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NIM : 09021281924060
Kelas : 4 REG A

Packet Tracer - Use Ping and Traceroute to Test Network Connectivity

(The answers were marked by highlight yellow color / *Jawaban ditandai dengan sorot warna kuning*)

Addressing Table

Device	Interface	IP Address / Prefix		Default Gateway
R1	G0/0	2001:db8:1:1::1/64		N/A
	G0/1	10.10.1.97	255.255.255.224	N/A
	S0/0/1	10.10.1.6	255.255.255.252	N/A
		2001:db8:1:2::2/64		
		fe80::1		
R2	S0/0/0	10.10.1.5	255.255.255.252	N/A
		2001:db8:1:2::1/64		
	S0/0/1	10.10.1.9	255.255.255.252	N/A
		2001:db8:1:3::1/64		
		fe80::2		
R3	G0/0	2001:db8:1:4::1/64		N/A
	G0/1	10.10.1.17	255.255.255.240	N/A
	S0/0/1	10.10.1.10	255.255.255.252	N/A
		2001:db8:1:3::2/64		
		fe80::3		
PC1	NIC	10.10.1.98	255.255.255.224	10.10.1.97
PC2	NIC	2001:db8:1:1::2		fe80::1
PC3	NIC	10.10.1.18	255.255.255.240	10.10.1.17
PC4	NIC	2001:db8:1:4::2		fe80::2

Objectives

Part 1: Test and Restore IPv4 Connectivity
Part 2: Test and Restore IPv6 Connectivity

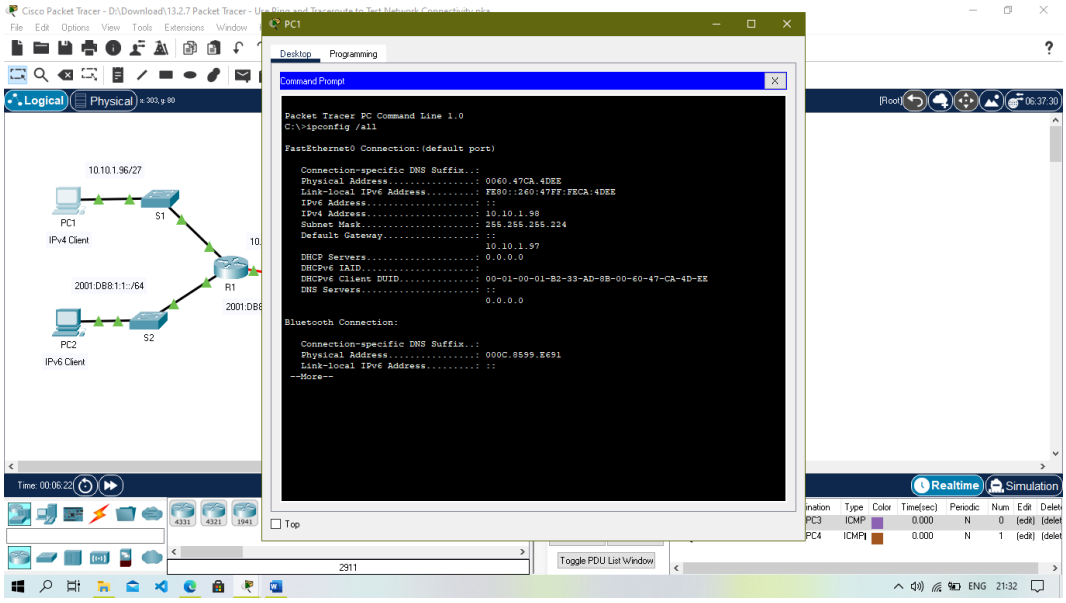
Scenario

There are connectivity issues in this activity. In addition to gathering and documenting information about the network, you will locate the problems and implement acceptable solutions to restore connectivity.
Note: The user EXEC password is **cisco**. The privileged EXEC password is **class**.

Part 1: Test and Restore IPv4 Connectivity

Step 1: Use ipconfig and ping to verify connectivity.

a. Click **PC1** and open the **Command Prompt**.
b. Enter the **ipconfig /all** command to collect the IPv4 information. Complete the **Addressing Table** with the IPv4 address, subnet mask, and default gateway.

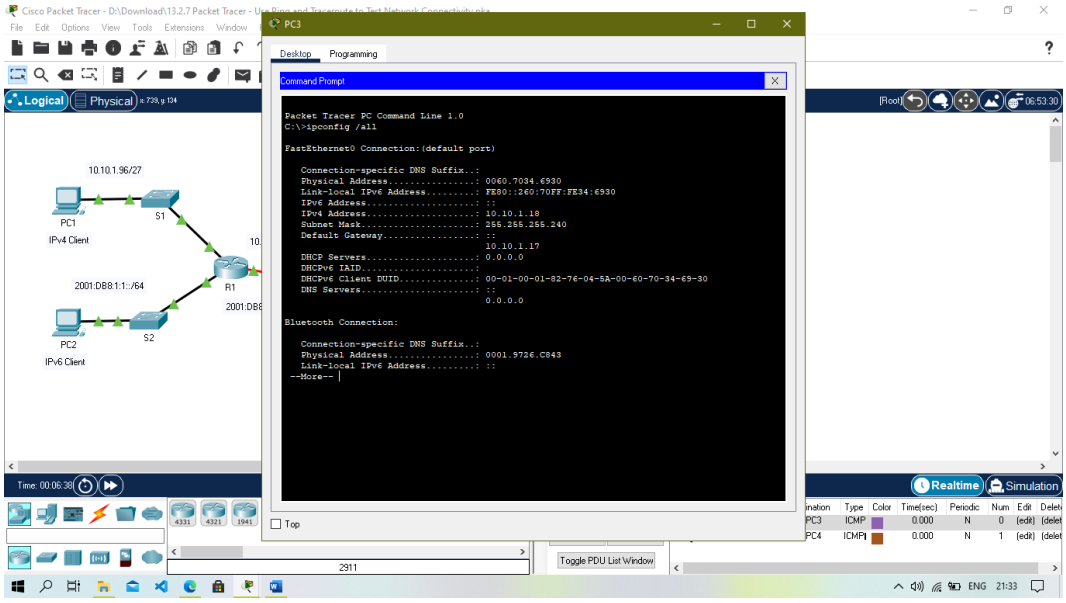


Addressing Table

Device	Interface	IP Address / Prefix		Default Gateway
R1	G0/0	2001:db8:1:1::1/64		N/A
	G0/1	10.10.1.97	255.255.255.224	N/A
	S0/0/1	10.10.1.6	255.255.255.252	N/A
		2001:db8:1:2::2/64		
		fe80::1		
R2	S0/0/0	10.10.1.5	255.255.255.252	N/A
		2001:db8:1:2::1/64		
	S0/0/1	10.10.1.9	255.255.255.252	N/A
		2001:db8:1:3::1/64		
		fe80::2		
R3	G0/0	2001:db8:1:4::1/64		N/A
	G0/1	10.10.1.17	255.255.255.240	N/A
	S0/0/1	10.10.1.10	255.255.255.252	N/A
		2001:db8:1:3::2/64		
		fe80::3		
PC1	NIC	10.10.1.98	255.255.255.224	10.10.1.97
PC2	NIC			
PC3	NIC			
PC4	NIC			

c. Click **PC3** and open the **Command Prompt**.

