

GROUP NO.: 6

ANKEET THONGIRE 2018130056

PRADNYA TOPALE 2018130057

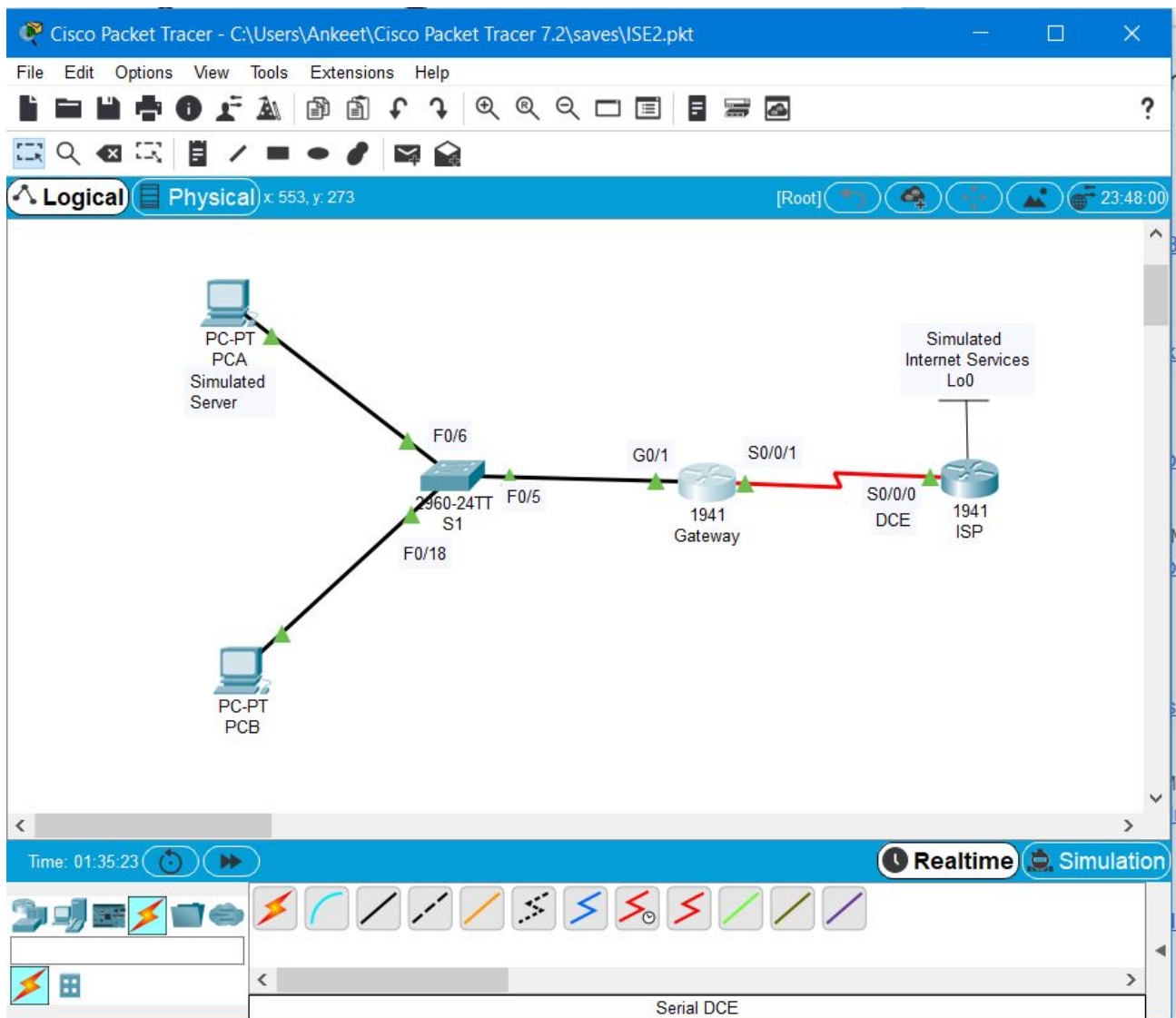
SOHAM VAIDYA 2018130058

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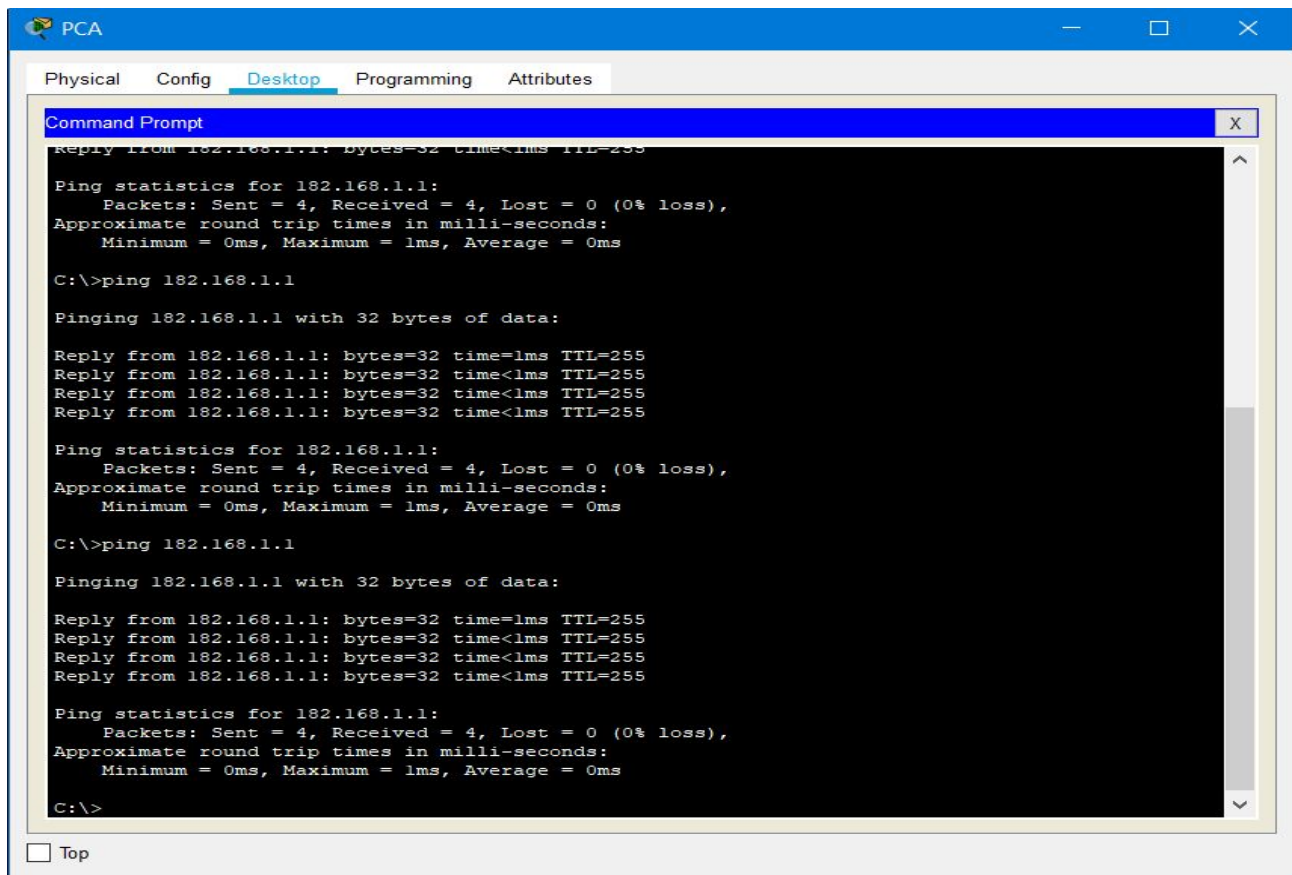
DCCN LAB ISE2

Task 1:

Final Network:



Pinging G0/1 interface on the gateway router from PCA:



