

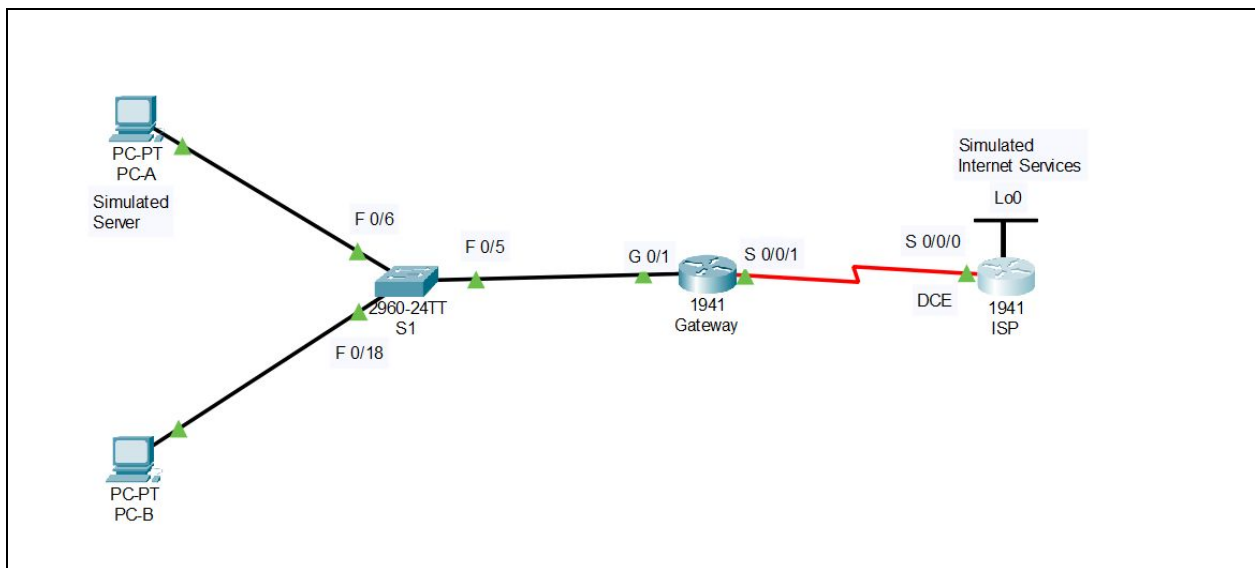
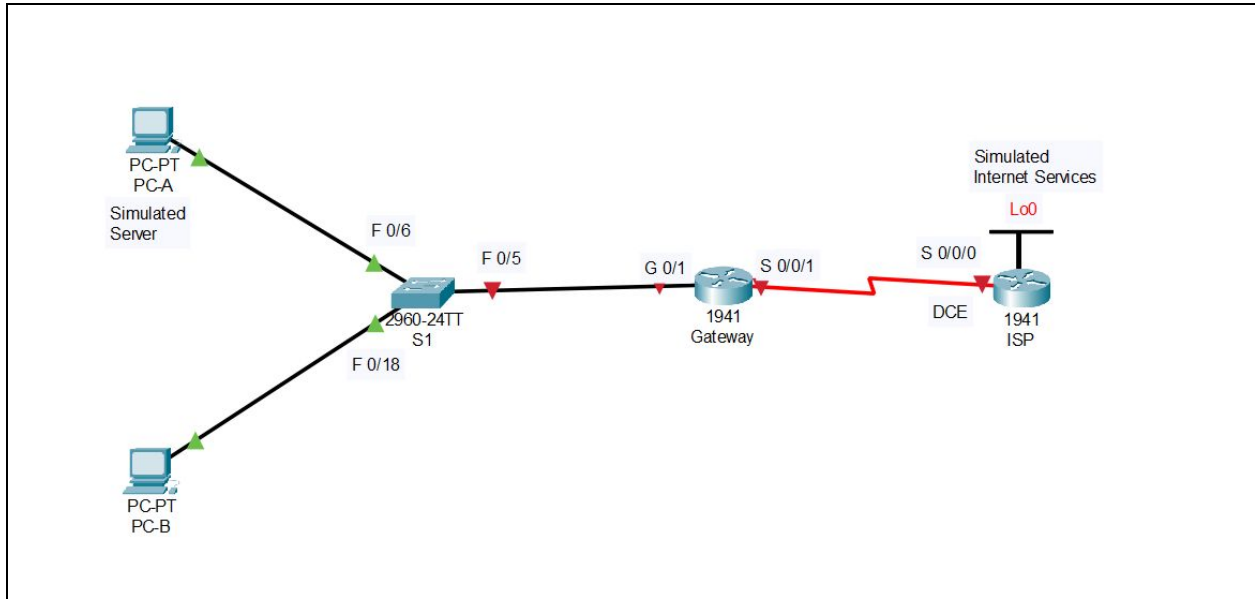
DCCN ISE 2