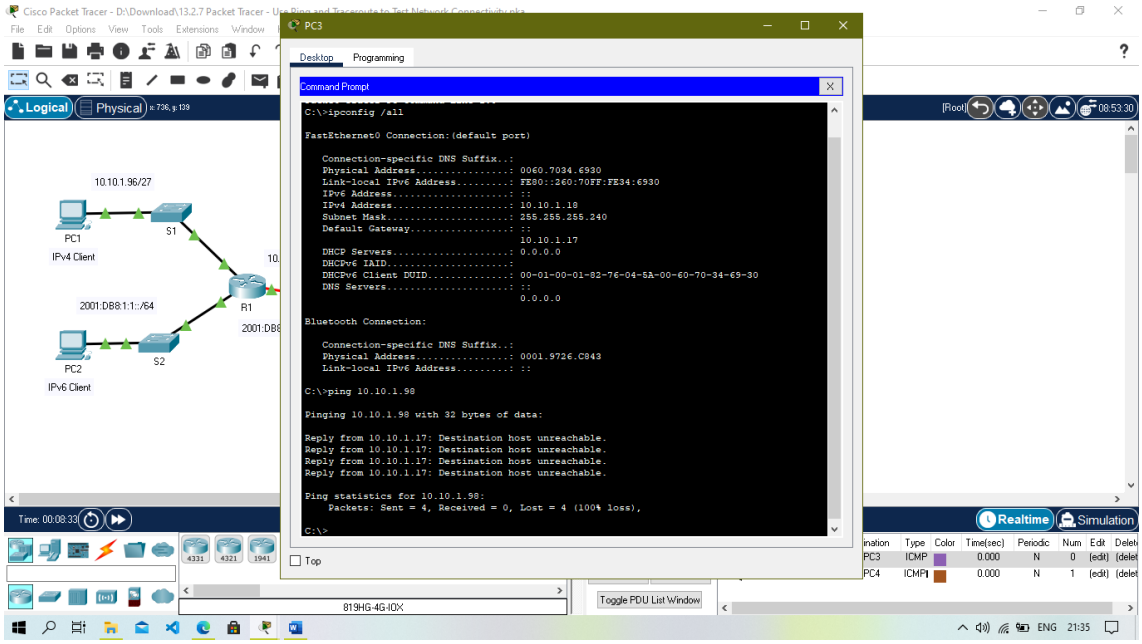
d. Enter the **ipconfig /all** command to collect the IPv4 information. Complete the **Addressing Table** with the IPv4 address, subnet mask, and default gateway.



Addressing Table

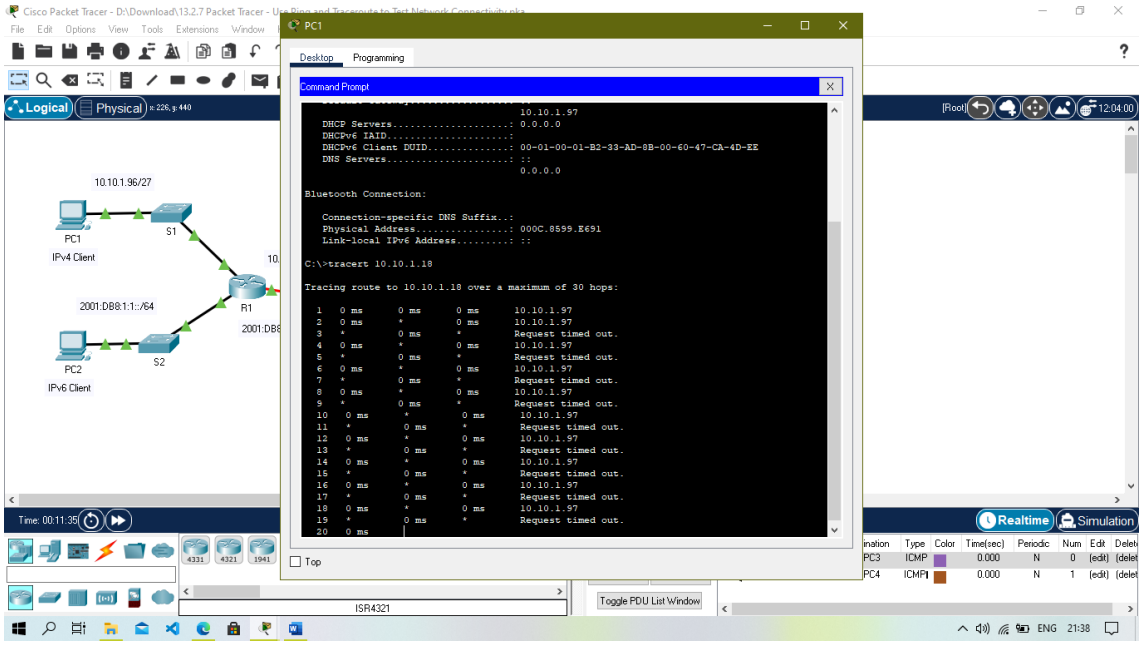
Device	Interface	IP Address / Prefix		Default Gateway
R1	G0/0	2001:db8:1:1::1/64		N/A
	G0/1	10.10.1.97	255.255.255.224	N/A
	S0/0/1	10.10.1.6	255.255.255.252	N/A
		2001:db8:1:2::2/64		
		fe80::1		
R2	S0/0/0	10.10.1.5	255.255.255.252	N/A
		2001:db8:1:2::1/64		
	S0/0/1	10.10.1.9	255.255.255.252	N/A
		2001:db8:1:3::1/64		
		fe80::2		
R3	G0/0	2001:db8:1:4::1/64		N/A
	G0/1	10.10.1.17	255.255.255.240	N/A
	S0/0/1	10.10.1.10	255.255.255.252	N/A
		2001:db8:1:3::2/64		
		fe80::3		
PC1	NIC	10.10.1.98	255.255.255.224	10.10.1.97
PC2	NIC			
PC3	NIC	10.10.1.18	255.255.255.240	10.10.1.17
PC4	NIC			

e. Use the **ping** command to test connectivity between **PC1** and **PC3**. The ping should fail.



Step 2: Locate the source of connectivity failure.

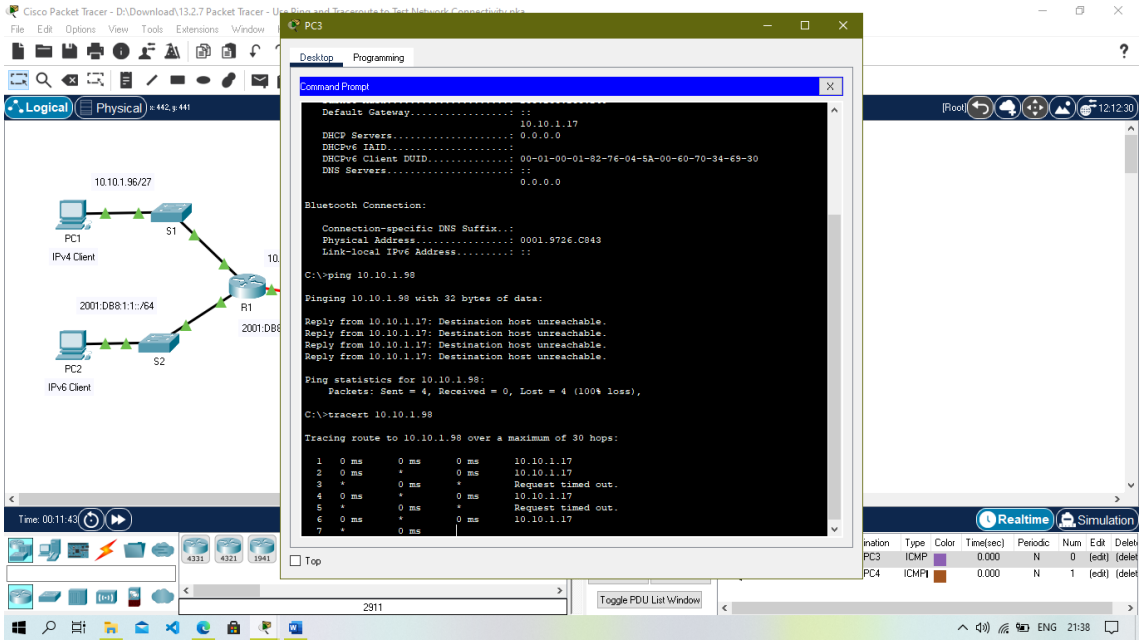
a. From **PC1**, enter the necessary command to trace the route to **PC3**. What is the last successful IPv4 address that was reached?



It is 10.10.1.97 (*IPv4 sukses yang terakhir dicapai adalah 10.10.1.97*)

b. The trace will eventually end after 30 attempts. Enter **Ctrl**+**C** to stop the trace before 30 attempts.

c. From **PC3**, enter the necessary command to trace the route to **PC1**. What is the last successful IPv4 address that was reached?