PCA

Physical Config Desktop Programming Attributes

Command Prompt

```
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 182.168.1.1

Pinging 182.168.1.1 with 32 bytes of data:

Reply from 182.168.1.1: bytes=32 time=1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 182.168.1.1

Pinging 182.168.1.1 with 32 bytes of data:

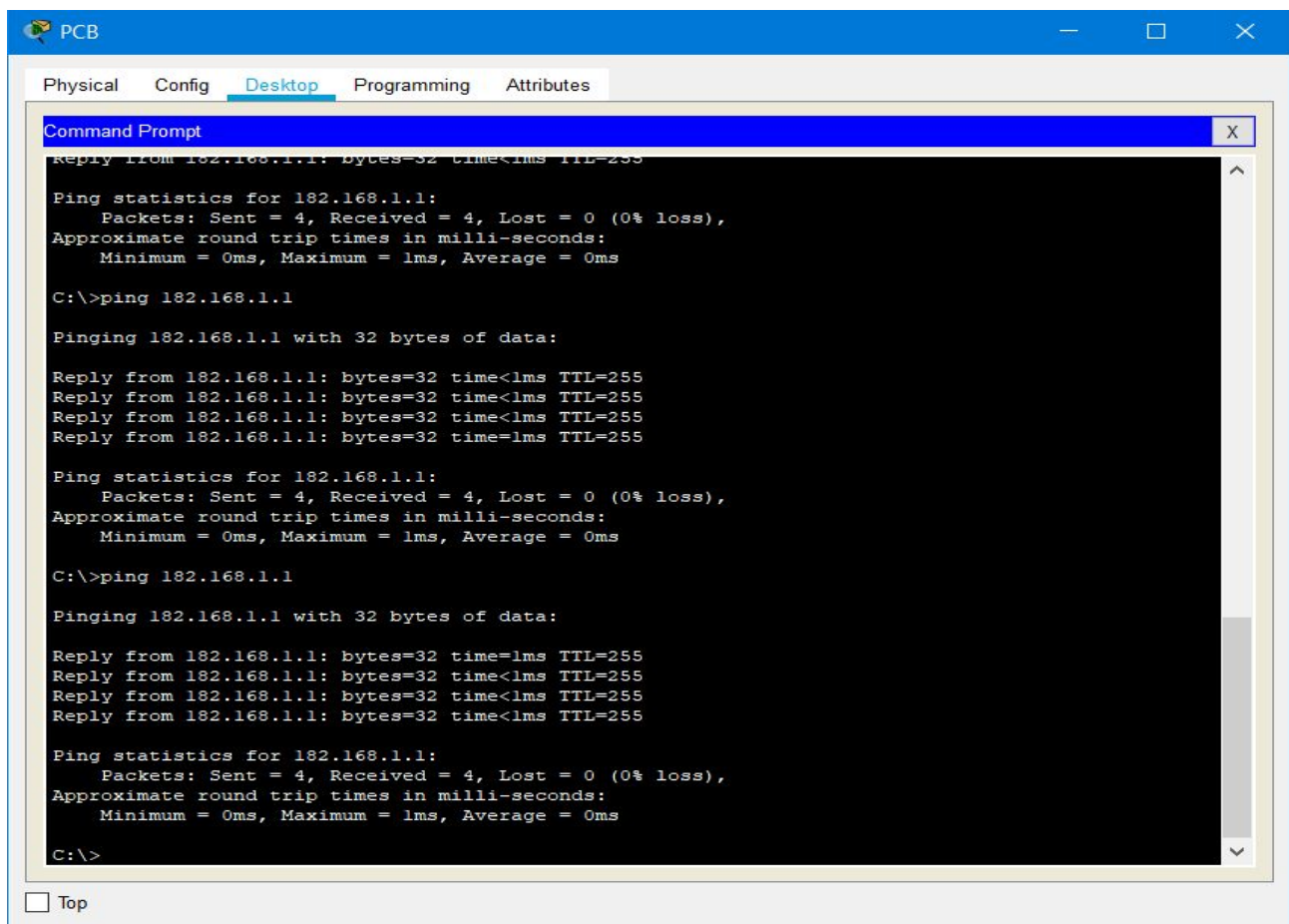
Reply from 182.168.1.1: bytes=32 time=1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

☐ Top

Pinging G0/1 interface on the gateway router from PCB:

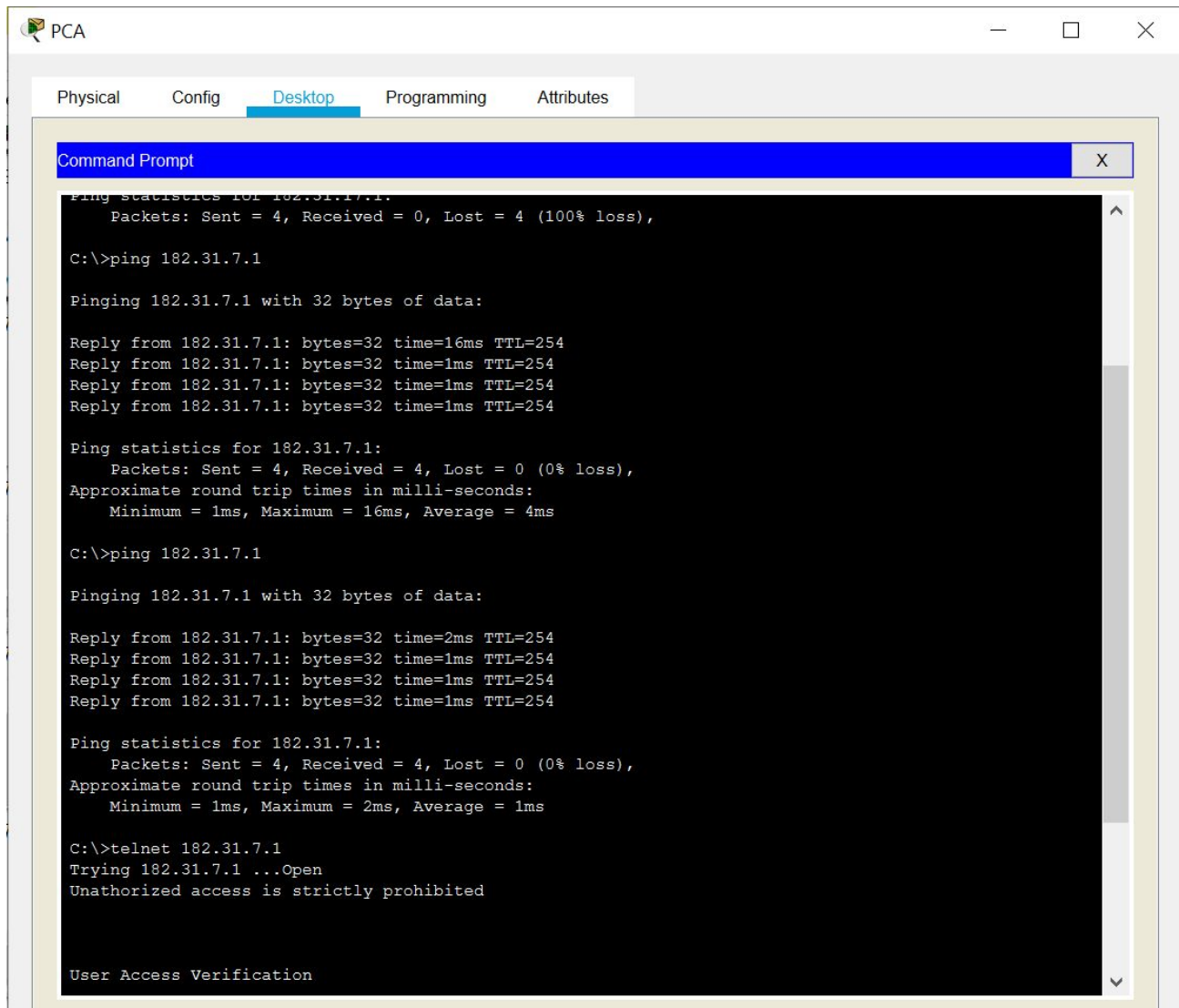


The screenshot shows a Windows window titled "PCB" with a blue title bar. Inside the window, there are four tabs: "Physical", "Config", "Desktop" (which is selected and highlighted in blue), and "Programming". Below the tabs is a "Command Prompt" window. The Command Prompt has a black background with white text. It shows the results of a ping command to the IP address 182.168.1.1. The output includes statistics for four packets sent, all received, with 0% loss. The round trip times are all less than 1ms, with a minimum of 0ms, a maximum of 1ms, and an average of 0ms. The Command Prompt window has a standard Windows window frame with a close button (X) in the top right corner. Below the Command Prompt window, there is a "Top" button with a small square icon to its left.

```
PCB
Physical Config Desktop Programming Attributes
Command Prompt
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 182.168.1.1
Pinging 182.168.1.1 with 32 bytes of data:
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 182.168.1.1
Pinging 182.168.1.1 with 32 bytes of data:
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>
Top
```

Task 2:

Pinging 182.31.7.1 from PC-A:



The screenshot shows a window titled "PCA" with a tabbed interface. The "Desktop" tab is active, displaying a Command Prompt window. The Command Prompt shows the results of two ping commands and one telnet command to the IP address 182.31.7.1.

