

CS4471 LAB -10 IPv6 (Version 1.1)

GROUP -3

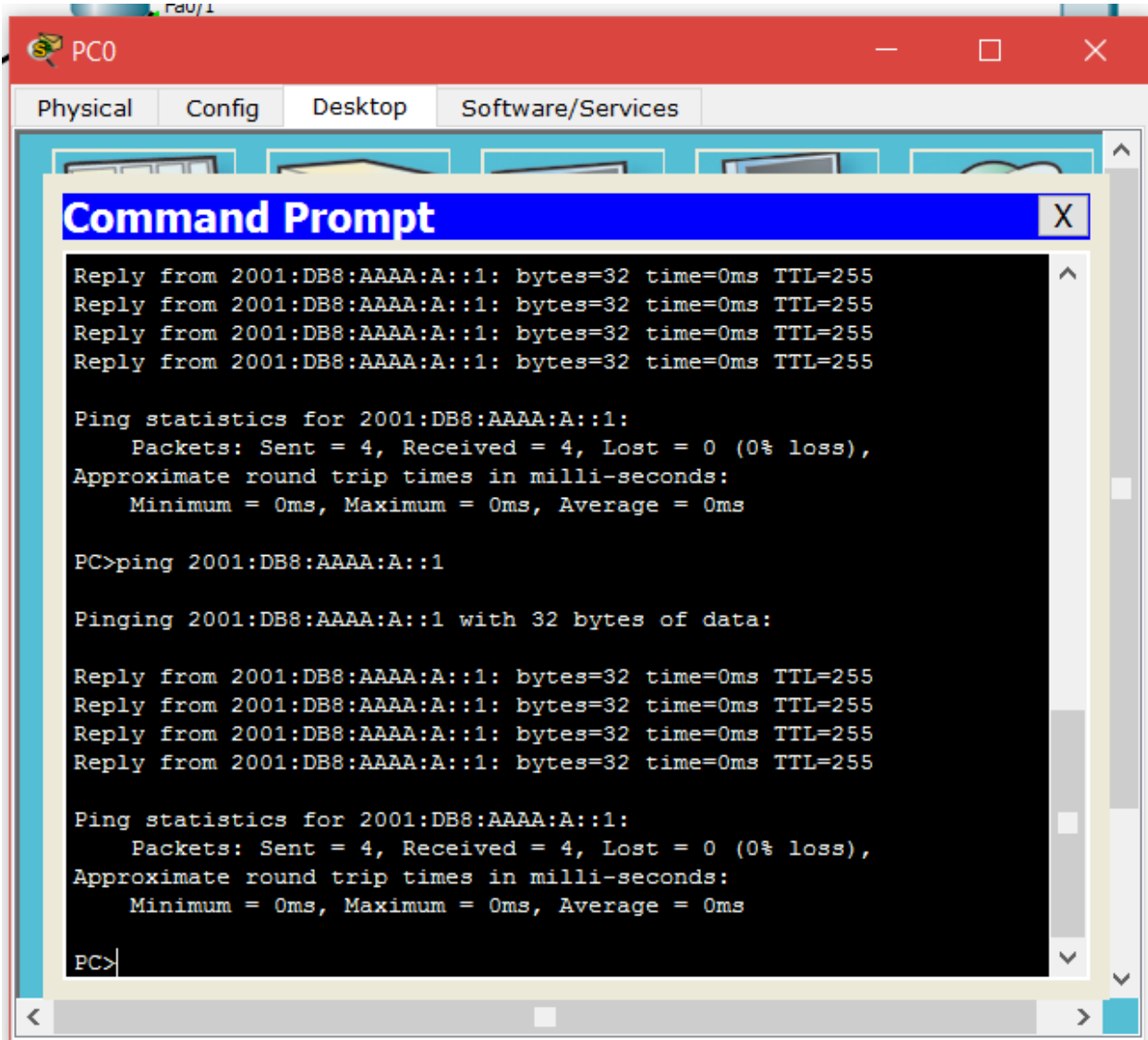
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Q1) On PC0, configure static IPv6 address 2001:DB8:AAAA:A::2/64. Set the gateway to IP address of router. Verify that you can ping the router. Submit screenshot of “ping 2001:DB8:AAAA:A::1” from the command prompt window of PC0.