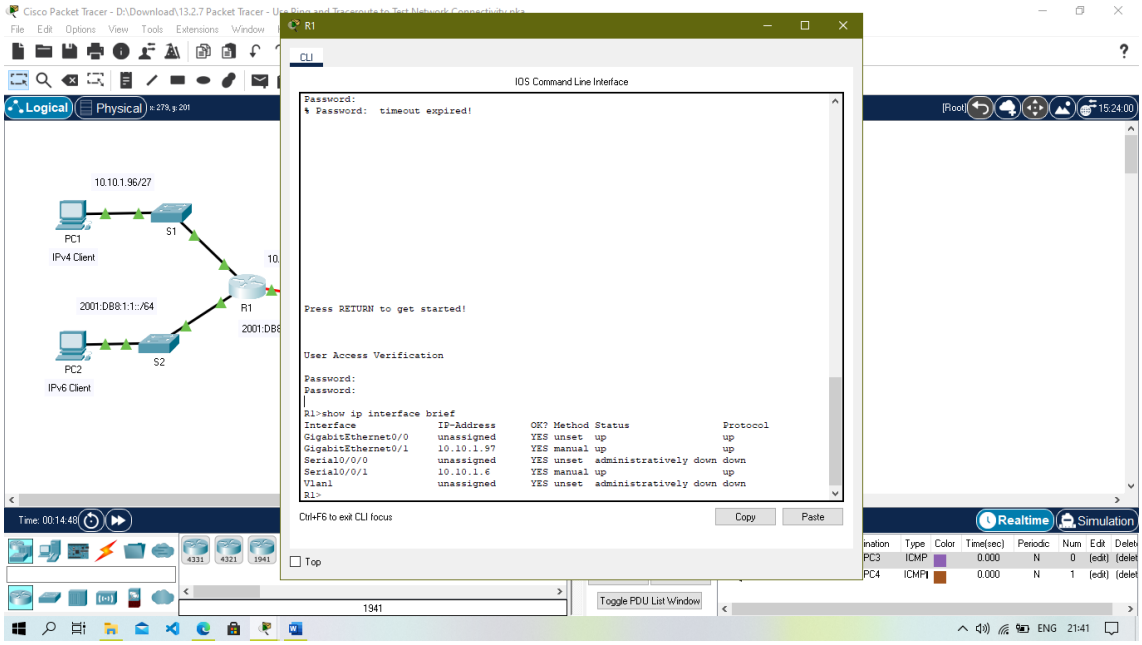


It is 10.10.1.17 (*IPv4 sukses yang terakhir dicapai adalah 10.10.1.17*)

d. Enter **Ctrl**+**C** to stop the trace.

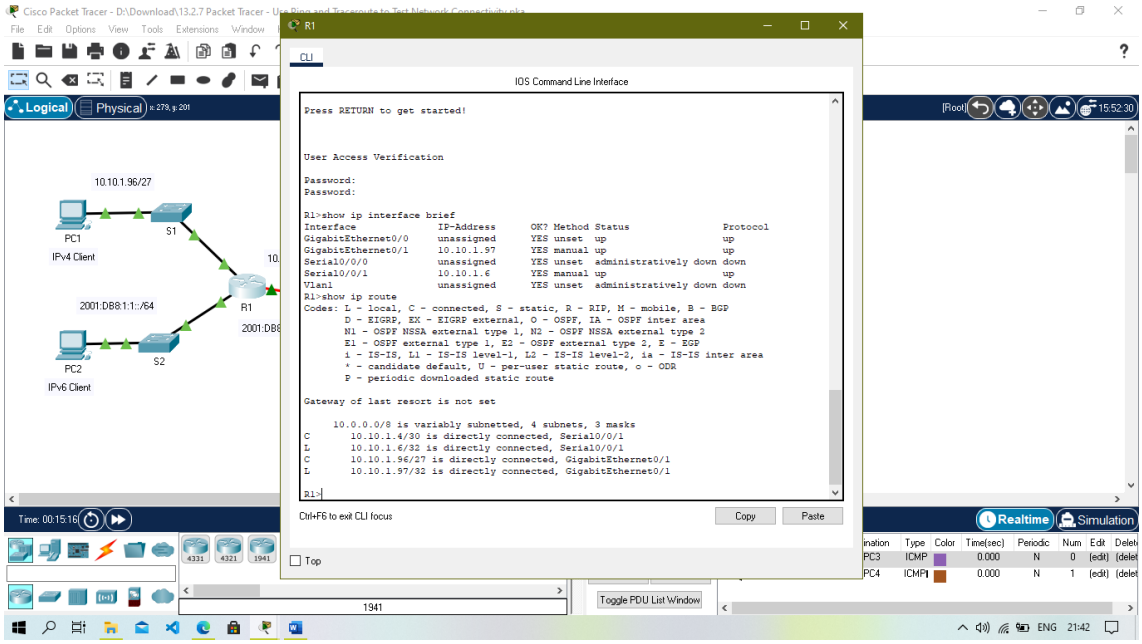
e. Click **R1**. Press **ENTER** and log in to the router.

f. Enter the **show ip interface brief** command to list the interfaces and their status. There are two IPv4 addresses on the router. One should have been recorded in Step 2a. What is the other?



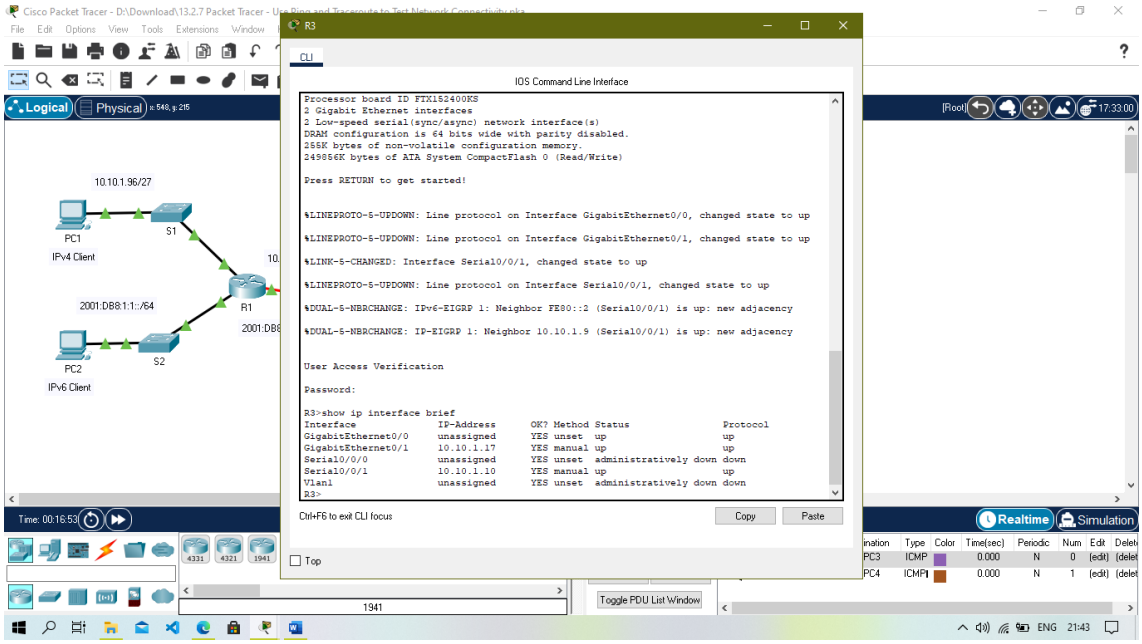
The other is 10.10.1.6 *(IPv4 lainnya adalah 10.10.1.6)*

g. Enter the **show ip route** command to list the networks to which the router is connected. Note that there are two networks connected to the **Serial0/0/1** interface. What are they?