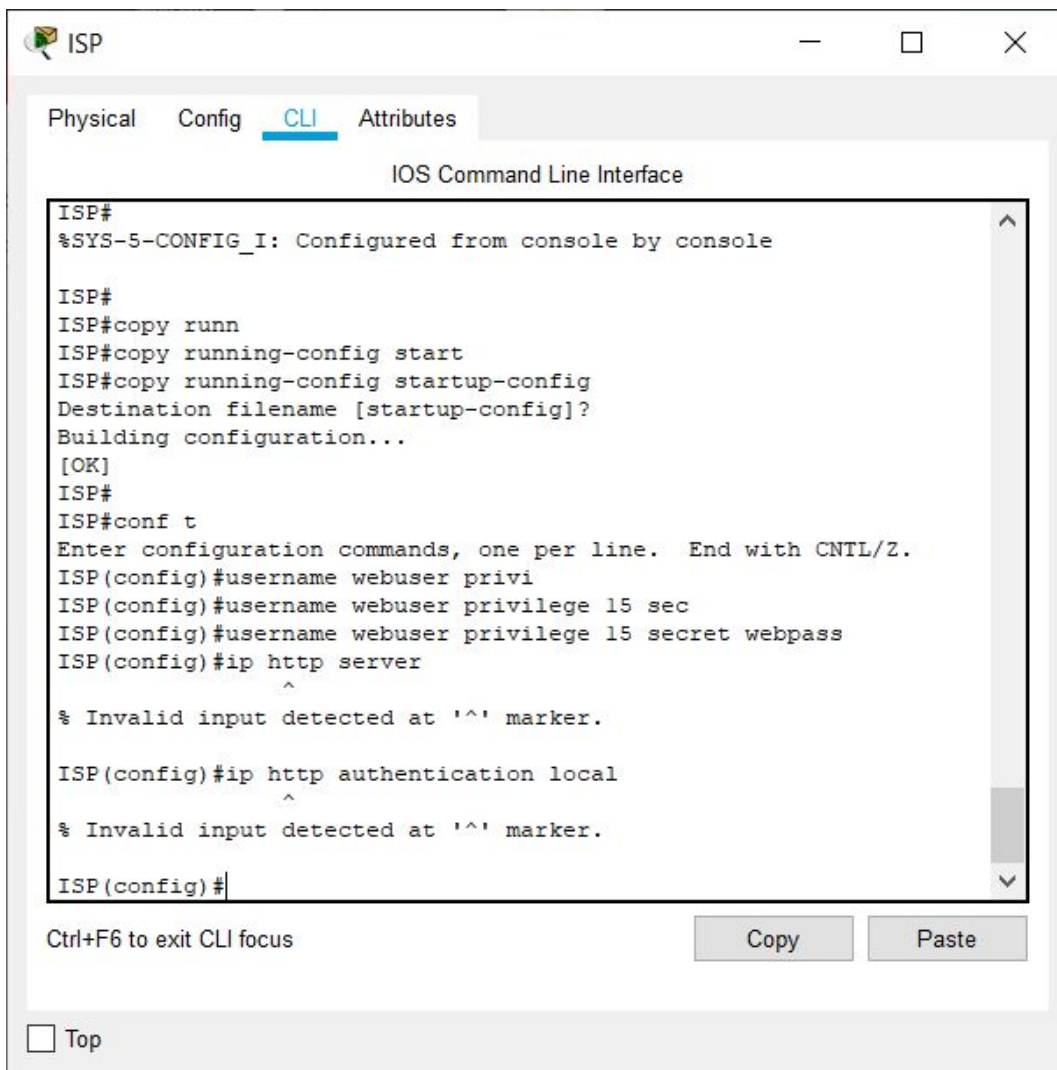
Ashutosh Naik -2018130030

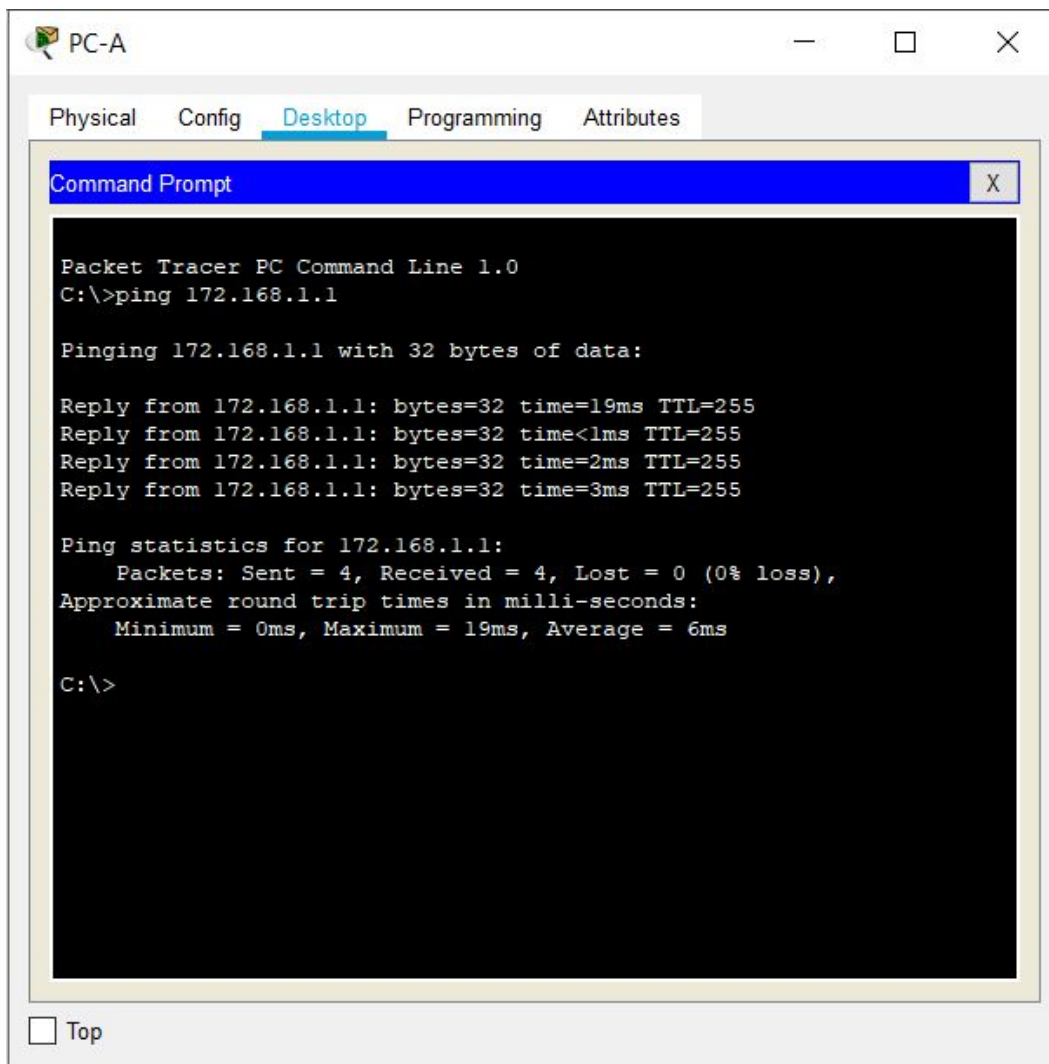
Rohit Pai - 2018130033

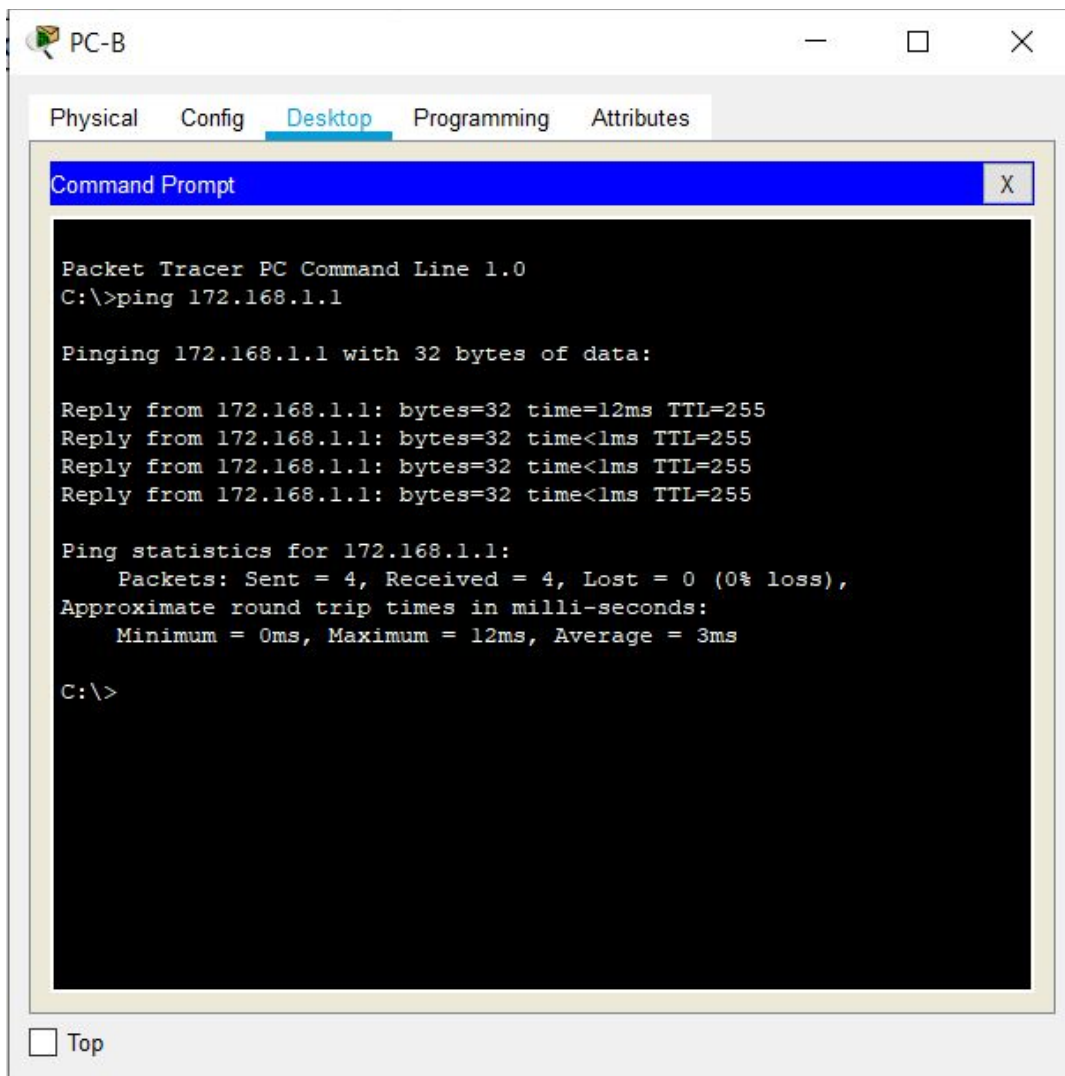
Harsh Sandesara - 2018130045


Task 1:









 Gateway

Physical Config CLI Attributes

IOS Command Line Interface

```
Gateway#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Gateway#sh ip route
Codes: L - local, C - connected, S - static, 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 210.185.201.17 to network 0.0.0.0


    172.168.0.0/16 is variably subnetted, 2 subnets, 2 masks
C       172.168.1.0/24 is directly connected, GigabitEthernet0/1
L       172.168.1.1/32 is directly connected, GigabitEthernet0/1
    210.185.201.0/24 is variably subnetted, 2 subnets, 2 masks
C       210.185.201.16/30 is directly connected, Serial0/0/1
L       210.185.201.18/32 is directly connected, Serial0/0/1