The screenshot shows a PC0 window with tabs for Physical, Config, Desktop, and Software/Services. The Command Prompt window is open, displaying the results of a ping command. The output shows four successful replies from 2001:DB8:AAAA:A::1, each with 32 bytes, 0ms time, and TTL=255. The ping statistics indicate 4 packets sent, 4 received, 0 lost (0% loss), and approximate round trip times of 0ms (Minimum, Maximum, Average).

```
PC>ping 2001:DB8:AAAA:A::1

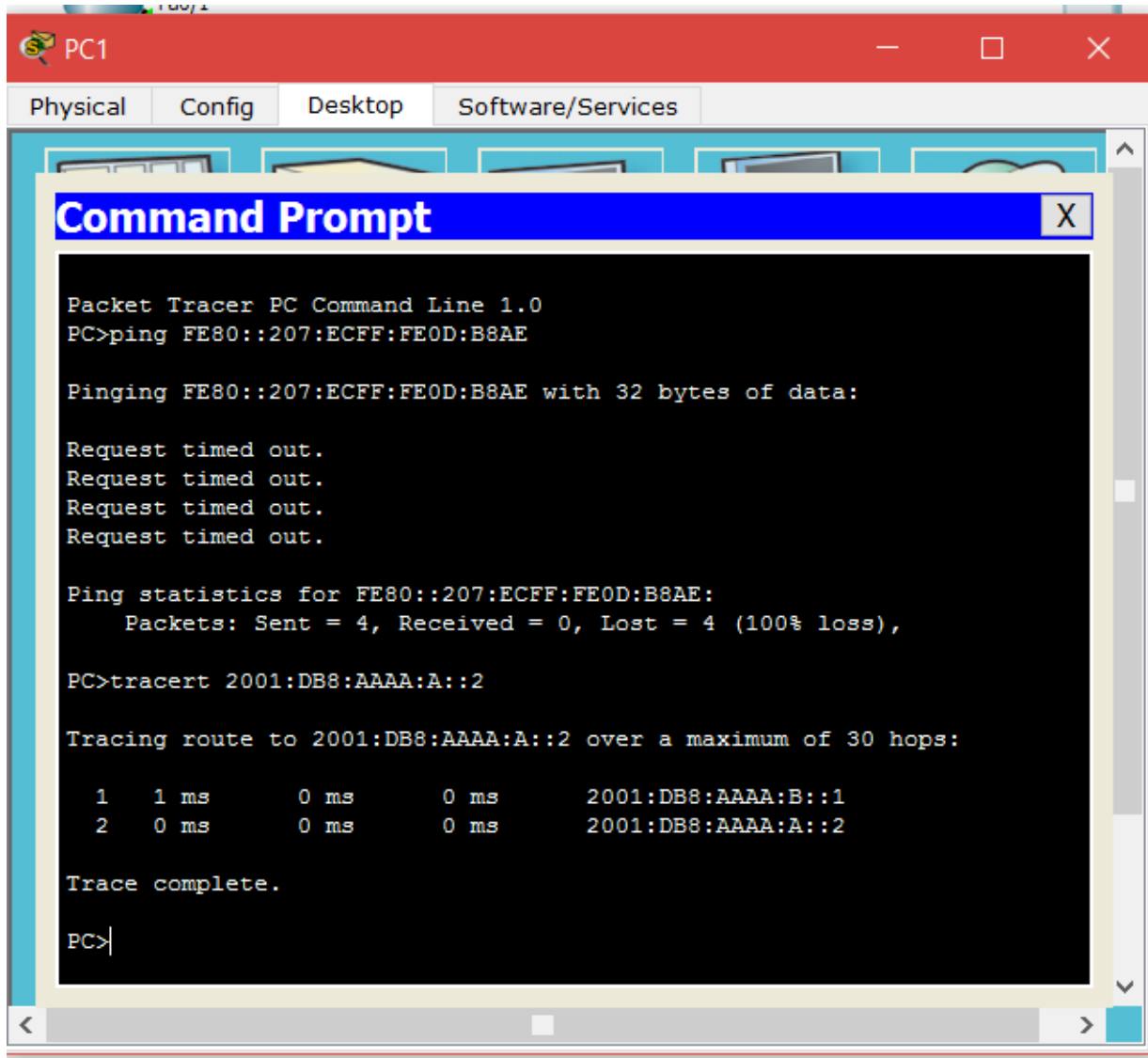
Pinging 2001:DB8:AAAA:A::1 with 32 bytes of data:

Reply from 2001:DB8:AAAA:A::1: bytes=32 time=0ms TTL=255
Reply from 2001:DB8:AAAA:A::1: bytes=32 time=0ms TTL=255
Reply from 2001:DB8:AAAA:A::1: bytes=32 time=0ms TTL=255
Reply from 2001:DB8:AAAA:A::1: bytes=32 time=0ms TTL=255

Ping statistics for 2001:DB8:AAAA:A::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

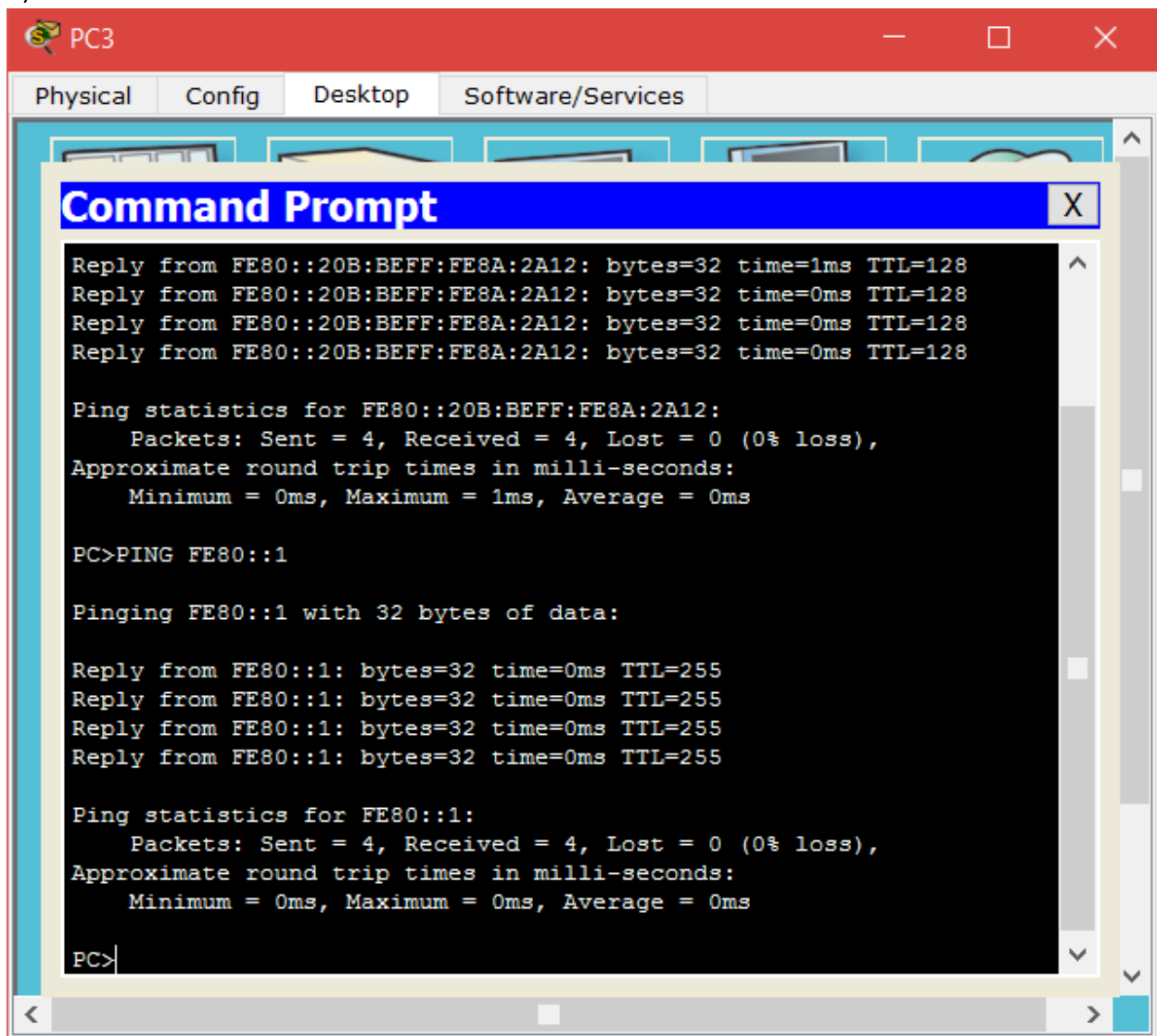
Q 2) On PC1, configure static IPv6 address 2001:DB8:AAAA:B::2/64 and set the gateway to the IP address of the router. Verify that from PC1 you can ping the router and PC0. Submit screenshot of "tracert 2001:DB8:AAAA:A::2" from the command prompt window of PC1.



Q 3) On PC3, enable “auto config” in order that PC3 can automatically obtain an IPv6 address. Verify that PC3 can ping the link local address of the router.

- Submit a screenshot of “ping FE80::1”.
- Submit a screenshot of “ipconfig /all” .
- What is the physical address of PC3’s network interface?
- What is the link local IPv6 address of PC3’s network interface?
- How was the link local IPv6 address derived from the physical address?

A)



The screenshot shows a Windows-style window titled "PC3" with tabs for "Physical", "Config", "Desktop", and "Software/Services". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the results of a ping command to FE80::1. The output indicates that the ping was successful with 0% loss and 0ms round trip times. The Command Prompt text is as follows:

```
Reply from FE80::20B:BEFF:FE8A:2A12: bytes=32 time=1ms TTL=128
Reply from FE80::20B:BEFF:FE8A:2A12: bytes=32 time=0ms TTL=128
Reply from FE80::20B:BEFF:FE8A:2A12: bytes=32 time=0ms TTL=128
Reply from FE80::20B:BEFF:FE8A:2A12: bytes=32 time=0ms TTL=128

Ping statistics for FE80::20B:BEFF:FE8A:2A12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>PING FE80::1

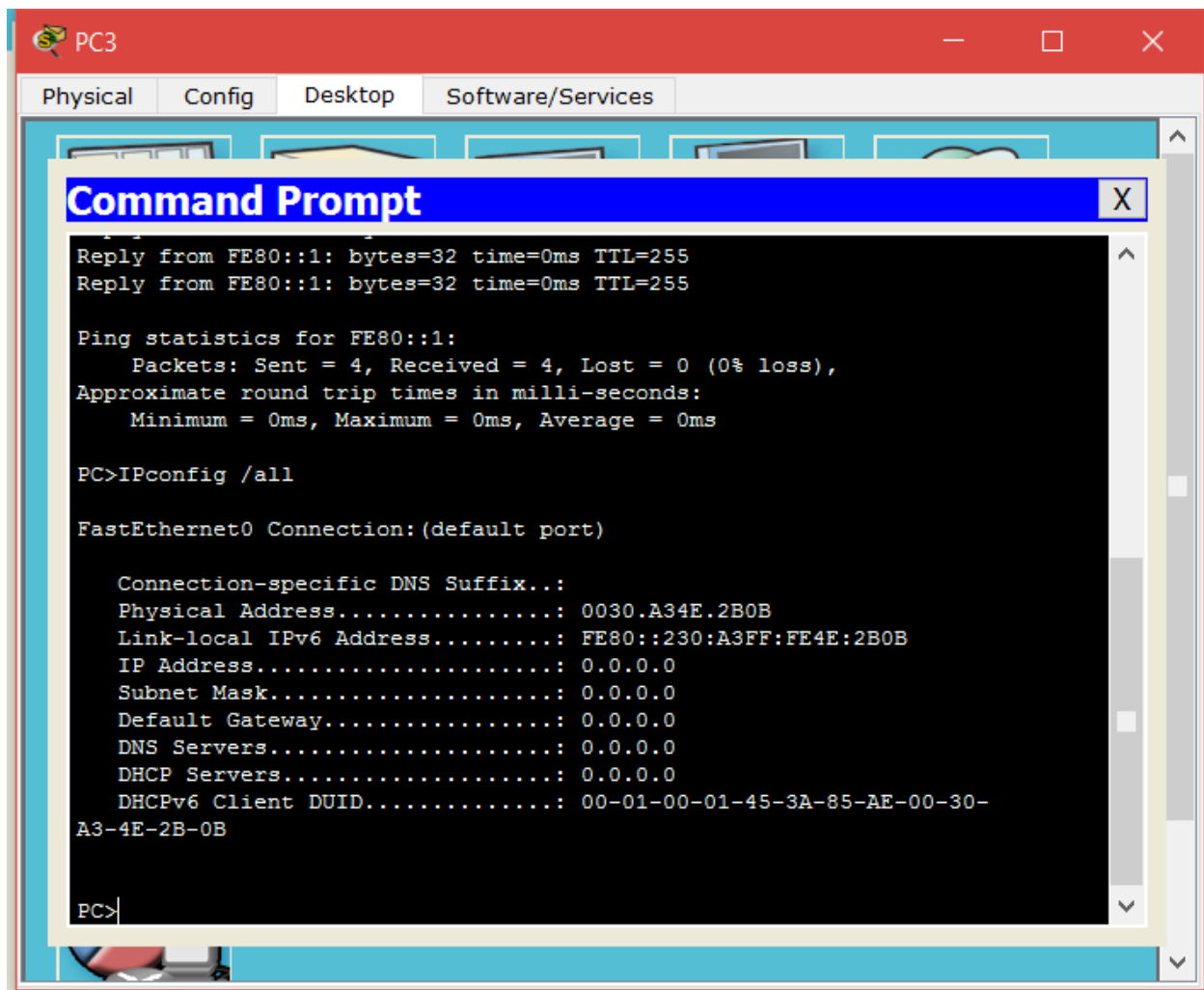
Pinging FE80::1 with 32 bytes of data:

Reply from FE80::1: bytes=32 time=0ms TTL=255
Reply from FE80::1: bytes=32 time=0ms TTL=255
Reply from FE80::1: bytes=32 time=0ms TTL=255
Reply from FE80::1: bytes=32 time=0ms TTL=255

Ping statistics for FE80::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

B)



c) Physical Address.....: 0030.A34E.2B0B

d) Link-local IPv6 Address.....: FE80::230:A3FF:FE4E:2B0B

e) link address derived from physical address as well as link-local address

physical address : 4E:2B0B and link local is FE80::1

(4) On PC2, enable “auto config” in order that PC2 can automatically obtain an IPv6 address. Verify that PC2 can ping the IPv6 address of the router from the command prompt window of PC2

a. Submit a screenshot of “ping 2001:DB8:AAAA:B::1”.