```
Command Prompt
Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 182.31.7.1

Pinging 182.31.7.1 with 32 bytes of data:

Reply from 182.31.7.1: bytes=32 time=16ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 16ms, Average = 4ms

C:\>ping 182.31.7.1

Pinging 182.31.7.1 with 32 bytes of data:

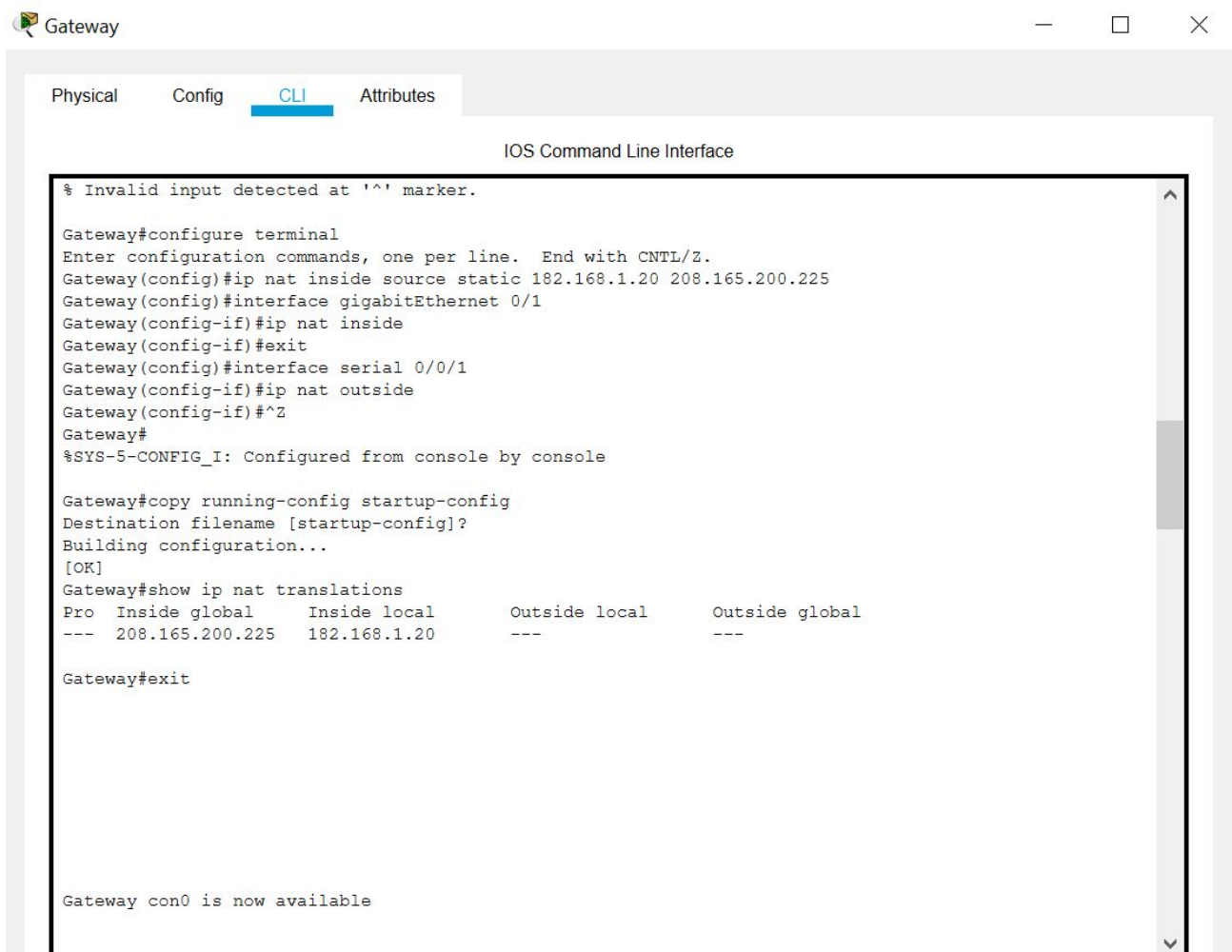
Reply from 182.31.7.1: bytes=32 time=2ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>telnet 182.31.7.1
Trying 182.31.7.1 ...Open
Unathorized access is strictly prohibited

User Access Verification
```

The following shows the NAT translations' output:



The screenshot shows a window titled "Gateway" with a tabbed interface. The "CLI" tab is selected, displaying the "IOS Command Line Interface". The terminal output shows the following sequence of commands and responses:

```
% Invalid input detected at '^' marker.  
Gateway#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Gateway(config)#ip nat inside source static 182.168.1.20 208.165.200.225  
Gateway(config)#interface gigabitEthernet 0/1  
Gateway(config-if)#ip nat inside  
Gateway(config-if)#exit  
Gateway(config)#interface serial 0/0/1  
Gateway(config-if)#ip nat outside  
Gateway(config-if)#^Z  
Gateway#  
%SYS-5-CONFIG_I: Configured from console by console  
  
Gateway#copy running-config startup-config  
Destination filename [startup-config]?  
Building configuration...  
[OK]  
Gateway#show ip nat translations  
Pro  Inside global      Inside local      Outside local      Outside global  
---  208.165.200.225      182.168.1.20      ---               ---  
  