S*    0.0.0.0/0 [1/0] via 210.185.201.17

Gateway#
```

Ctrl+F6 to exit CLI focus

CopyPaste

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 ISP

Physical Config CLI Attributes

IOS Command Line Interface

```
ISP#copy running-config start
ISP#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
ISP#sh ip route
Codes: L - local, C - connected, S - static, 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

    172.31.0.0/32 is subnetted, 1 subnets
C      172.31.7.1/32 is directly connected, Loopback0
    210.185.200.0/27 is subnetted, 1 subnets
S      210.185.200.224/27 [1/0] via 210.185.201.18
    210.185.201.0/24 is variably subnetted, 2 subnets, 2 masks
C      210.185.201.16/30 is directly connected, Serial0/0/0
L      210.185.201.17/32 is directly connected, Serial0/0/0

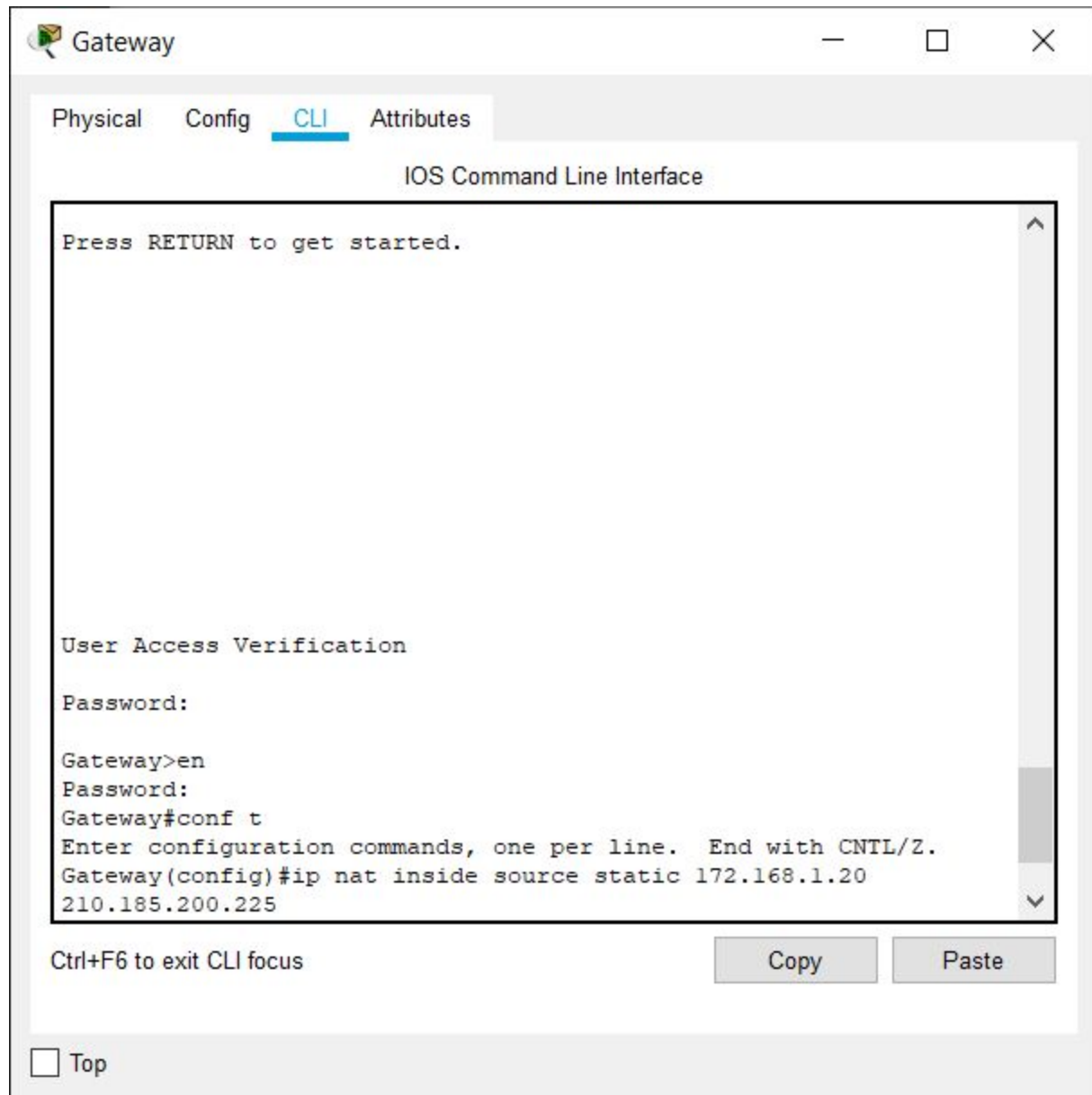
ISP#
```