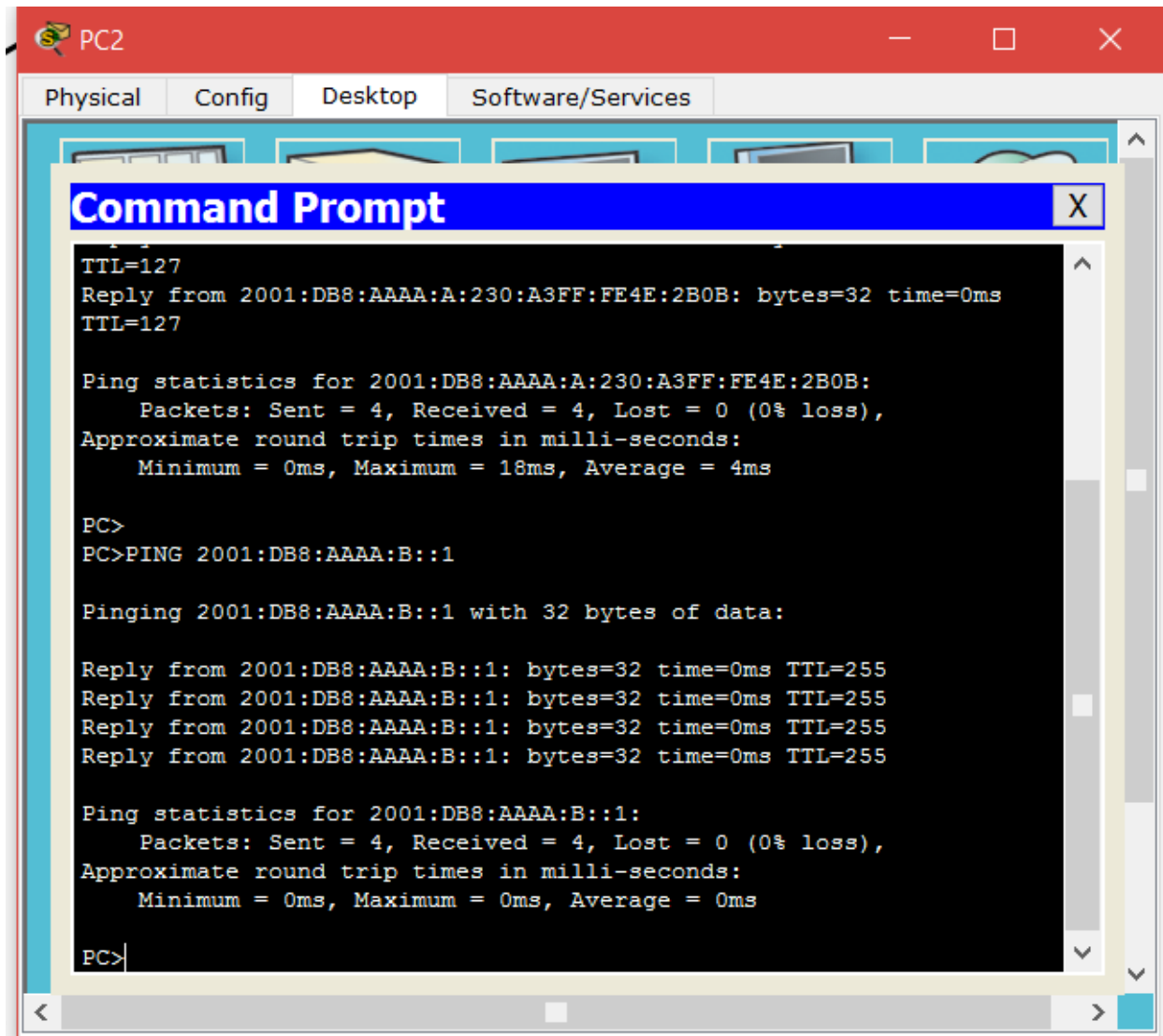
b. Submit a screenshot of “ipconfig /all” .

c. Submit a screenshot of a window that displays PC2’s routable IPv6 address. What is this value?

d. PC2 should be able to ping PC0. Submit a screenshot of “tracert 2001:DB8:AAAA:A::2”.

e. PC2 should be able to ping PC3. Submit a screenshot of traceroute from PC2 to PC3.