They are 10.10.1.4/30 and 10.10.1.6/32 *(Dua jaringan yang terhubung pada Se0/0/1 adalah 10.10.1.4/30 dan 10.10.1.6/32)*

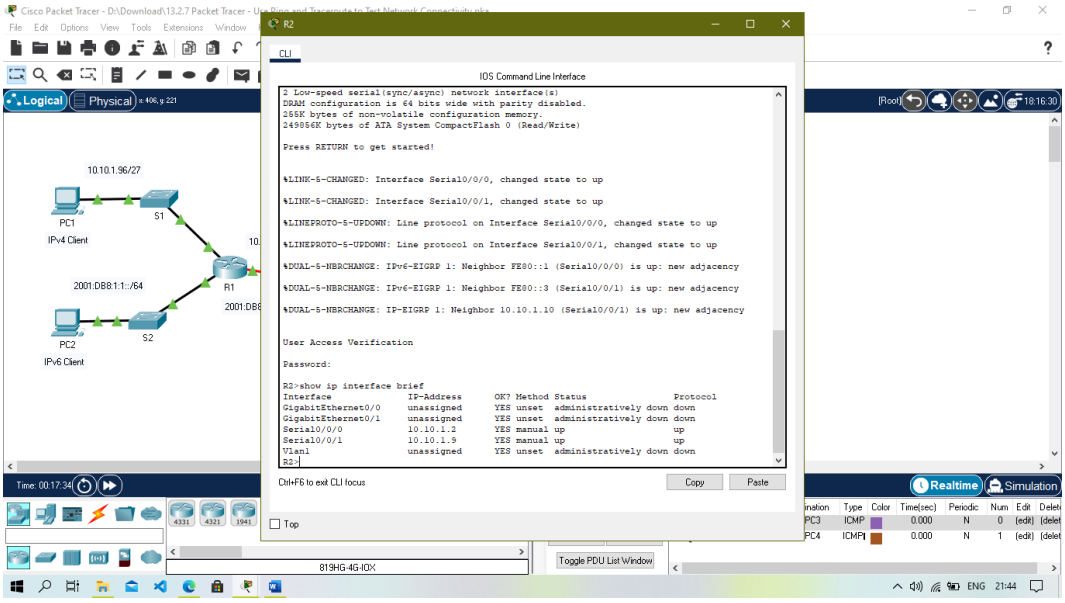
h. Repeat steps 2e through 2g with **R3** and record your answers.



Another IPv4 address on the router is 10.10.1.10, two networks connected to the Se0/0/1 are 10.10.1.8/30 and 10.10.1.10/32 *(IPv4 lainnya yang ada di router adalah 10.10.1.10, dua jaringan yang terhubung pada Se0/0/1 adalah 10.10.1.4/30 dan 10.10.1.6/32)*

i. Click **R2**. Press **ENTER** and log into the router.

j. Enter the **show ip interface brief** command and record your addresses.



The IP Addresses on R2 are 10.10.1.2 and 10.10.1.9 *(Alamat-alamat IP pada R2 adalah 10.10.1.2 dan 10.10.1.9)*

k. Run more tests if it helps visualize the problem. Simulation mode is available.

Step 3: Propose a solution to solve the problem.

a. Compare your answers in Step 2 to the documentation you have available for the network. What is the error?

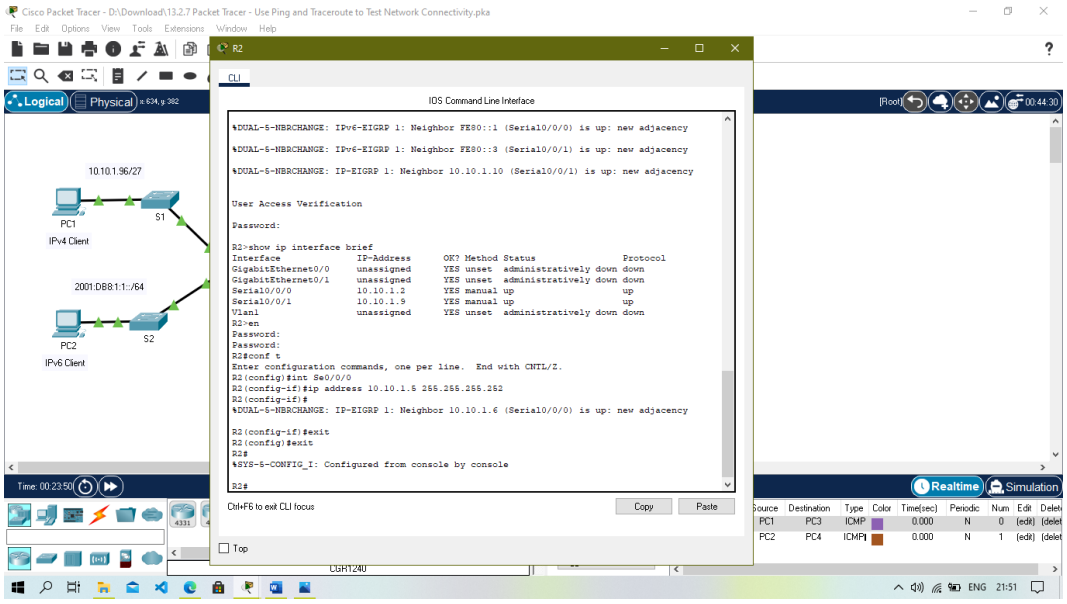
R2's Serial 0/0/0 interface is configured with the wrong IP address. *(antarmuka Se0/0/0 R2 dikonfigurasi dengan alamat IP yang salah.)*

b. What solution would you propose to correct the problem?

To solve the problem, configure the correct IP address on R2's Serial 0/0/0 interface: 10.10.1.5 (*Untuk menyelesaikan permasalahannya, konfigurasi/atur alamat IP yang benar pada antarmuka Se0/0/0 R2, yaitu 10.10.1.5)*

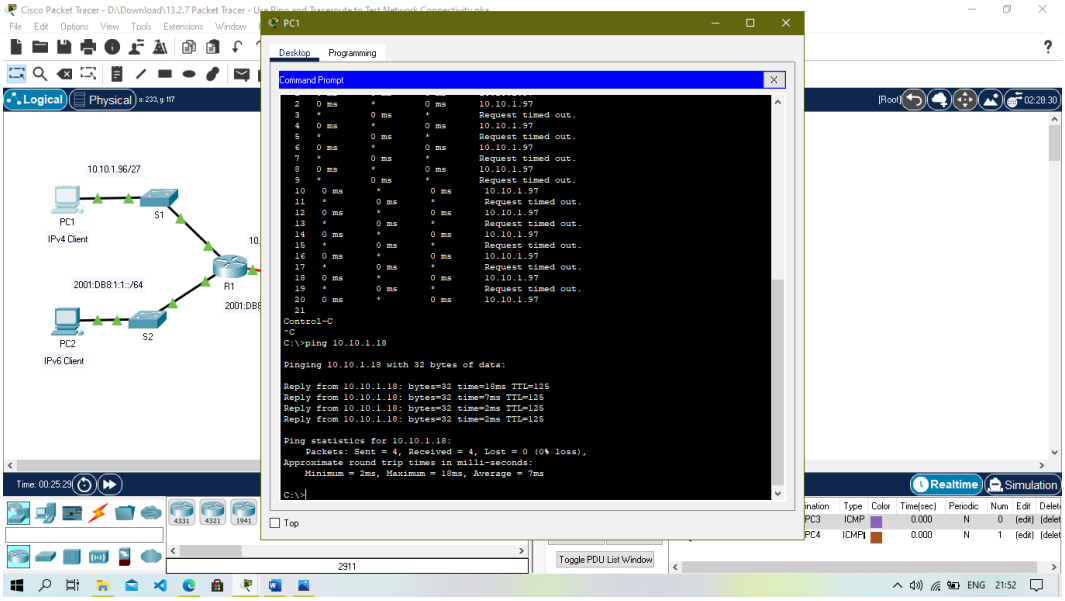
Step 4: Implement the plan.

Implement the solution you proposed in Step 3b.