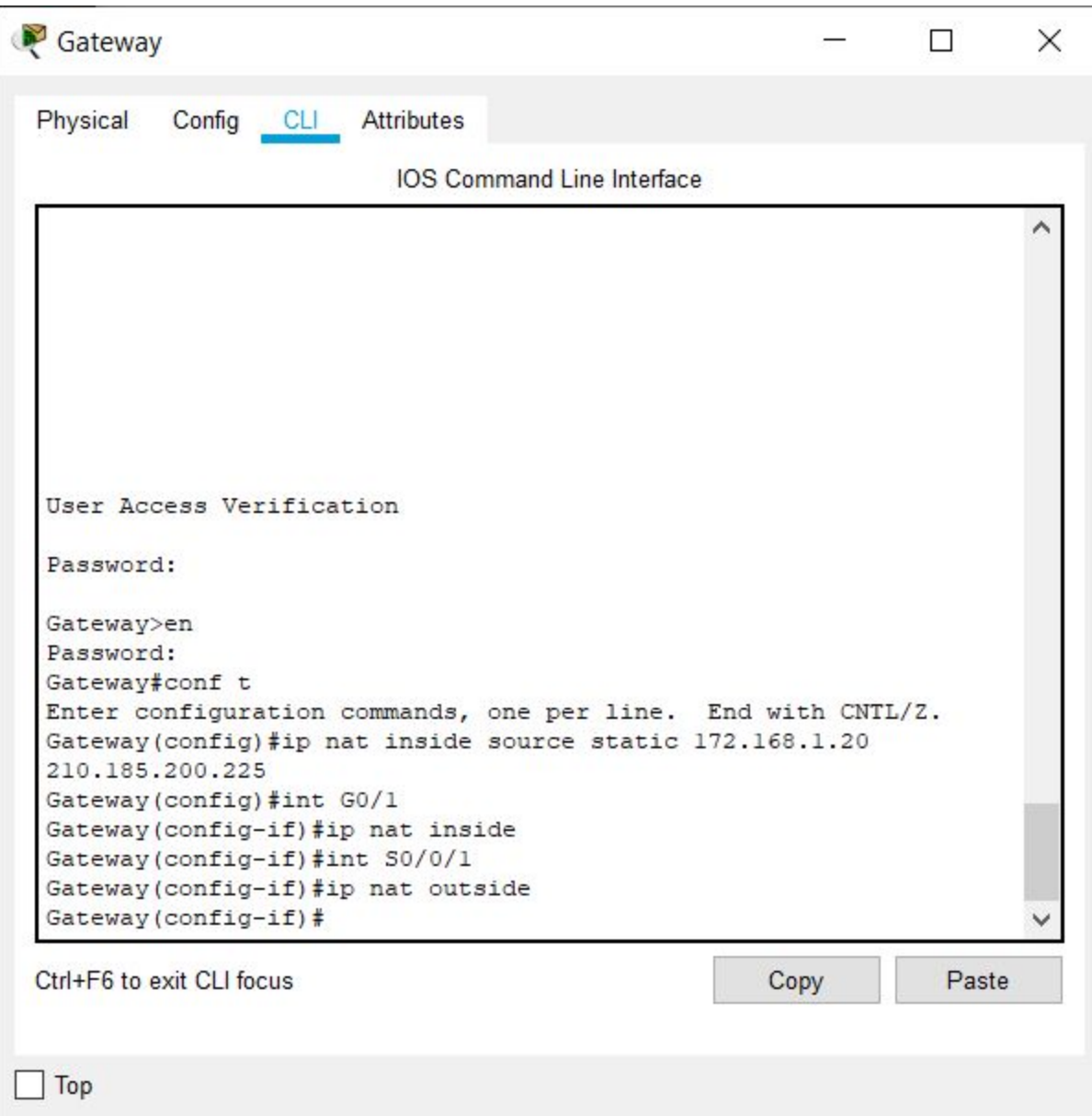
Ctrl+F6 to exit CLI focus

Copy Paste

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Task 2:





The screenshot shows a web-based interface for a Gateway device. At the top, there are tabs for 'Physical', 'Config', 'CLI' (which is selected), and 'Attributes'. Below the tabs, the title 'IOS Command Line Interface' is displayed. The main area contains a text box with the following text:

```
Gateway(config)#ip nat inside source static 172.168.1.20
210.185.200.225
Gateway(config)#int G0/1
Gateway(config-if)#ip nat inside
Gateway(config-if)#int S0/0/1
Gateway(config-if)#ip nat outside
Gateway(config-if)#exit
^
% Invalid input detected at '^' marker.

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

Gateway#show ip nat translations
^
% Invalid input detected at '^' marker.

Gateway#show ip nat translations
Pro  Inside global      Inside local      Outside local
-----
Outside global
---  210.185.200.225      172.168.1.20      ---              ---

Gateway#
```

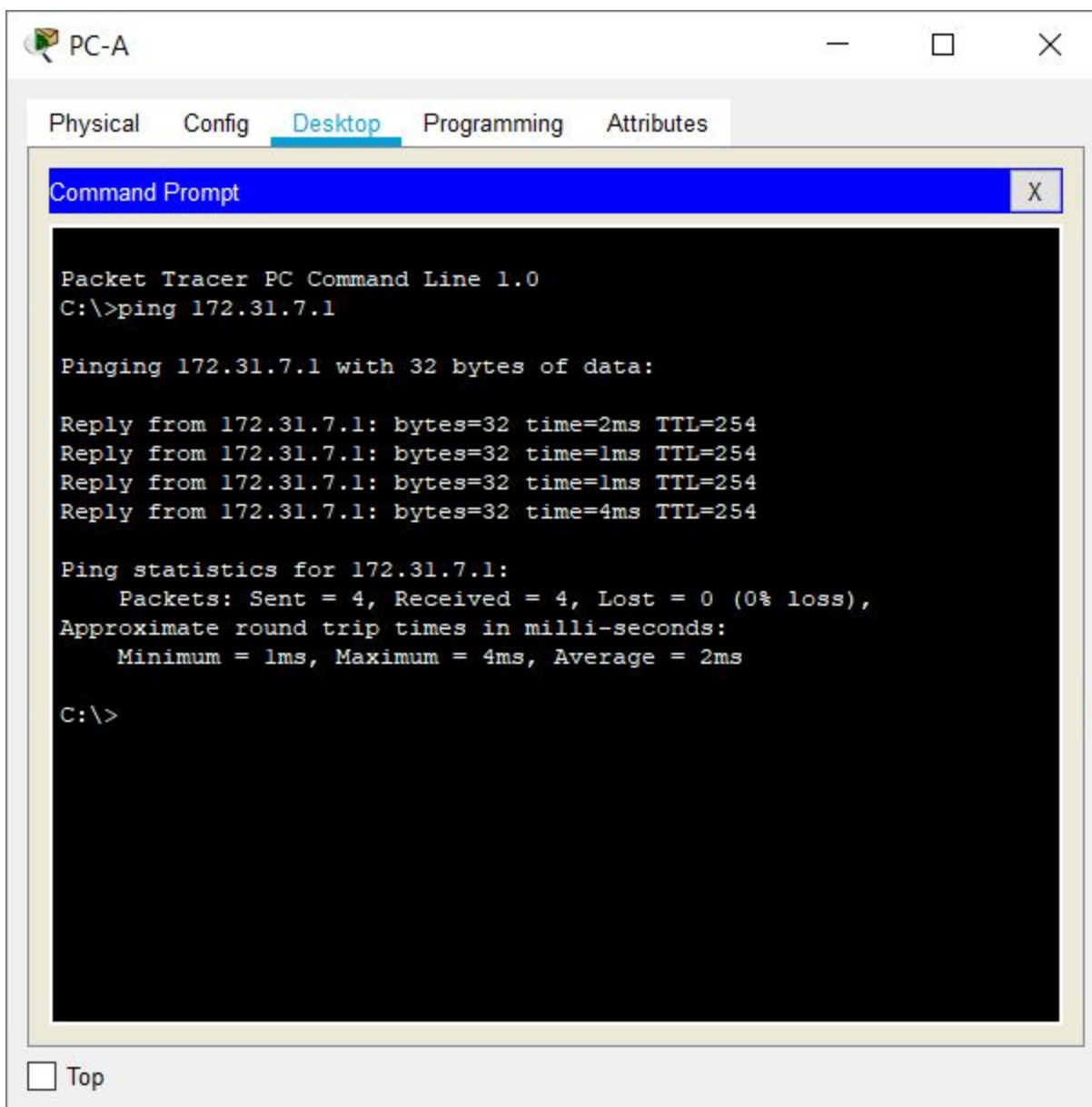
Below the text box, there is a message 'Ctrl+F6 to exit CLI focus' and two buttons: 'Copy' and 'Paste'. At the bottom left, there is a checkbox labeled 'Top'.