A)



The screenshot shows a Windows-style window titled "PC2" with tabs for "Physical", "Config", "Desktop", and "Software/Services". The "Config" tab is active, displaying a "Command Prompt" window. The Command Prompt has a blue title bar and a black background with white text. It shows the output of a ping command to 2001:DB8:AAAA:B::1. The output includes TTL values, reply details, and ping statistics. The command prompt is currently at the PC> prompt.

```
TTL=127
Reply from 2001:DB8:AAAA:A:230:A3FF:FE4E:2B0B: bytes=32 time=0ms
TTL=127

Ping statistics for 2001:DB8:AAAA:A:230:A3FF:FE4E:2B0B:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 18ms, Average = 4ms

PC>
PC>PING 2001:DB8:AAAA:B::1

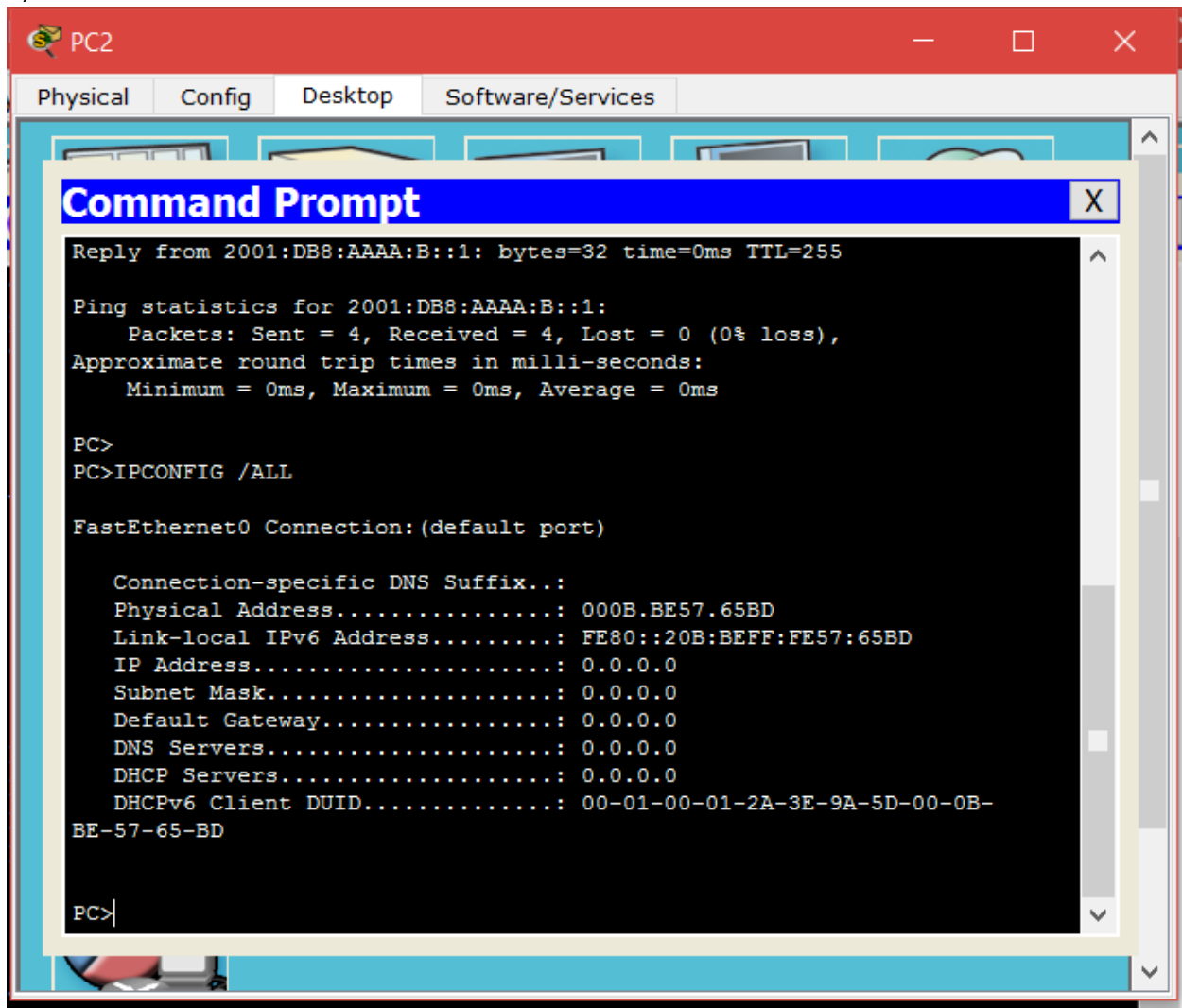
Pinging 2001:DB8:AAAA:B::1 with 32 bytes of data:

Reply from 2001:DB8:AAAA:B::1: bytes=32 time=0ms TTL=255
Reply from 2001:DB8:AAAA:B::1: bytes=32 time=0ms TTL=255
Reply from 2001:DB8:AAAA:B::1: bytes=32 time=0ms TTL=255
Reply from 2001:DB8:AAAA:B::1: bytes=32 time=0ms TTL=255

Ping statistics for 2001:DB8:AAAA:B::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

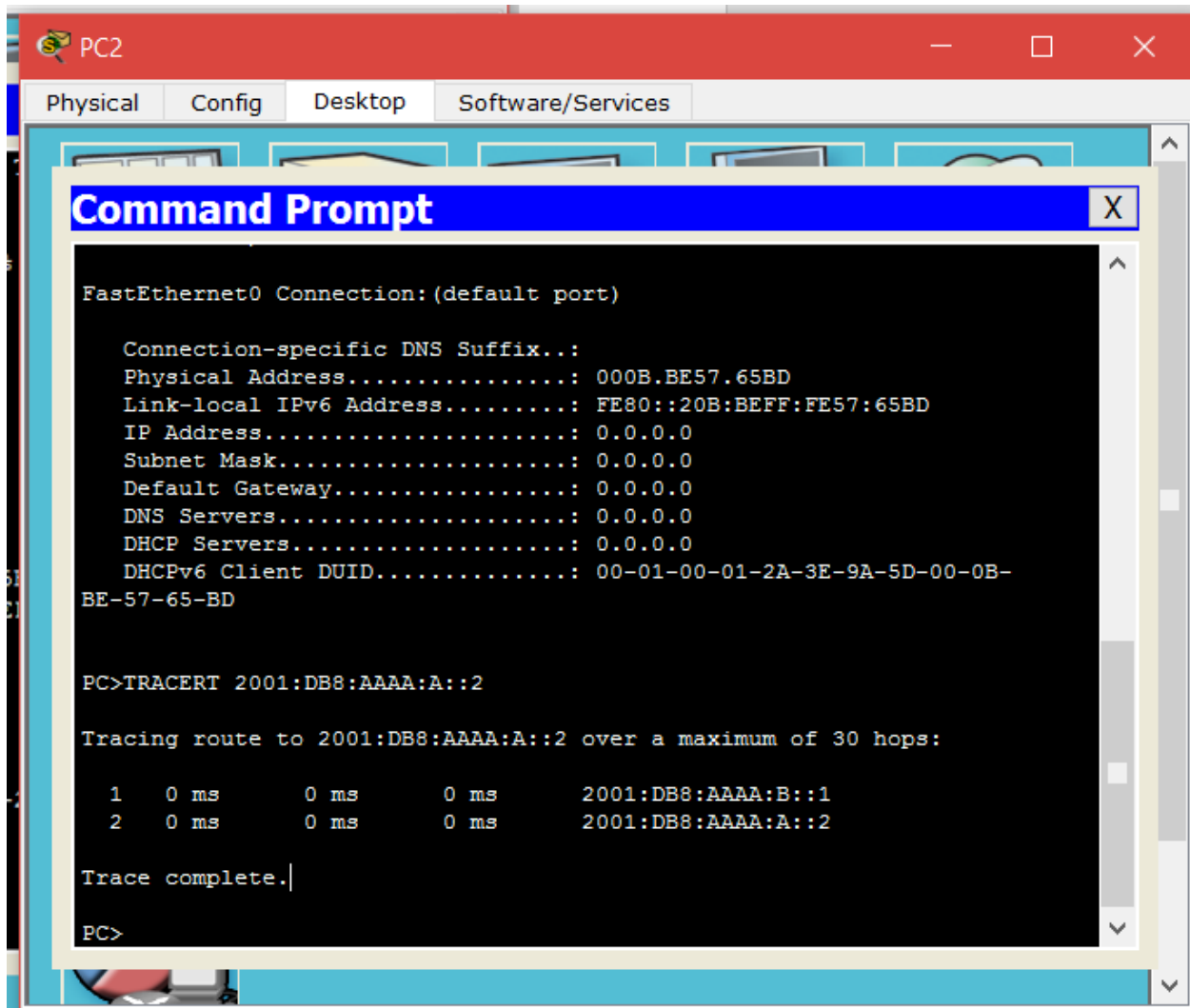
PC>
```

B)