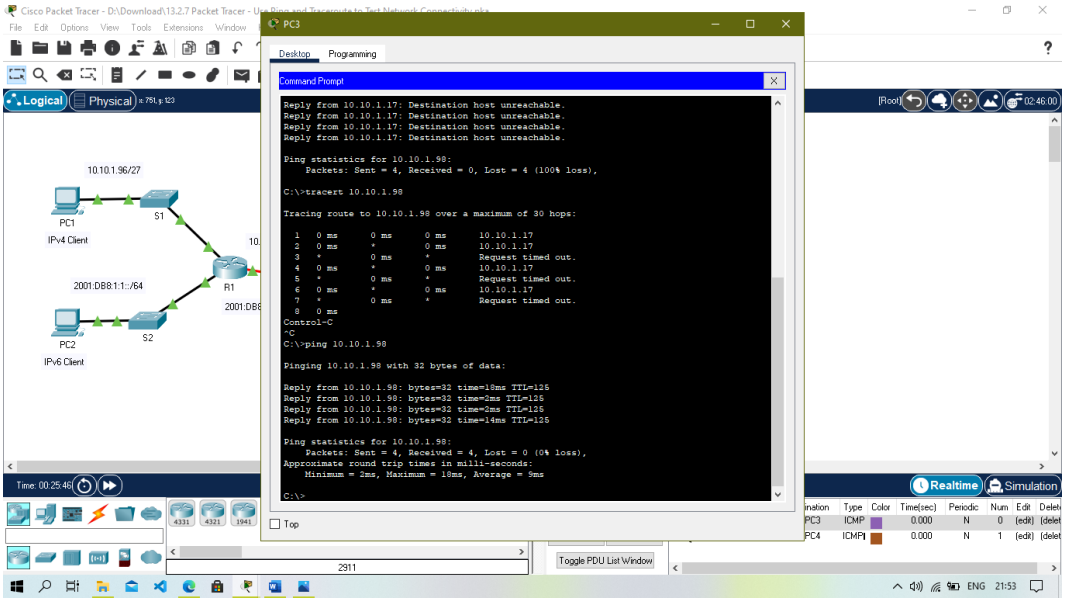


Step 5: Verify that connectivity is restored.

a. From **PC1** test connectivity to **PC3**.



b. From **PC3** test connectivity to **PC1**.



Is the problem resolved?

Yes, the problem had resolved. *(Ya, Masalah berhasil diatasi)*

Step 6: Document the solution.

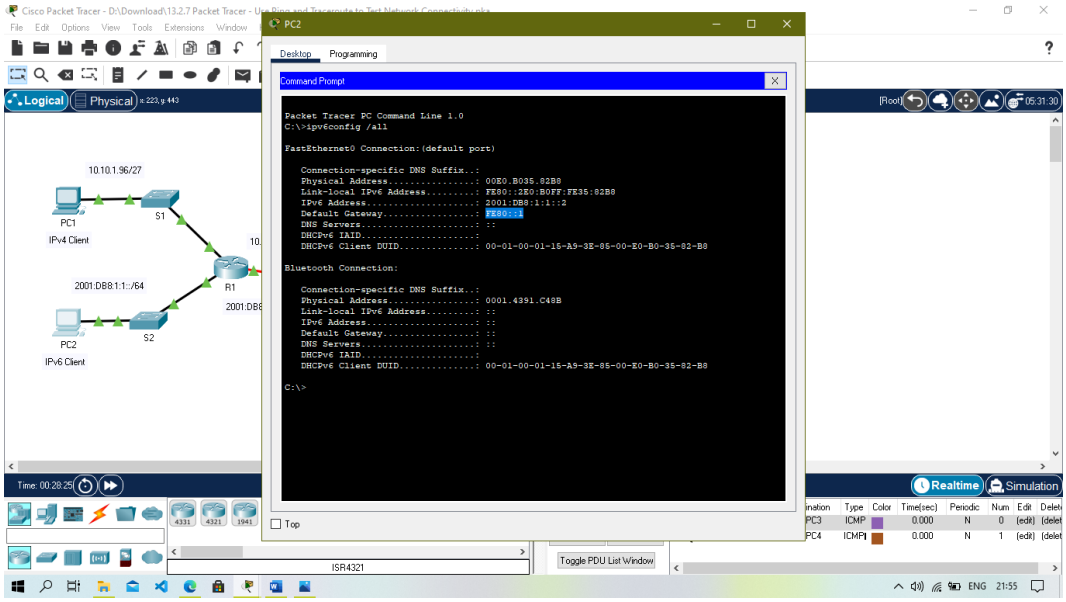
https://drive.google.com/file/d/1IRH1uT5jxzhKN4_7fKEmenasMVkgYIEi/view?usp=sharing

Part 2: Test and Restore IPv6 Connectivity

Step 1: Use ipv6config and ping to verify connectivity.

a. Click **PC2** and open the **Command Prompt**.

b. Enter the **ipv6config /all** command to collect the IPv6 information. Complete the **Addressing Table** with the IPv6 address, subnet prefix, and default gateway.

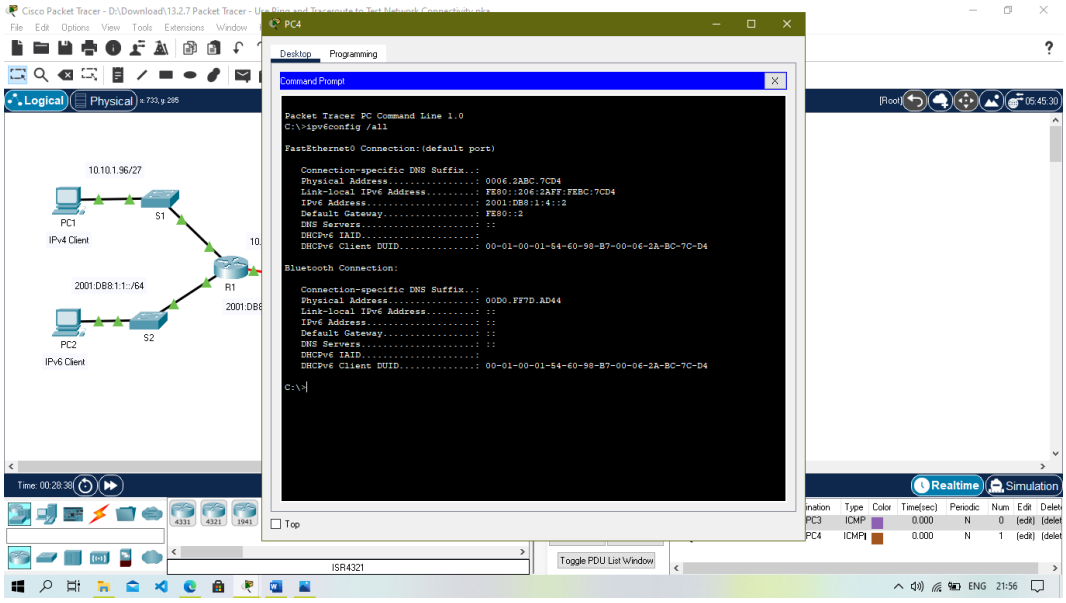


Addressing Table

Device	Interface	IP Address / Prefix		Default Gateway
R1	G0/0	2001:db8:1:1::1/64		N/A
	G0/1	10.10.1.97	255.255.255.224	N/A
	S0/0/1	10.10.1.6	255.255.255.252	N/A
		2001:db8:1:2::2/64		
		fe80::1		
R2	S0/0/0	10.10.1.5	255.255.255.252	N/A
		2001:db8:1:2::1/64		
	S0/0/1	10.10.1.9	255.255.255.252	N/A
		2001:db8:1:3::1/64		
		fe80::2		
R3	G0/0	2001:db8:1:4::1/64		N/A
	G0/1	10.10.1.17	255.255.255.240	N/A
	S0/0/1	10.10.1.10	255.255.255.252	N/A
		2001:db8:1:3::2/64		
		fe80::3		
PC1	NIC	10.10.1.98	255.255.255.224	10.10.1.97
PC2	NIC	2001:db8:1:1::2		fe80::1
PC3	NIC	10.10.1.18	255.255.255.240	10.10.1.17
PC4	NIC			

c. Click **PC4** and open the **Command Prompt**.

