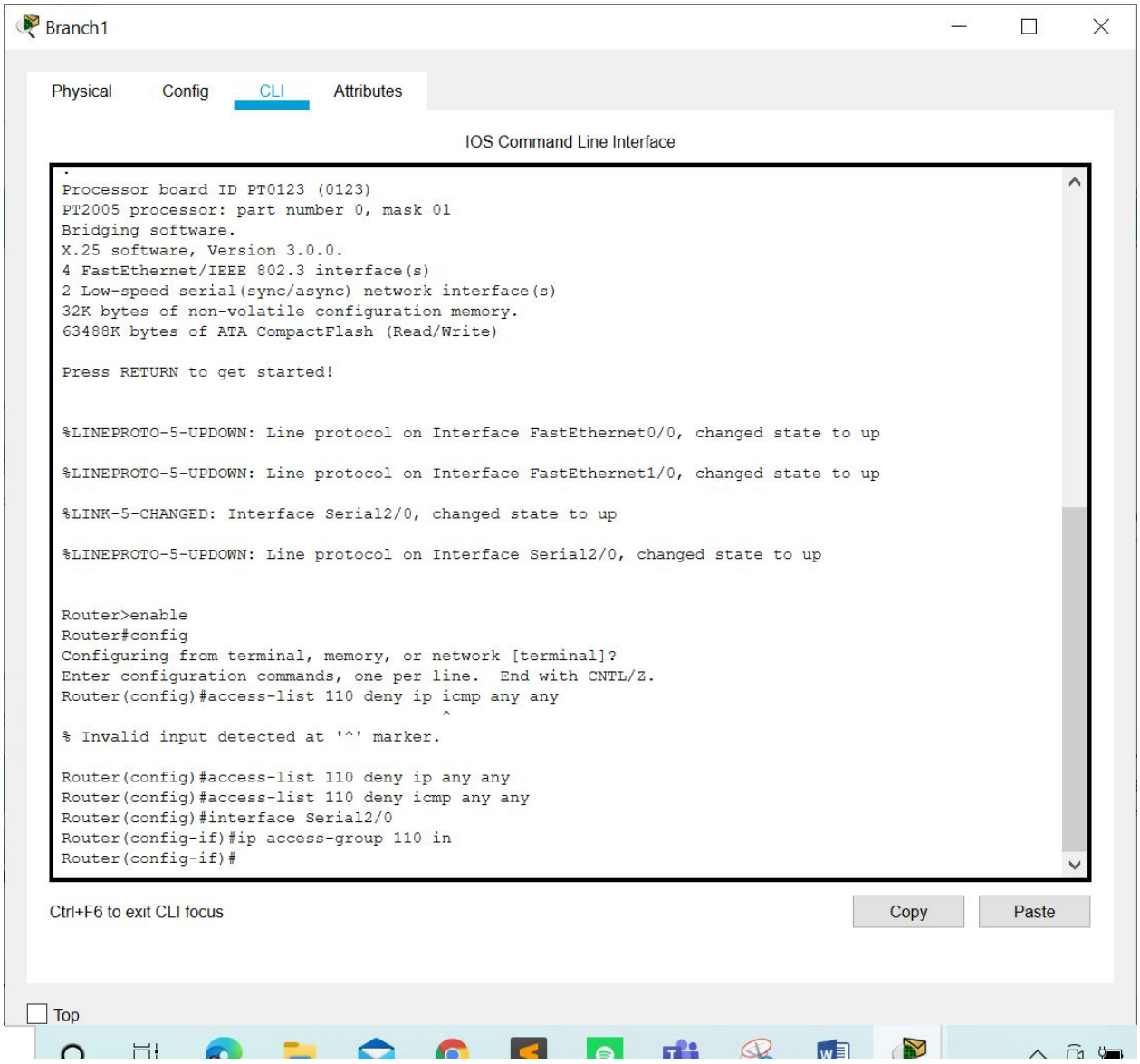

PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.10
Pinging 192.168.1.10 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.10:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
Top