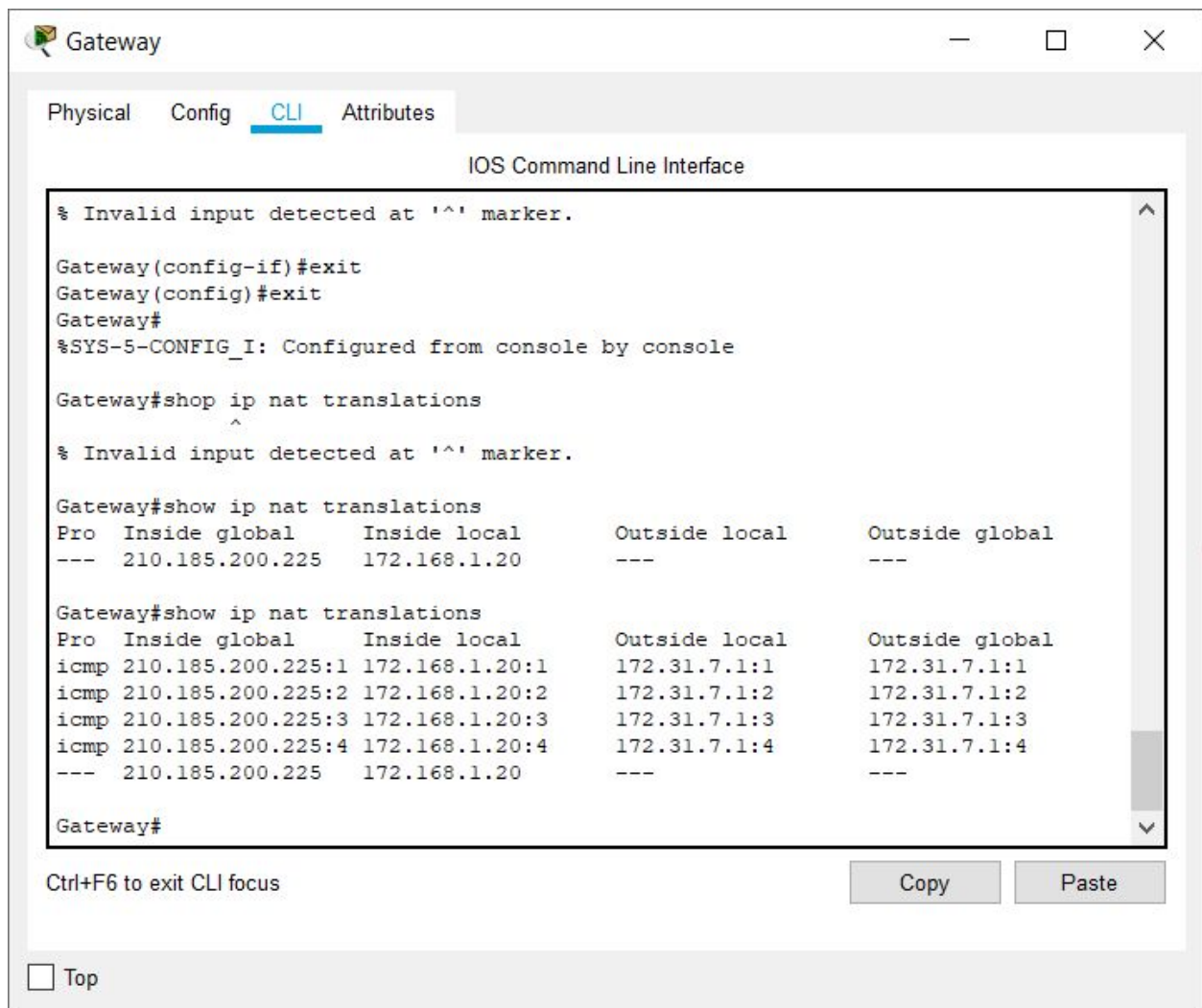
What is the translation of the inside local host address?

172.168.1.20 = **210.185.200.225**

The inside global address is assigned by? **ISP (Static) and NAT Pool (Dynamic)**

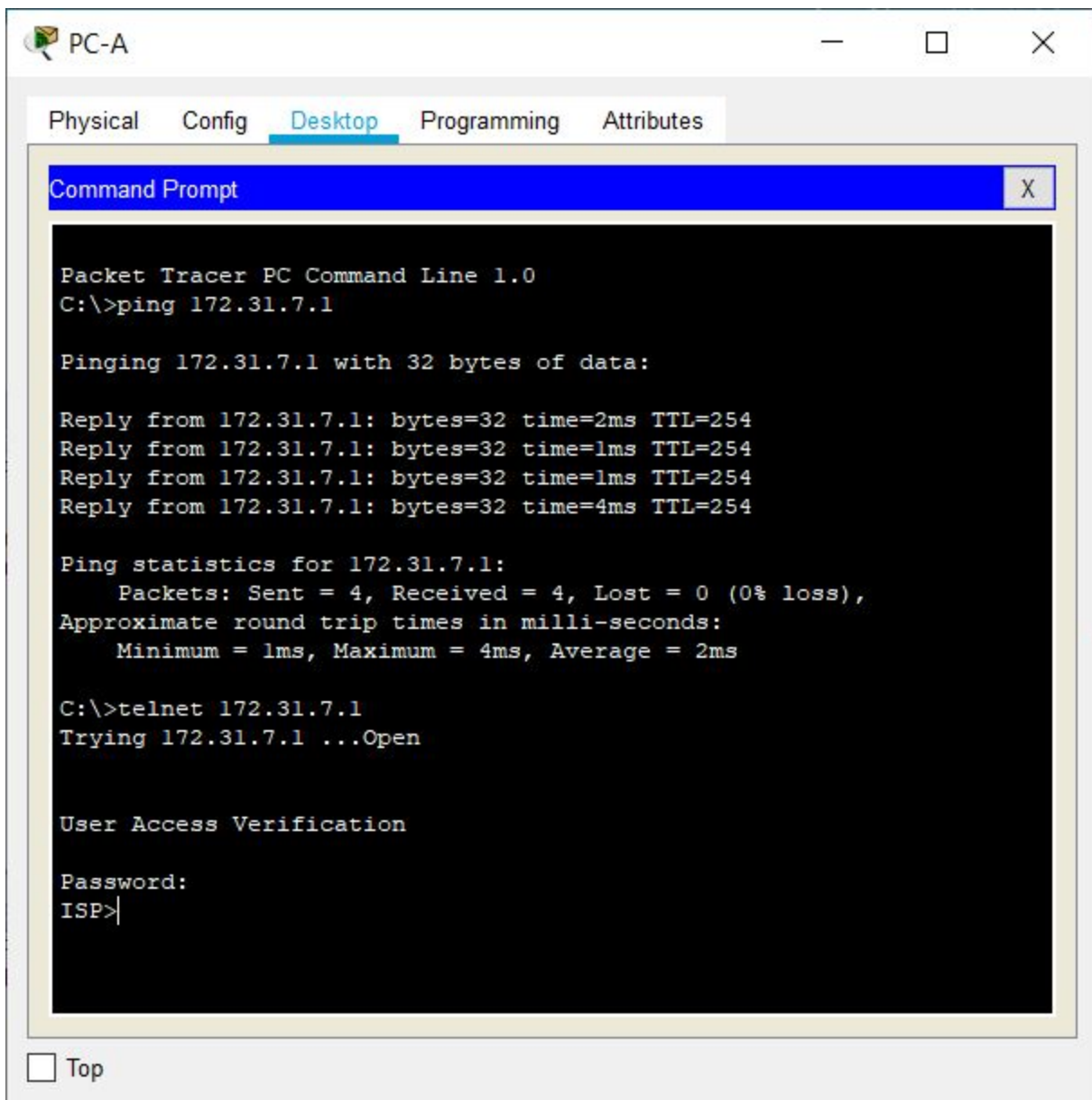
The inside local address is assigned by? **System Administrator**