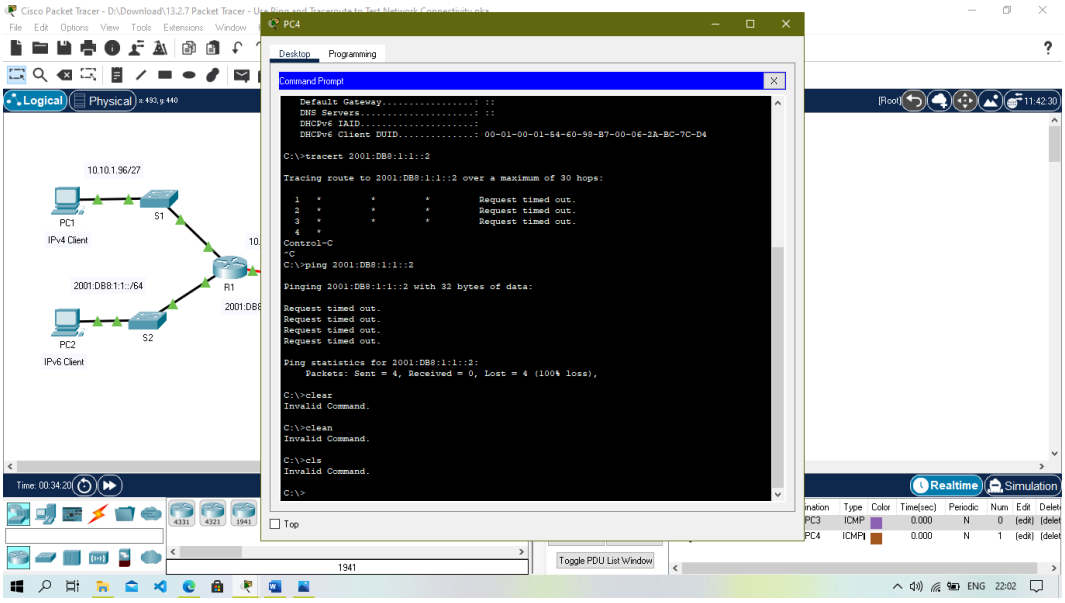
d. Enter the **ipv6config /all** command to collect the IPv6 information. Complete the **Addressing Table** with the IPv6 address, subnet prefix, and default gateway.



Addressing Table

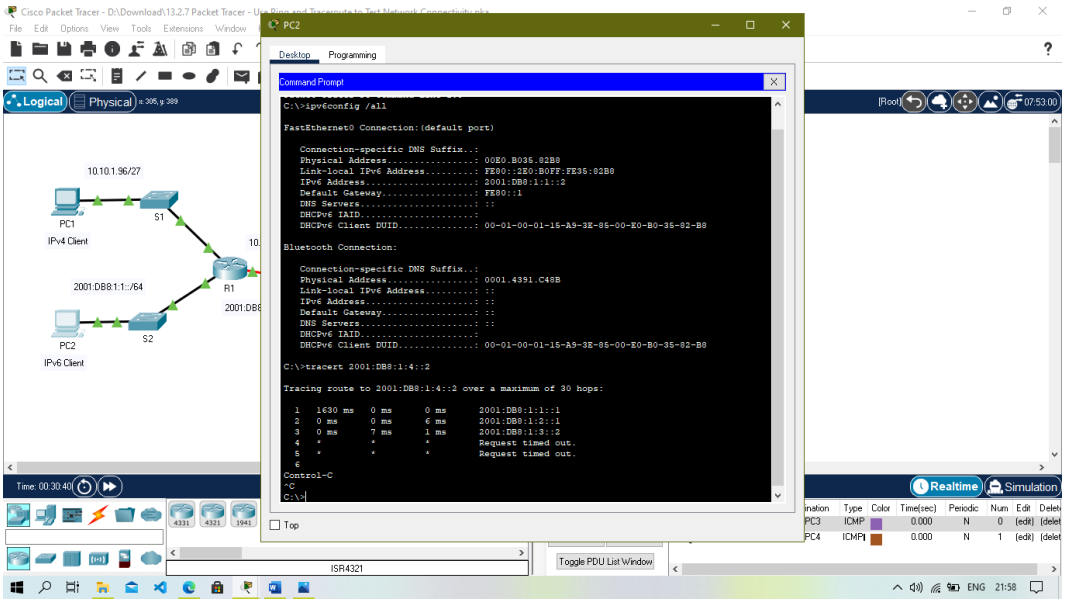
Device	Interface	IP Address / Prefix		Default Gateway
R1	G0/0	2001:db8:1:1::1/64		N/A
	G0/1	10.10.1.97	255.255.255.224	N/A
	S0/0/1	10.10.1.6	255.255.255.252	N/A
		2001:db8:1:2::2/64		
		fe80::1		
R2	S0/0/0	10.10.1.5	255.255.255.252	N/A
		2001:db8:1:2::1/64		
	S0/0/1	10.10.1.9	255.255.255.252	N/A
		2001:db8:1:3::1/64		
		fe80::2		
R3	G0/0	2001:db8:1:4::1/64		N/A
	G0/1	10.10.1.17	255.255.255.240	N/A
	S0/0/1	10.10.1.10	255.255.255.252	N/A
		2001:db8:1:3::2/64		
		fe80::3		
PC1	NIC	10.10.1.98	255.255.255.224	10.10.1.97
PC2	NIC	2001:db8:1:1::2		fe80::1
PC3	NIC	10.10.1.18	255.255.255.240	10.10.1.17
PC4	NIC	2001:db8:1:4::2		fe80::2

e. Test connectivity between **PC2** and **PC4**. The ping should fail.



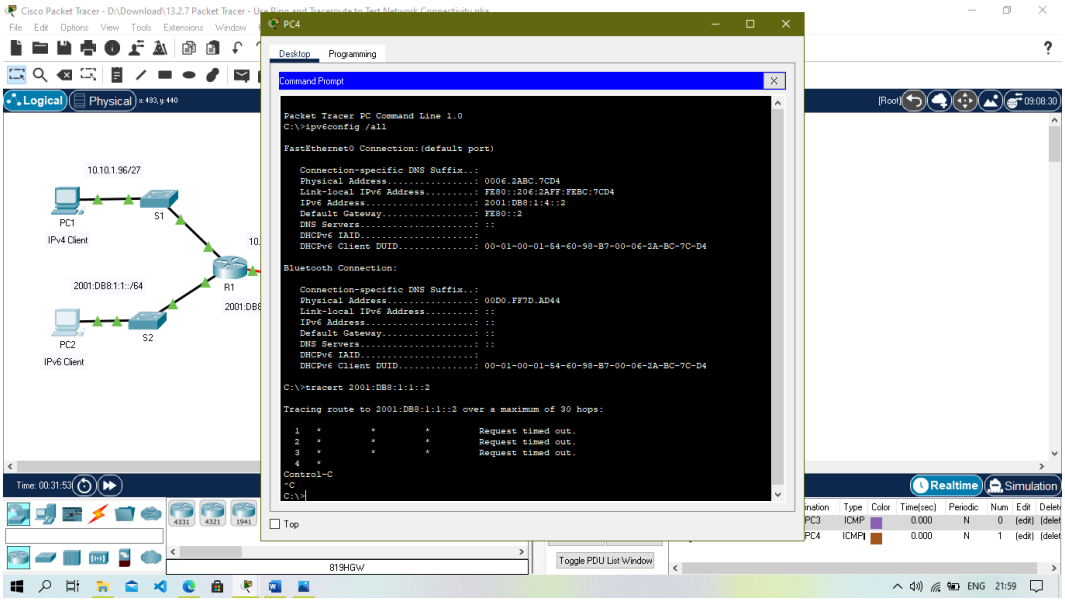
Step 2: Locate the source of connectivity failure.

a. From **PC2**, enter the necessary command to trace the route to **PC4**.
What is the last successful IPv6 address that was reached?
It is 2001:db8:1:3::2 *(IPv6 terakhir yang berhasil dicapai adalah 2001:db8:1:3::2)*



b. The trace will eventually end after 30 attempts. Enter **Ctrl**+**C** to stop the trace before 30 attempts.

c. From **PC4**, enter the necessary command to trace the route to **PC2**.
What is the last successful IPv6 address that was reached?
No IPv6 address was reached. *(Tidak ada IPv6 yang berhasil dicapai)*