Gateway#exit
```

At the bottom of the window, a status message reads: "Gateway con0 is now available".

Physical Config **CLI** Attributes

IOS Command Line Interface

Unauthorized access is strictly prohibited.

User Access Verification

Password:

Gateway>enable

Password:

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
---	208.165.200.225	182.168.1.20	---	---

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
icmp	208.165.200.225:10	182.168.1.20:10	182.31.7.1:10	182.31.7.1:10
icmp	208.165.200.225:11	182.168.1.20:11	182.31.7.1:11	182.31.7.1:11
icmp	208.165.200.225:12	182.168.1.20:12	182.31.7.1:12	182.31.7.1:12
icmp	208.165.200.225:9	182.168.1.20:9	182.31.7.1:9	182.31.7.1:9
---	208.165.200.225	182.168.1.20	---	---

Gateway#exit

Gateway con0 is now available

Physical Config **CLI** Attributes

IOS Command Line Interface

Unauthorized access is strictly prohibited.

User Access Verification

Password:

Gateway>enable

Password:

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
---	208.165.200.225	182.168.1.20	---	---
tcp	208.165.200.225:1025	182.168.1.20:1025	182.31.7.1:23	182.31.7.1:23

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
icmp	208.165.200.225:1	182.168.1.20:1	208.165.201.17:1	208.165.201.17:1
icmp	208.165.200.225:2	182.168.1.20:2	208.165.201.17:2	208.165.201.17:2
icmp	208.165.200.225:3	182.168.1.20:3	208.165.201.17:3	208.165.201.17:3
icmp	208.165.200.225:4	182.168.1.20:4	208.165.201.17:4	208.165.201.17:4
icmp	208.165.200.225:5	182.168.1.20:5	208.165.201.17:5	208.165.201.17:5
---	208.165.200.225	182.168.1.20	---	---
tcp	208.165.200.225:1025	182.168.1.20:1025	182.31.7.1:23	182.31.7.1:23

Gateway#show ip nat statistics

Total translations: 2 (1 static, 1 dynamic, 1 extended)

Outside Interfaces: Serial0/0/1

Inside Interfaces: GigabitEthernet0/1

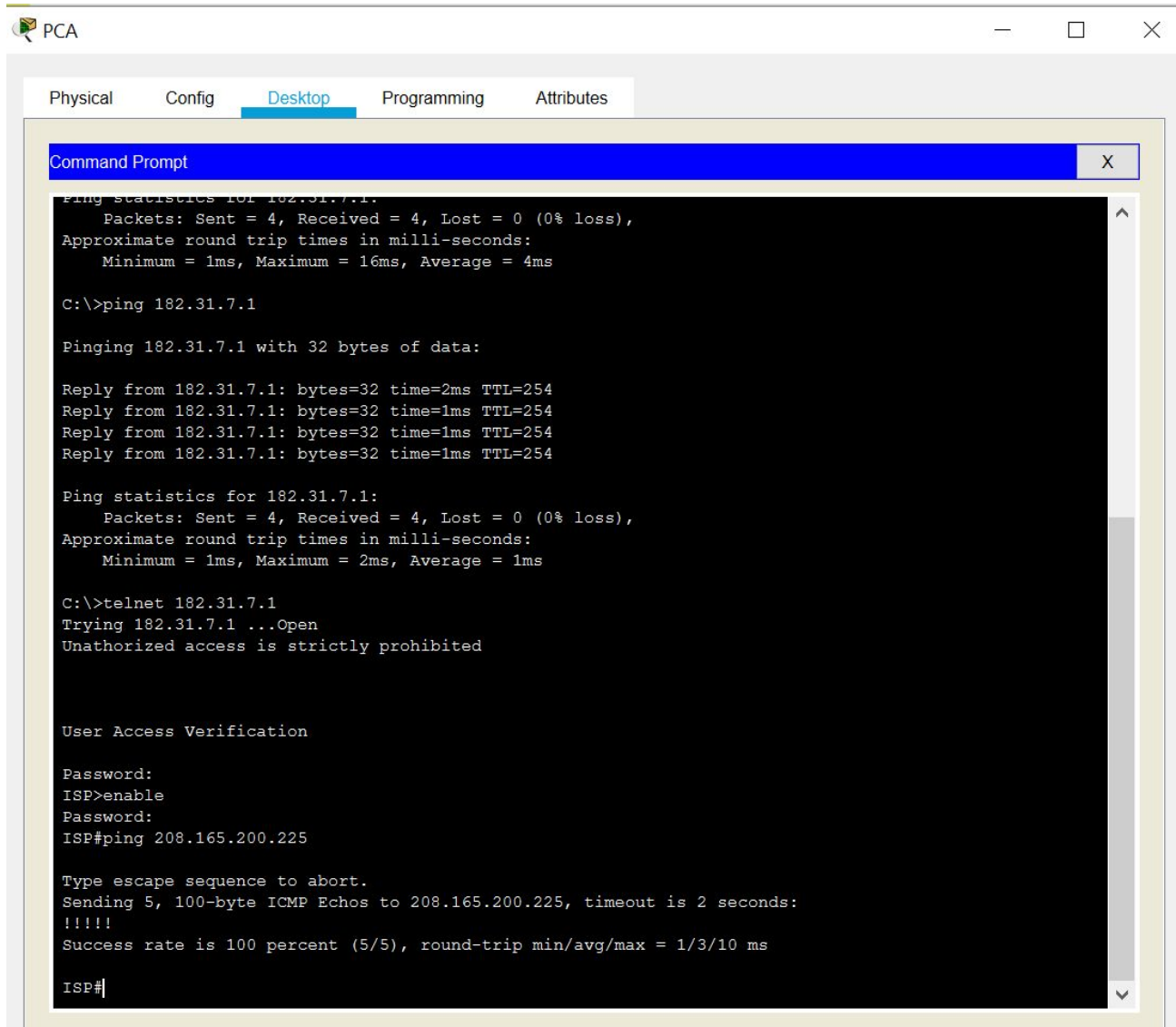
Hits: 158 Misses: 18

Expired translations: 17

Dynamic mappings:

Gateway#

And shown below is the output of the ISP when we ping 208.165.200.225



The screenshot shows a Packet Capture Analyzer (PCA) window with a title bar containing a logo and the text "PCA". The window has a menu bar with "Physical", "Config", "Desktop" (selected), "Programming", and "Attributes". The main content area displays a command prompt window titled "Command Prompt" with a blue title bar and a close button. The command prompt shows the following text:

```
Ping statistics for 182.31.7.1:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 1ms, Maximum = 16ms, Average = 4ms  
  
C:\>ping 182.31.7.1  
  
Pinging 182.31.7.1 with 32 bytes of data:  
  
Reply from 182.31.7.1: bytes=32 time=2ms TTL=254  
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254  
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254  
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254  
  
Ping statistics for 182.31.7.1:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 1ms, Maximum = 2ms, Average = 1ms  
  