What port number was used in this ICMP exchange?

4 port numbers were used for 4 ICMP exchanges for 4 pings. They are 1, 2, 3, and 4.



Gateway

Physical
Config
CLI
Attributes

IOS Command Line Interface

Pro	Inside global	Inside local	Outside local
Outside global			
---	210.185.200.225	172.168.1.20	---

```

Gateway#show ip nat translations
Pro Inside global      Inside local      Outside local
Outside global
icmp 210.185.200.225:1 172.168.1.20:1    172.31.7.1:1
172.31.7.1:1
icmp 210.185.200.225:2 172.168.1.20:2    172.31.7.1:2
172.31.7.1:2
icmp 210.185.200.225:3 172.168.1.20:3    172.31.7.1:3
172.31.7.1:3
icmp 210.185.200.225:4 172.168.1.20:4    172.31.7.1:4
172.31.7.1:4
---

```

```

Gateway#show ip nat translations
Pro Inside global      Inside local      Outside local
Outside global
---

```

```

tcp 210.185.200.225:1025 172.168.1.20:1025 172.31.7.1:23
172.31.7.1:23
Gateway#

```

Ctrl+F6 to exit CLI focus

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What was the protocol used in this translation? **TCP**

What are the port numbers used?

Inside global/local: **1025**

Outside global/local: **23**

 ISP

Physical

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IOS Command Line Interface

Press RETURN to get started!

%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

User Access Verification

Password:

ISP>ping 210.185.200.225

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 210.185.200.225, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms

ISP>

Ctrl+F6 to exit CLI focus

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IOS Command Line Interface

User Access Verification

Password:

Gateway>en

Password:

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
icmp	210.185.200.225:1	172.168.1.20:1	210.185.201.17:1	210.185.201.17:1
icmp	210.185.200.225:2	172.168.1.20:2	210.185.201.17:2	210.185.201.17:2
icmp	210.185.200.225:3	172.168.1.20:3	210.185.201.17:3	210.185.201.17:3
icmp	210.185.200.225:4	172.168.1.20:4	210.185.201.17:4	210.185.201.17:4
icmp	210.185.200.225:5	172.168.1.20:5	210.185.201.17:5	210.185.201.17:5
---	210.185.200.225	172.168.1.20	---	---
tcp	210.185.200.225:1025	172.168.1.20:1025	172.31.7.1:23	172.31.7.1:23

Gateway#

Ctrl+F6 to exit CLI focus

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Gateway

PhysicalConfigCLIAttributes

IOS Command Line Interface

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
icmp	210.185.200.225:1	172.168.1.20:1	210.185.201.17:1	210.185.201.17:1
icmp	210.185.200.225:2	172.168.1.20:2	210.185.201.17:2	210.185.201.17:2
icmp	210.185.200.225:3	172.168.1.20:3	210.185.201.17:3	210.185.201.17:3
icmp	210.185.200.225:4	172.168.1.20:4	210.185.201.17:4	210.185.201.17:4
icmp	210.185.200.225:5	172.168.1.20:5	210.185.201.17:5	210.185.201.17:5
---	210.185.200.225	172.168.1.20	---	---
tcp	210.185.200.225:1025	172.168.1.20:1025	172.31.7.1:23	172.31.7.1:23

Gateway#show ip nat statistics

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

Outside Interfaces: Serial0/0/1

Inside Interfaces: GigabitEthernet0/1

Hits: 36 Misses: 10

Expired translations: 9

Dynamic mappings:

Gateway#

Ctrl+F6 to exit CLI focus

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Task 3:

Gateway

Physical

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IOS Command Line Interface

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco CISCO1941/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
2 Gigabit Ethernet interfaces
2 Low-speed serial(sync/async) network interface(s)
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up

User Access Verification

Password:

Gateway>en

Password:

Gateway#clear ip nat translation *

Gateway#clear ip nat statistics

% Invalid input detected at '^' marker.

Gateway#clear ip nat s

Gateway#clear ip nat s

Gateway#

Ctrl+F6 to exit CLI focus

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IOS Command Line Interface

DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up

User Access Verification

Password:

Gateway>en

Password:

Gateway#clear ip nat translation *

Gateway#clear ip nat statistics

% Invalid input detected at '^' marker.

Gateway#clear ip nat s

Gateway#clear ip nat s

Gateway#access-list 1 permit 172.168.1.0 0.0.0.255

% Invalid input detected at '^' marker.

Gateway#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Gateway(config)#access-list 1 permit 172.168.1.0 0.0.0.255

Gateway(config)#

Ctrl+F6 to exit CLI focus

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Gateway

PhysicalConfigCLIAttributes

IOS Command Line Interface

User Access Verification

Password:

Gateway>en

Password:

Gateway#clear ip nat translation *

Gateway#clear ip nat statistics

% Invalid input detected at '^' marker.

Gateway#clear ip nat s

Gateway#clear ip nat s

Gateway#access-list 1 permit 172.168.1.0 0.0.0.255

% Invalid input detected at '^' marker.

Gateway#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Gateway(config)#access-list 1 permit 172.168.1.0 0.0.0.255

Gateway(config)#show ip nat statistics

% Invalid input detected at '^' marker.