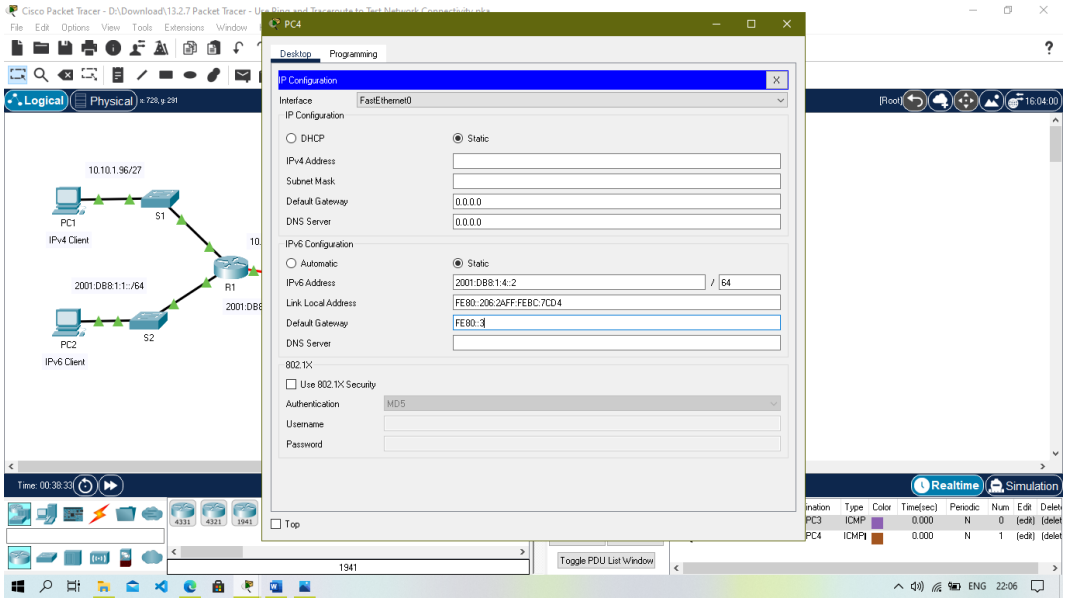
d. Enter **Ctrl**+**C** to stop the trace.
e. Click **R3**. Press **ENTER** and log in to the router.
f. Enter the **show ipv6 interface brief** command to list the interfaces and their status. There are two IPv6 addresses on the router. One should match the gateway address recorded in Step 1d.
Is there a discrepancy?
Yes *(Ya, terdapat perbedaan)*
g. Run more tests if it helps visualize the problem. Simulation mode is available.

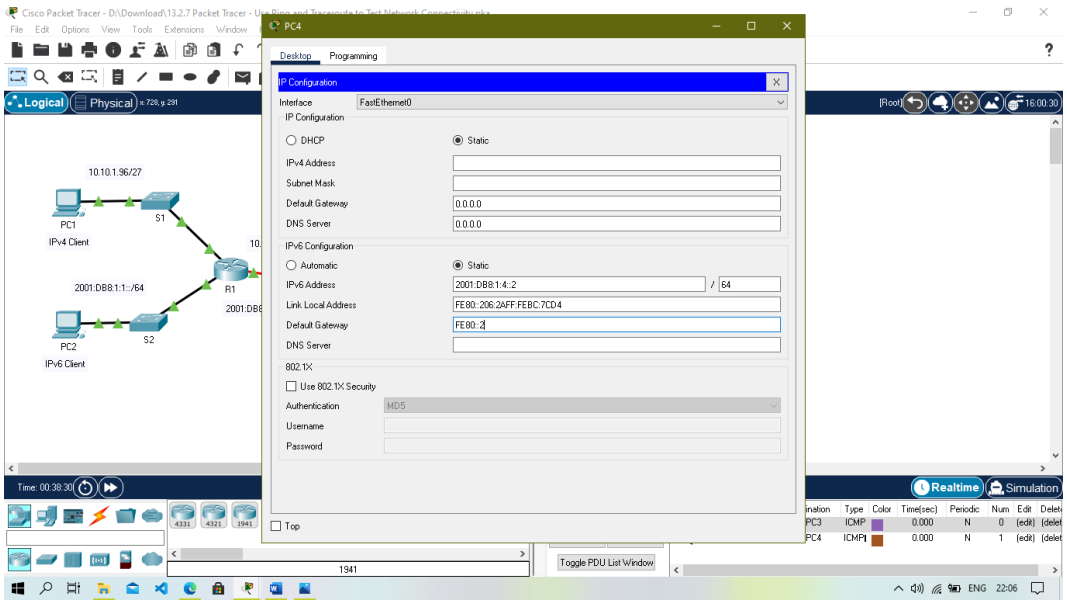
Step 3: Propose a solution to solve the problem.

a. Compare your answers in Step 2 to the documentation you have available for the network. What is the error?
PC4 is using the wrong default gateway configuration *(PC4 menggunakan konfigurasi default gateway yang salah)*
b. What solution would you propose to correct the problem?
To solve the problem, configure PC4 with the correct default gateway address: fe80::3. *(untuk menyelesaikan permasalahan tersebut, atur/konfigurasi PC4 dengan alamat default gateway yang benar: fe80::3)*

Step 4: Implement the plan.

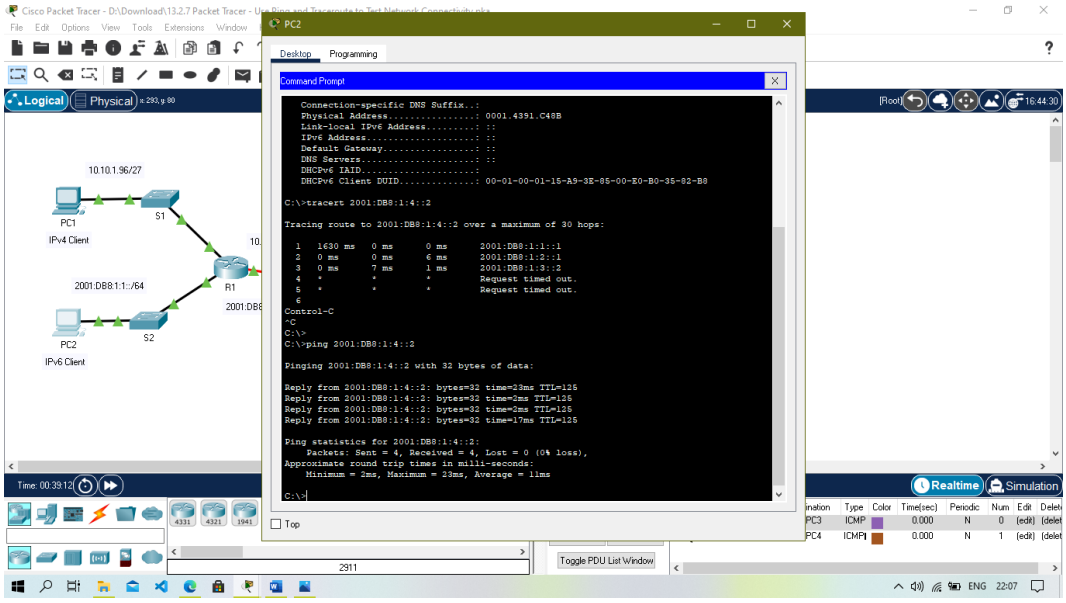
Implement the solution you proposed in Step 3b.