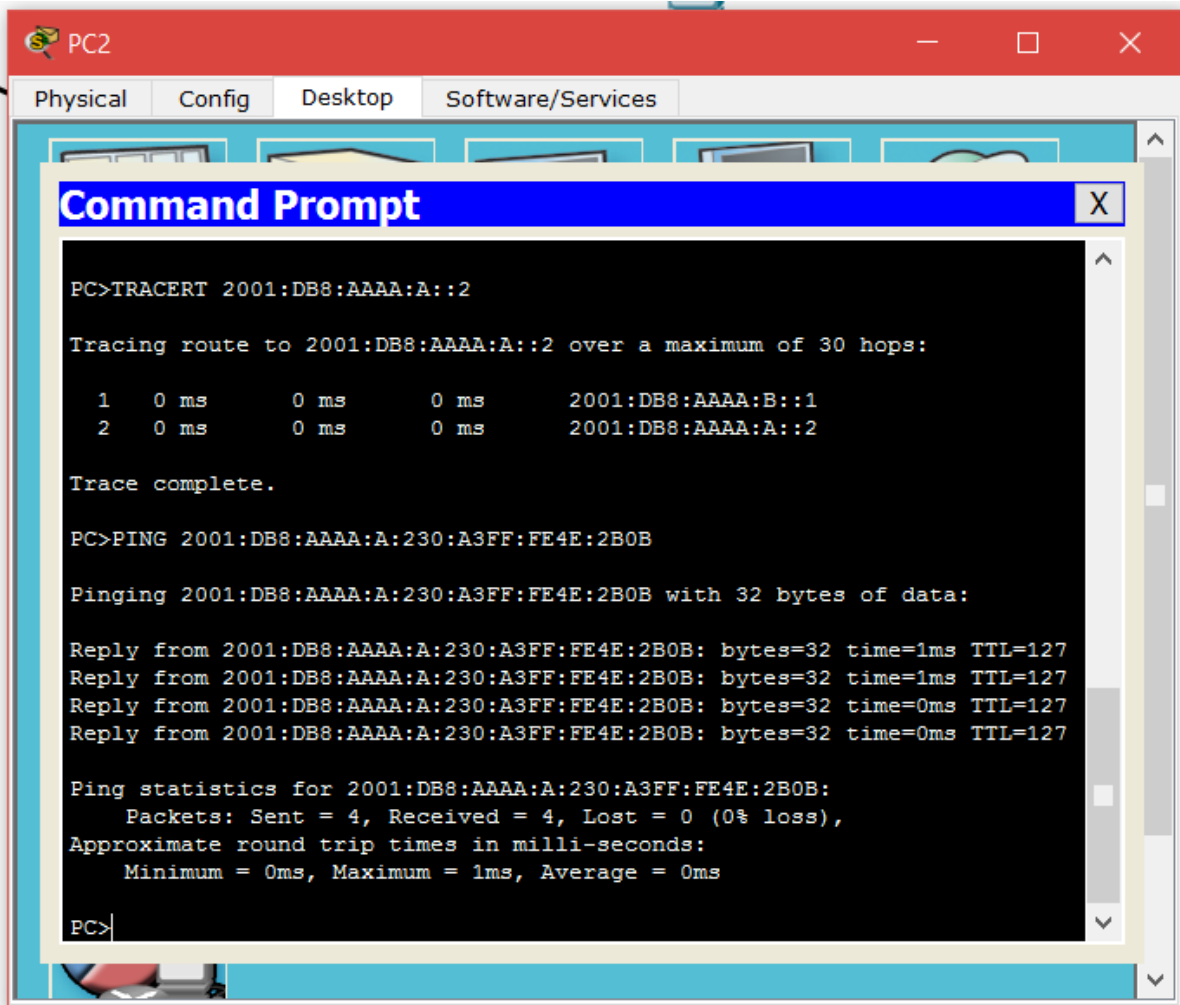


C) DB8:AAAAB:20B:BEFF:FE57:65BD /64

D)



E)



(5) submit printout of output of “show running-config” from the router

```
Router#SHoW RUnning-config
Building configuration...
```

```
Current configuration : 692 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
ipv6 unicast-routing
!
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
```

```
!  
!  
!  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address FE80::1 link-local  
ipv6 address 2001:DB8:AAAA:A::1/64  
!  
interface FastEthernet0/1  
no ip address  
duplex auto  
speed auto  
ipv6 address FE80::1 link-local  
ipv6 address 2001:DB8:AAAA:B::1/64  
!  
interface Vlan1  
no ip address  
shutdown  
!  
ip classless  
!  
ip flow-export version 9  
!  
!  
!  
!  
!  
!  
!  
line con 0  
!  
line aux 0  
!  
line vty 0 4  
login  
!  
!  
!  
end
```