Gateway(config)#^Z

Gateway#

%SYS-5-CONFIG_I: Configured from console by console

Gateway#show ip nat statistics

Total translations: 1 (1 static, 0 dynamic, 0 extended)

Outside Interfaces: Serial0/0/1

Inside Interfaces: GigabitEthernet0/1

Hits: 0 Misses: 0

Expired translations: 0

Dynamic mappings:

Gateway#

Ctrl+F6 to exit CLI focus

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IOS Command Line Interface

```
^
% Invalid input detected at '^' marker.

Gateway#clear ip nat s
Gateway#clear ip nat s
Gateway#access-list 1 permit 172.168.1.0 0.0.0.255
^
% Invalid input detected at '^' marker.

Gateway#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#access-list 1 permit 172.168.1.0 0.0.0.255
Gateway(config)#show ip nat statistics
^
% Invalid input detected at '^' marker.

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

Gateway#show ip nat statistics
Total translations: 1 (1 static, 0 dynamic, 0 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 0 Misses: 0
Expired translations: 0
Dynamic mappings:
Gateway#conf t
Translating "conf t"
% Unknown command or computer name, or unable to find computer address

Gateway#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#ip nat pool public_access 210.185.200.242
% Incomplete command.
Gateway(config)#ip nat pool public_access 210.185.200.242 210.185.200.254 netmask 255.255.255.224
Gateway(config)#
```

Ctrl+F6 to exit CLI focus

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Gateway

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
% Invalid input detected at '^' marker.

Gateway#clear ip nat s
Gateway#clear ip nat s
Gateway#access-list 1 permit 172.168.1.0 0.0.0.255
^
% Invalid input detected at '^' marker.

Gateway#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#access-list 1 permit 172.168.1.0 0.0.0.255
Gateway(config)#show ip nat statistics
^
% Invalid input detected at '^' marker.

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

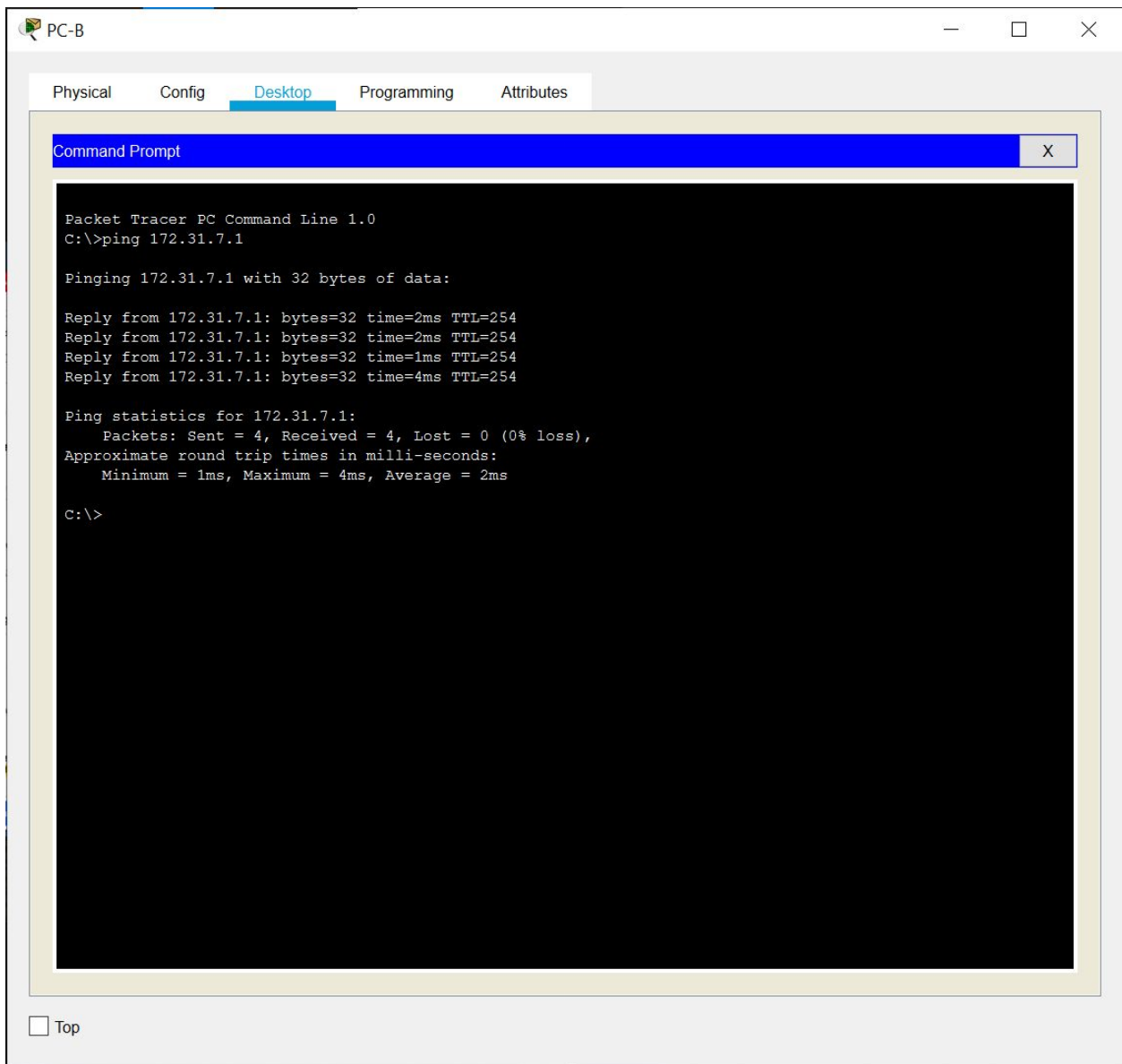
Gateway#show ip nat statistics
Total translations: 1 (1 static, 0 dynamic, 0 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 0 Misses: 0
Expired translations: 0
Dynamic mappings:
Gateway#conf t
Translating "conf t"
% Unknown command or computer name, or unable to find computer address