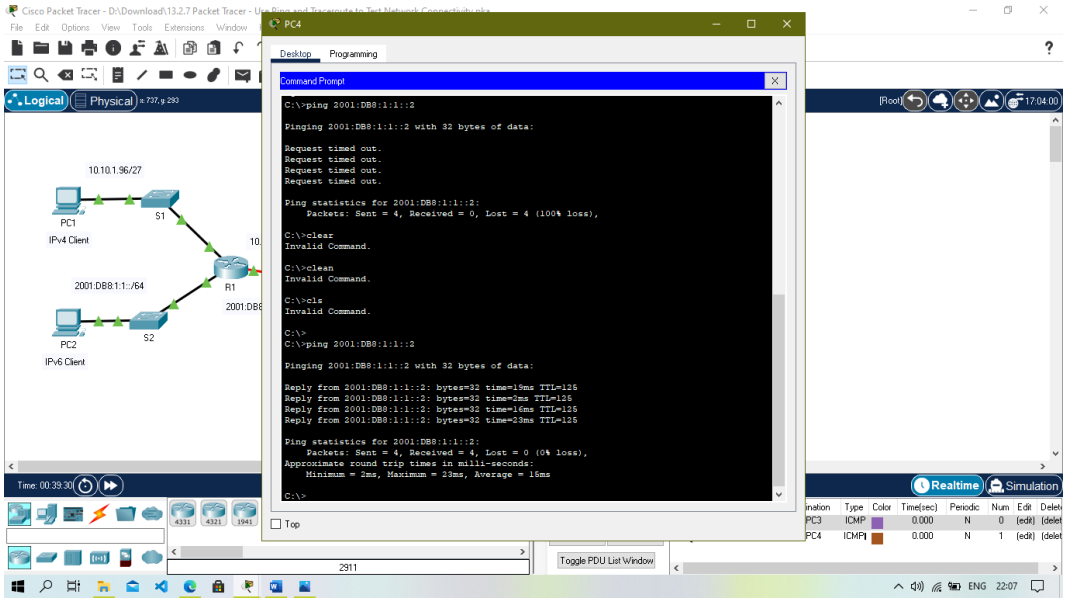


Step 5: Verify that connectivity is restored.

a. From **PC2** test connectivity to **PC4**.



b. From **PC4** test connectivity to **PC2**.

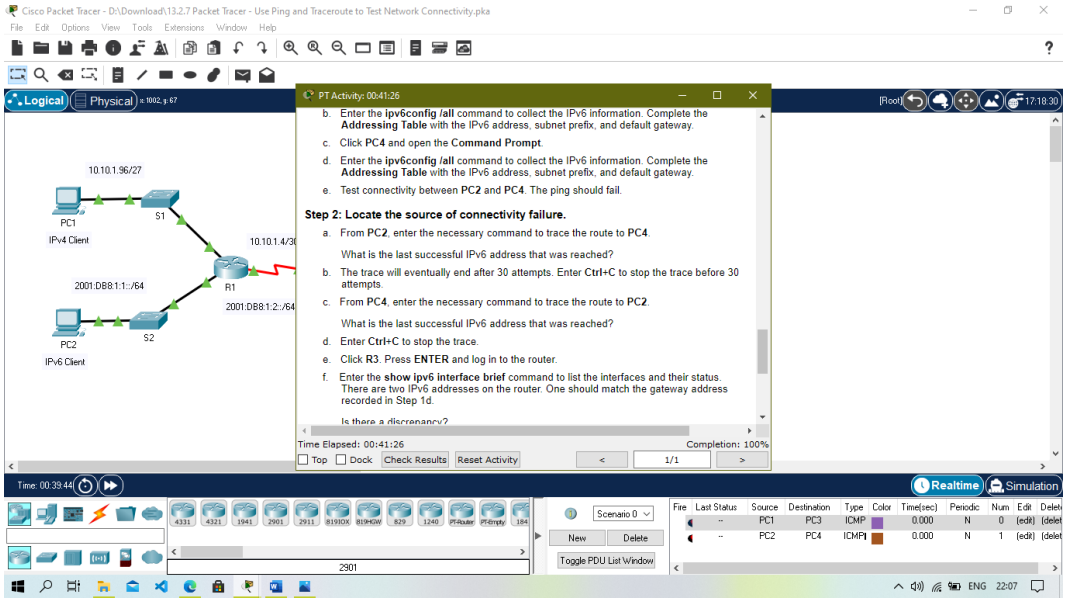


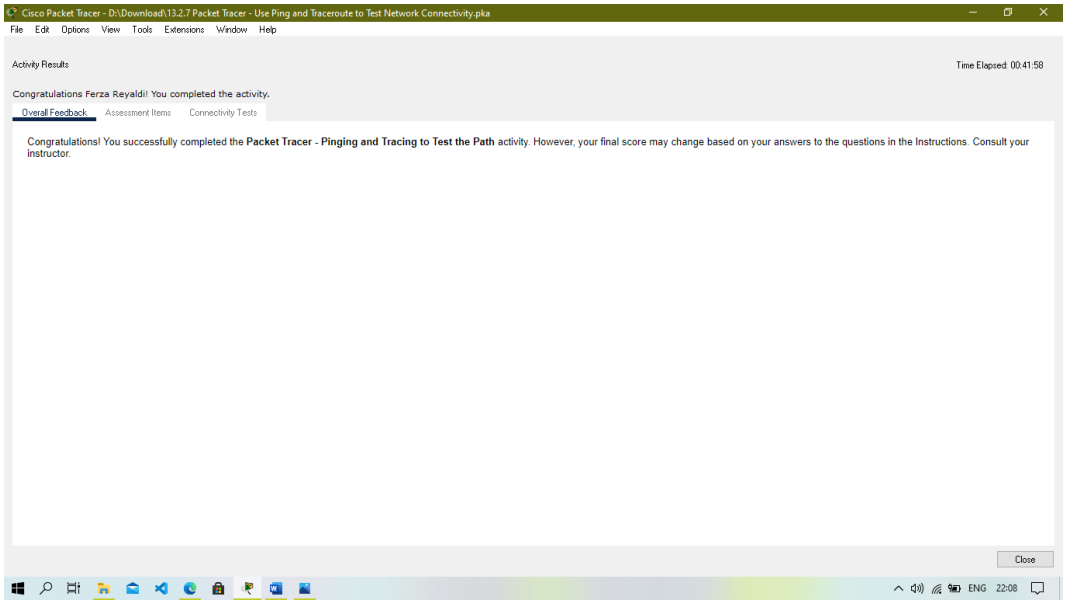
Is the problem resolved?

Yes, the problem had resolved. *(Ya, Masalah berhasil diatasi)*

Step 6: Document the solution

https://drive.google.com/file/d/1IRH1uT5jxzhKN4_7fKEmenasMVkgYIEi/view?usp=sharing


Cisco Packet Tracer - D:\Download\13.2.7 Packet Tracer - Use Ping and Traceroute to Test Network Connectivity.pka
File Edit Options View Tools Extensions Window Help
Logical
Physical
PT Activity: 00:41:26
b. Enter the ipv6config /all command to collect the IPv6 information. Complete the Addressing Table with the IPv6 address, subnet prefix, and default gateway.
c. Click PC4 and open the Command Prompt.
d. Enter the ipv6config /all command to collect the IPv6 information. Complete the Addressing Table with the IPv6 address, subnet prefix, and default gateway.
e. Test connectivity between PC2 and PC4. The ping should fail.
Step 2: Locate the source of connectivity failure.
a. From PC2, enter the necessary command to trace the route to PC4.
What is the last successful IPv6 address that was reached?
b. The trace will eventually end after 30 attempts. Enter Ctrl+C to stop the trace before 30 attempts.
c. From PC4, enter the necessary command to trace the route to PC2.
What is the last successful IPv6 address that was reached?
d. Enter Ctrl+C to stop the trace.
e. Click R3. Press ENTER and log in to the router.
f. Enter the show ipv6 interface brief command to list the interfaces and their status. There are two IPv6 addresses on the router. One should match the gateway address recorded in Step 1d.
Is there a discrepancy?
Time Elapsed: 00:41:26
Completion: 100%
Top Dock Check Results Reset Activity
10.10.1.96/27
PC1
IPv4 Client
S1
10.10.1.4/30
R1
2001:DB8:1:1::/64
2001:DB8:1:2::/64
S2
PC2
IPv6 Client
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
2901


Cisco Packet Tracer - D:\Download\13.2.7 Packet Tracer - Use Ping and Traceroute to Test Network Connectivity.pka
File Edit Options View Tools Extensions Window Help
Activity Results
Time Elapsed: 00:41:58
Congratulations Ferza Reyaldi! You completed the activity.
Overall Feedback
Assessment Items
Connectivity Tests
Congratulations! You successfully completed the Packet Tracer - Pinging and Tracing to Test the Path activity. However, your final score may change based on your answers to the questions in the Instructions. Consult your instructor.
Close