PC3 -> PC1 and PC3 -> PC4

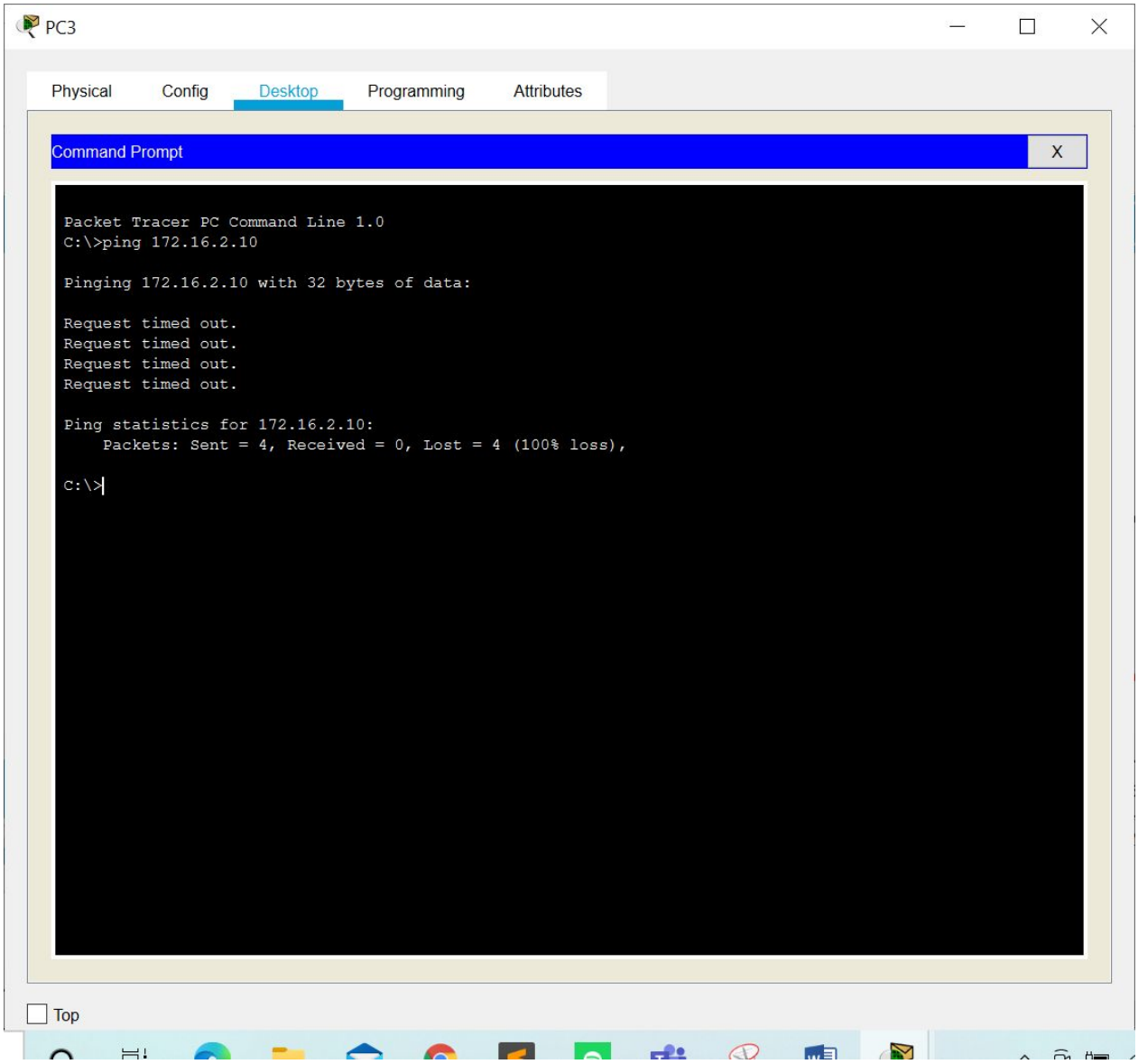


Test Case 5:

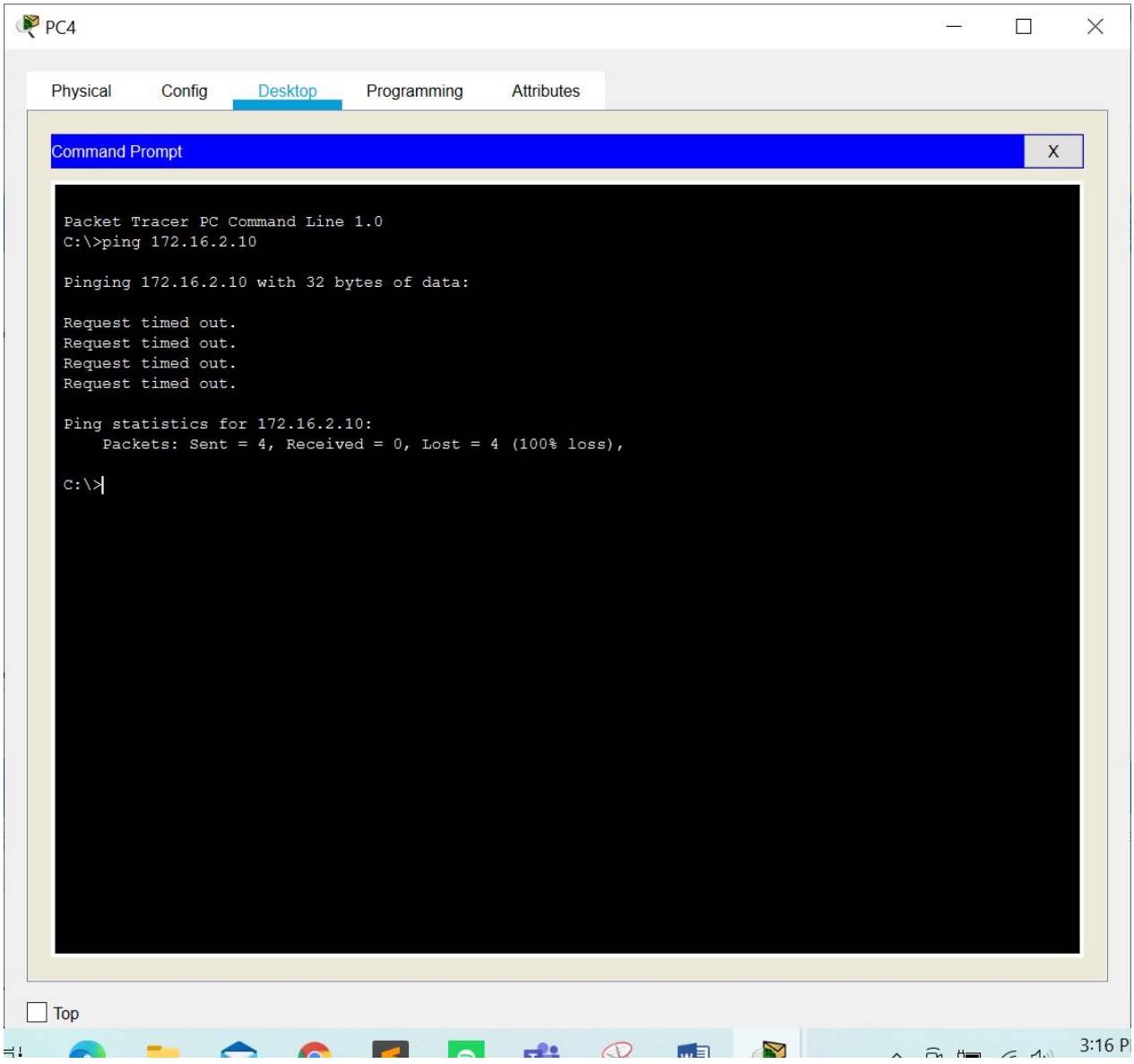
Branch1 Router Firewall Policy: Block any traffic incoming coming from any network.



Branch1 Router blocks incoming traffic from PC3.



Branch1 Router blocks incoming traffic from PC4.



Branch1 Router blocks incoming traffic from PC5.