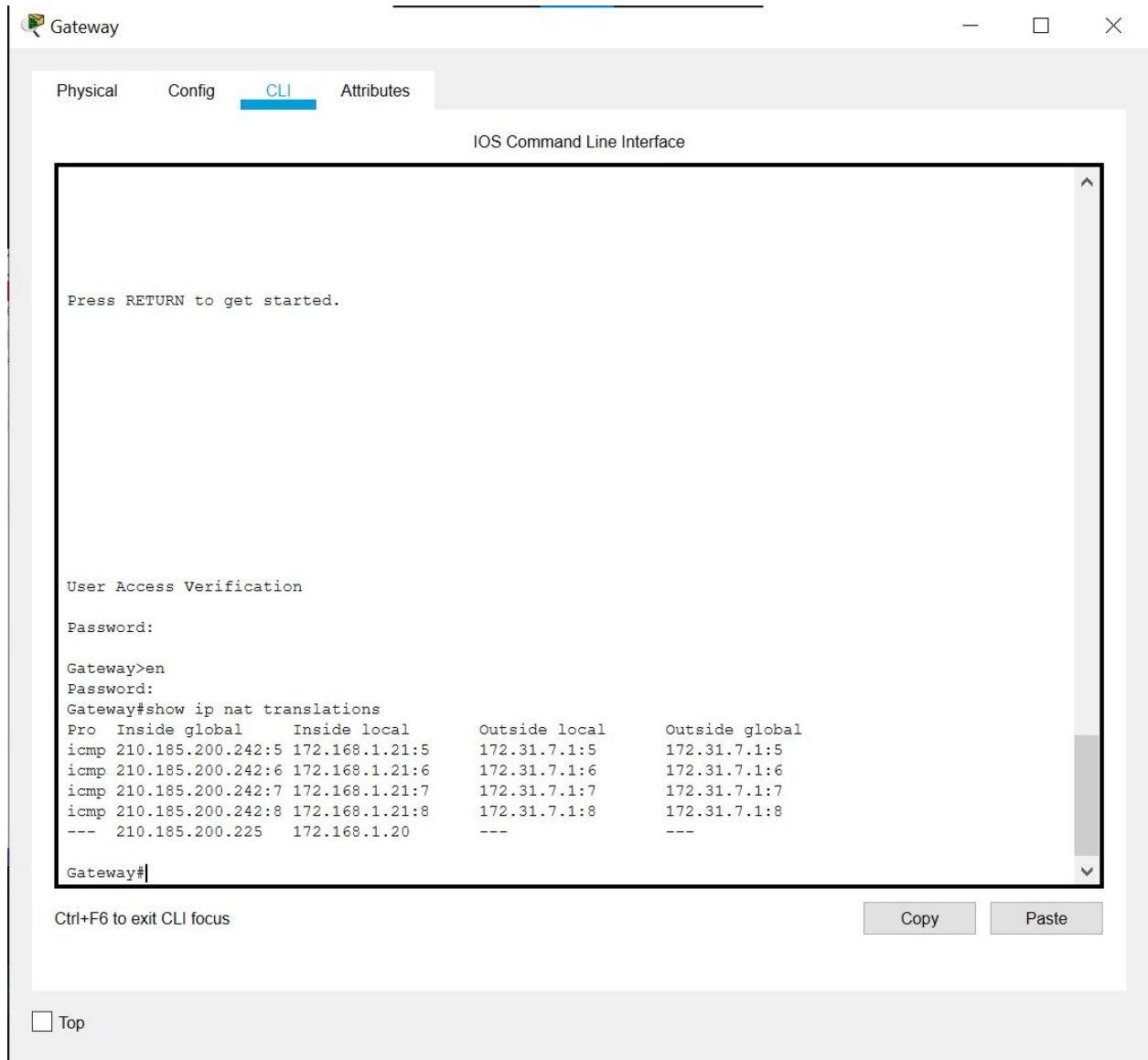
Gateway#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#ip nat pool public_access 210.185.200.242
% Incomplete command.
Gateway(config)#ip nat pool public_access 210.185.200.242 210.185.200.254 netmask 255.255.255.224
Gateway(config)#ip nat inside source list 1 pool public_access
Gateway(config)#
```

Ctrl+F6 to exit CLI focus

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What is the translation of the inside local host address for PC-B?

172.168.1.21 = **210.185.200.242**

What port number was used in this ICMP exchange?

4 port numbers were used for 4 ICMP exchanges for 4 pings. They are 5, 6, 7, and 8.



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IOS Command Line Interface

```
!  
ip flow-export version 9  
!  
!  
access-list 1 permit 172.168.1.0 0.0.0.255  
!  
!  
!  
!  
!  
line con 0  
  password 7 0822455D0A16  
  logging synchronous  
  login  
!  
line aux 0  
!  
line vty 0 4  
  password 7 0822455D0A16  
  login  
!  
!  
!  
end|  
  
Gateway#  
Gateway#  
Gateway#  
Gateway#  
Gateway#  
Gateway#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Gateway(config)#no ip nat inside source static 172.168.1.20 210.185.200.225
```

Ctrl+F6 to exit CLI focus

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Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.31.7.1

Pinging 172.31.7.1 with 32 bytes of data:

Reply from 172.31.7.1: bytes=32 time=2ms TTL=254
Reply from 172.31.7.1: bytes=32 time=6ms TTL=254
Reply from 172.31.7.1: bytes=32 time=1ms TTL=254
Reply from 172.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 172.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 6ms, Average = 2ms

c:\>|
```

Command Prompt

```
Reply from 172.31.7.1: bytes=32 time=2ms TTL=254
Reply from 172.31.7.1: bytes=32 time=1ms TTL=254
Reply from 172.31.7.1: bytes=32 time=4ms TTL=254

Ping statistics for 172.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 4ms, Average = 2ms

C:\>ping 172.31.7.1

Pinging 172.31.7.1 with 32 bytes of data:

Reply from 172.31.7.1: bytes=32 time=1ms TTL=254
Reply from 172.31.7.1: bytes=32 time=7ms TTL=254
Reply from 172.31.7.1: bytes=32 time=1ms TTL=254
Reply from 172.31.7.1: bytes=32 time=5ms TTL=254

Ping statistics for 172.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 7ms, Average = 3ms

C:\>ping 172.31.7.1

Pinging 172.31.7.1 with 32 bytes of data:

Reply from 172.31.7.1: bytes=32 time=1ms TTL=254
Reply from 172.31.7.1: bytes=32 time=1ms TTL=254
Reply from 172.31.7.1: bytes=32 time=7ms TTL=254
Reply from 172.31.7.1: bytes=32 time=2ms TTL=254

Ping statistics for 172.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 7ms, Average = 2ms

C:\>|
```

IOS Command Line Interface

Press RETURN to get started.

User Access Verification

Password:

Password:

Gateway>en

Password:

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
icmp	210.185.200.243:13	172.168.1.21:13	172.31.7.1:13	172.31.7.1:13
icmp	210.185.200.243:14	172.168.1.21:14	172.31.7.1:14	172.31.7.1:14
icmp	210.185.200.243:15	172.168.1.21:15	172.31.7.1:15	172.31.7.1:15
icmp	210.185.200.243:16	172.168.1.21:16	172.31.7.1:16	172.31.7.1:16
icmp	210.185.200.244:5	172.168.1.20:5	172.31.7.1:5	172.31.7.1:5
icmp	210.185.200.244:6	172.168.1.20:6	172.31.7.1:6	172.31.7.1:6
icmp	210.185.200.244:7	172.168.1.20:7	172.31.7.1:7	172.31.7.1:7
icmp	210.185.200.244:8	172.168.1.20:8	172.31.7.1:8	172.31.7.1:8

Gateway#

Ctrl+F6 to exit CLI focus

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IOS Command Line Interface

```
Gateway#
Gateway#
Gateway#
Gateway#
Gateway#
Gateway#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#no ip nat inside source static 172.168.1.20 210.185.200.225
Gateway(config)#no
% Incomplete command.
Gateway(config)#
Gateway(config)#no
% Incomplete command.
Gateway(config)#clear ip nat translation *
^
% Invalid input detected at '^' marker.

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

Gateway#clear ip nat translation *
Gateway#show ip nat statistics
Total translations: 4 (0 static, 4 dynamic, 4 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 18 Misses: 18
Expired translations: 14
Dynamic mappings:
-- Inside Source
access-list 1 pool public_access refCount 4
 pool public_access: netmask 255.255.255.224
   start 210.185.200.242 end 210.185.200.254
   type generic, total addresses 13 , allocated 1 (7%), misses 0
Gateway#
```

Ctrl+F6 to exit CLI focus

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IOS Command Line Interface

Press RETURN to get started.

User Access Verification

Password:

Gateway>en

Password:

Gateway#show ip nat statistics

Total translations: 8 (0 static, 8 dynamic, 8 extended)

Outside Interfaces: Serial0/0/1

Inside Interfaces: GigabitEthernet0/1

Hits: 34 Misses: 34

Expired translations: 26

Dynamic mappings:

-- Inside Source

access-list 1 pool public_access refCount 8

pool public_access: netmask 255.255.255.224

start 210.185.200.242 end 210.185.200.254

type generic, total addresses 13 , allocated 2 (15%), misses 0

Gateway#

Ctrl+F6 to exit CLI focus

Copy

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