C:\>telnet 182.31.7.1  
Trying 182.31.7.1 ...Open  
Unauthorized access is strictly prohibited  
  
User Access Verification  
  
Password:  
ISP>enable  
Password:  
ISP#ping 208.165.200.225  
  
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 208.165.200.225, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/3/10 ms  
ISP#
```


IOS Command Line Interface

```
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

Unauthorized access is strictly prohibited

User Access Verification

Password:

ISP>enable
Password:
ISP#ping 208.165.200.225

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 208.165.200.225, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/7/12 ms

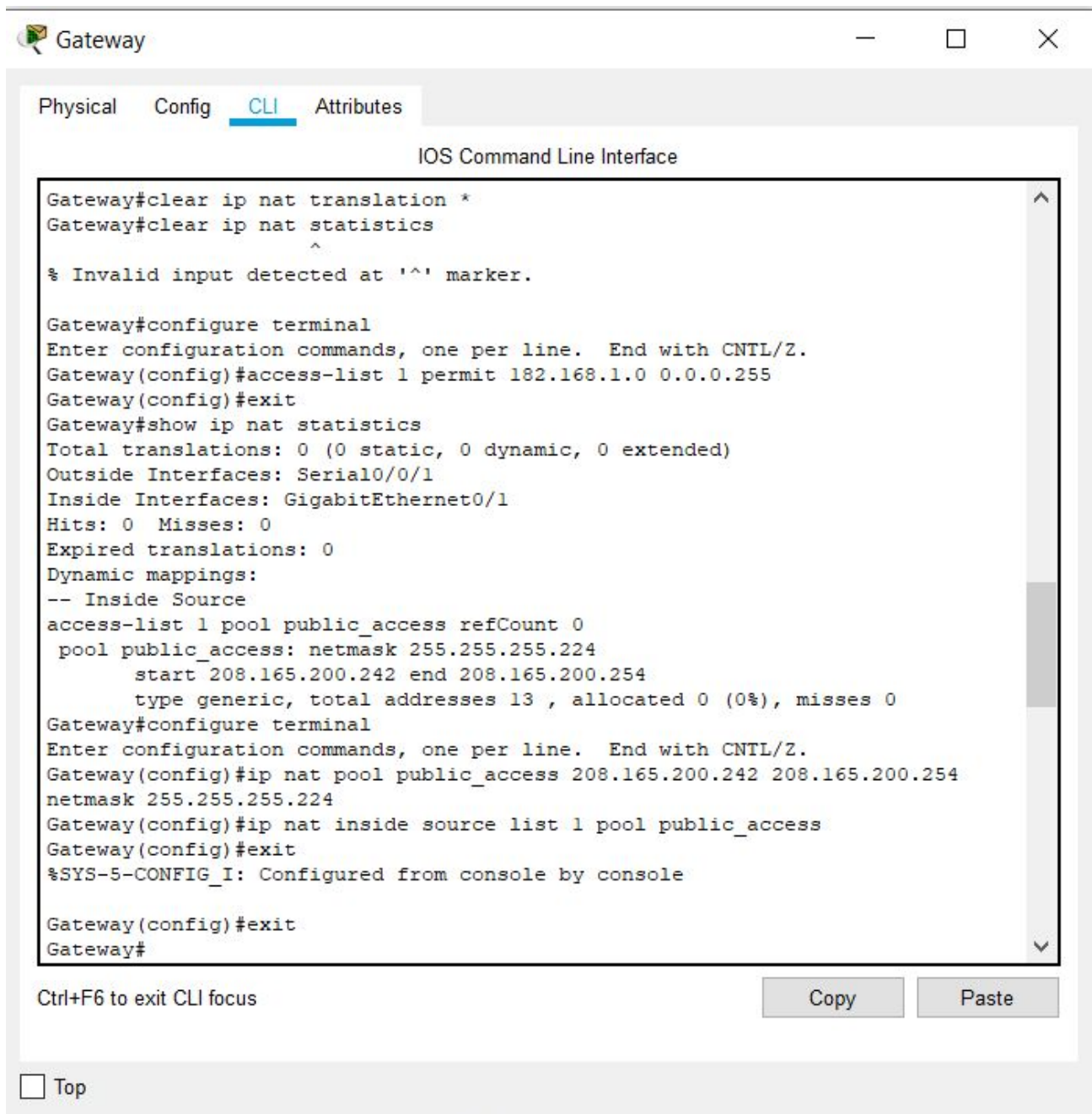
ISP#ping 208.165.200.225

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 208.165.200.225, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/3/8 ms

ISP#
```

TASK 3:

- 1)clear ip nat translation *
clear ip nat statistics
- 2)access-list 1 permit 182.168.1.0 0.0.0.255
- 3)show ip nat statistics
- 4)ip nat pool public_access 208.165.200.242 208.165.200.254 netmask 255.255.255.224
- 5)ip nat inside source list 1 pool public_access



The screenshot shows a window titled "Gateway" with a tabbed interface. The "CLI" tab is active, displaying the "IOS Command Line Interface". The terminal text is as follows:

```
Gateway#clear ip nat translation *
Gateway#clear ip nat statistics
^
% Invalid input detected at '^' marker.

Gateway#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#access-list 1 permit 182.168.1.0 0.0.0.255
Gateway(config)#exit
Gateway#show ip nat statistics
Total translations: 0 (0 static, 0 dynamic, 0 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 0 Misses: 0
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool public_access refCount 0
 pool public_access: netmask 255.255.255.224
   start 208.165.200.242 end 208.165.200.254
   type generic, total addresses 13 , allocated 0 (0%), misses 0
Gateway#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#ip nat pool public_access 208.165.200.242 208.165.200.254
netmask 255.255.255.224
Gateway(config)#ip nat inside source list 1 pool public_access
Gateway(config)#exit
%SYS-5-CONFIG_I: Configured from console by console


Gateway(config)#exit
Gateway#
```

Below the terminal window, there is a status bar with the text "Ctrl+F6 to exit CLI focus" on the left and two buttons, "Copy" and "Paste", on the right. At the bottom left of the window, there is a checkbox labeled "Top".

6)show ip nat translations

7)show ip nat statistics

8)no ip nat inside source static 182.168.1.20 208.165.200.225

 Gateway — □ ×

Physical Config CLI Attributes

IOS Command Line Interface

```
netmask 255.255.255.224
Gateway(config)#ip nat inside source list 1 pool public_access
Gateway(config)#exit
%SYS-5-CONFIG_I: Configured from console by console

Gateway(config)#exit
Gateway#
%SYS-5-CONFIG_I: Configured from console by console

Gateway#show ip nat translations
Pro  Inside global      Inside local      Outside local      Outside global
icmp 208.165.200.242:1 182.168.1.21:1    182.31.7.1:1       182.31.7.1:1
icmp 208.165.200.242:2 182.168.1.21:2    182.31.7.1:2       182.31.7.1:2
icmp 208.165.200.242:3 182.168.1.21:3    182.31.7.1:3       182.31.7.1:3
icmp 208.165.200.242:4 182.168.1.21:4    182.31.7.1:4       182.31.7.1:4

Gateway#show ip nat statistics
Total translations: 4 (0 static, 4 dynamic, 4 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 4 Misses: 4
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool public_access refCount 4
  pool public_access: netmask 255.255.255.224
    start 208.165.200.242 end 208.165.200.254
    type generic, total addresses 13 , allocated 1 (7%), misses 0
Gateway#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#no ip nat inside source static 182.168.1.20 208.165.200.225
```

Ctrl+F6 to exit CLI focus Copy Paste

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- 9)clear ip nat translation *
- 10)show ip nat statistics
- 11)show ip nat translations

Gateway

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
%Translation not found
Gateway(config)#
Gateway(config)#exit
Gateway#clear ip nat translation *
%SYS-5-CONFIG_I: Configured from console by console

Gateway#clear ip nat translation *
Gateway#show ip nat statistics
Total translations: 8 (0 static, 8 dynamic, 8 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 12 Misses: 12
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool public_access refCount 8
  pool public_access: netmask 255.255.255.224
    start 208.165.200.242 end 208.165.200.254
    type generic, total addresses 13 , allocated 2 (15%), misses 0
Gateway#show ip nat translations
Pro  Inside global      Inside local      Outside local      Outside global
icmp 208.165.200.242:1 182.168.1.20:1    182.31.7.1:1       182.31.7.1:1
icmp 208.165.200.242:2 182.168.1.20:2    182.31.7.1:2       182.31.7.1:2
icmp 208.165.200.242:3 182.168.1.20:3    182.31.7.1:3       182.31.7.1:3
icmp 208.165.200.242:4 182.168.1.20:4    182.31.7.1:4       182.31.7.1:4
icmp 208.165.200.243:5 182.168.1.21:5    182.31.7.1:5       182.31.7.1:5
icmp 208.165.200.243:6 182.168.1.21:6    182.31.7.1:6       182.31.7.1:6
icmp 208.165.200.243:7 182.168.1.21:7    182.31.7.1:7       182.31.7.1:7
icmp 208.165.200.243:8 182.168.1.21:8    182.31.7.1:8       182.31.7.1:8

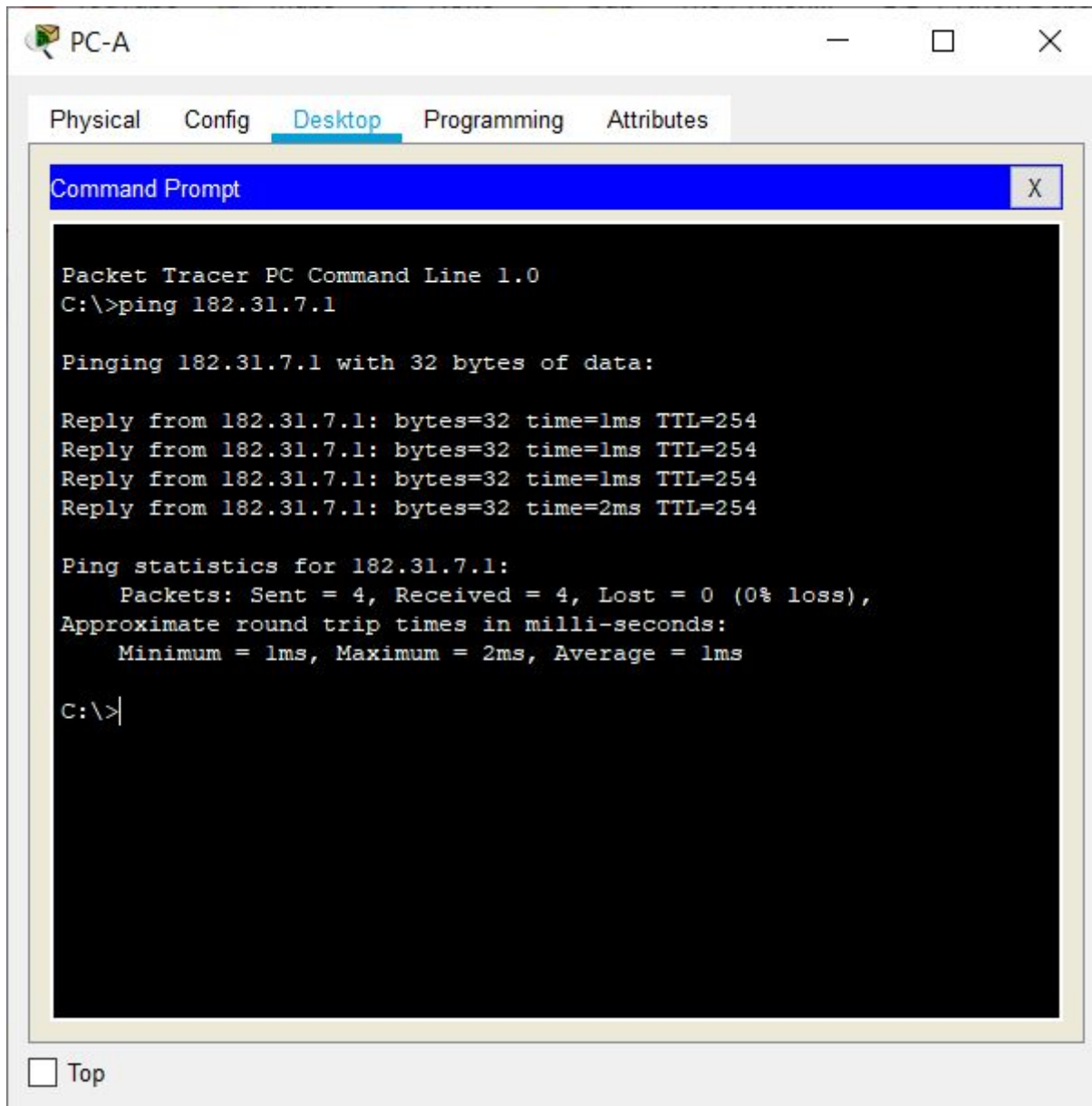
Gateway#
```

Ctrl+F6 to exit CLI focus

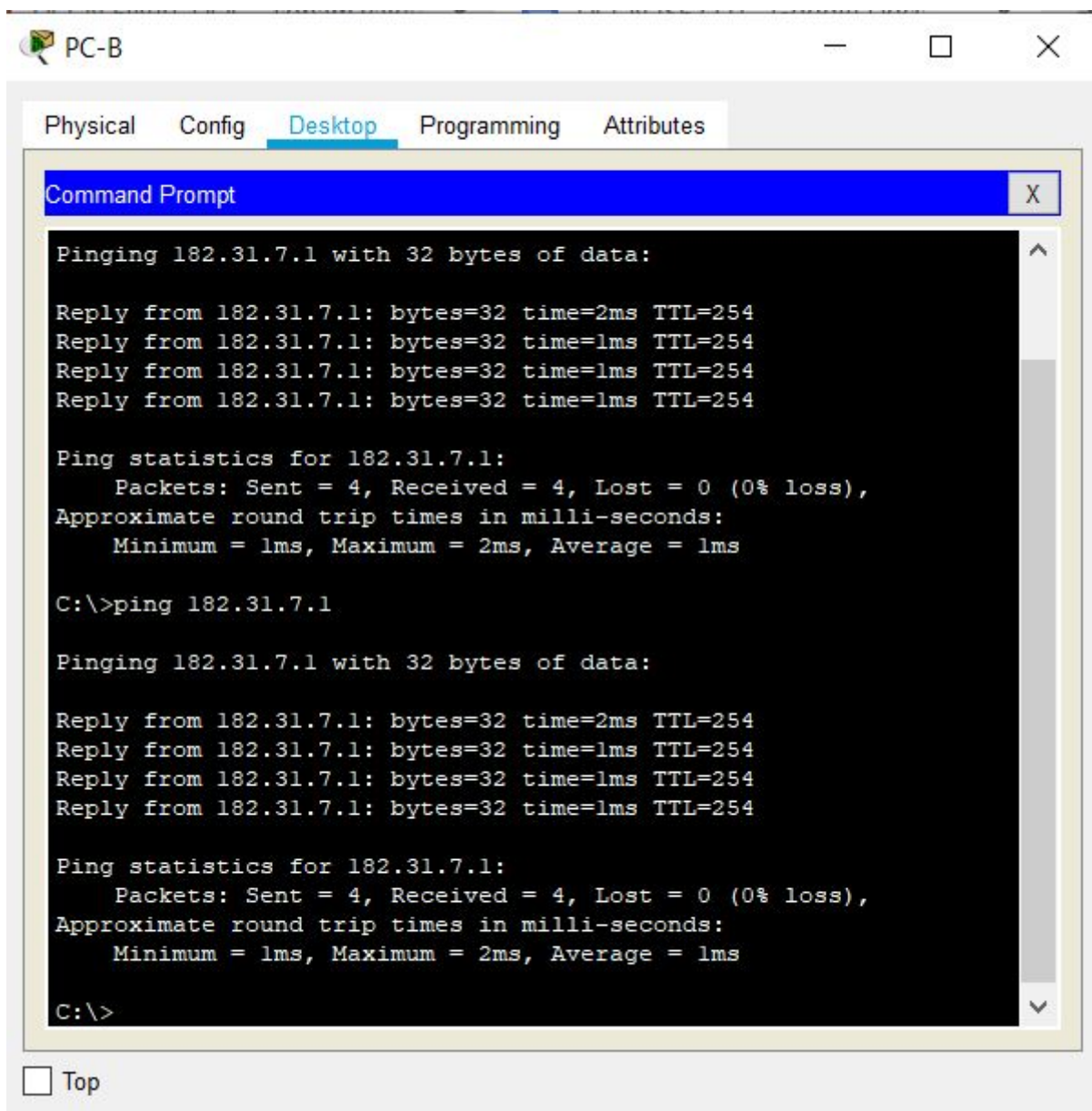
CopyPaste

☐ Top

ping 182.31.7.1 from PC-A:



ping 182.31.7.1 from PC-B:



The screenshot shows a window titled "PC-B" with a tabbed interface. The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the results of a ping command to 182.31.7.1. The output includes four successful replies and ping statistics showing 0% loss.

```
Physical  Config  Desktop  Programming  Attributes

Command Prompt

Pinging 182.31.7.1 with 32 bytes of data:

Reply from 182.31.7.1: bytes=32 time=2ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>ping 182.31.7.1

Pinging 182.31.7.1 with 32 bytes of data:

Reply from 182.31.7.1: bytes=32 time=2ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>
```

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