IPv4 Address....................: 10.10.1.98

Subnet Mask.....................: 255.255.255.224

Default Gateway.................: ::

IPv4 Address....................: 10.10.1.18

Subnet Mask.....................: 255.255.255.240

Default Gateway.................: ::

**Step 2: Locate the source of connectivity failure.**

a.     From **PC1**, enter the necessary command to trace the route to **PC3**.

Question:

What is the last successful IPv4 address that was reached?

10.10.1.97

c.     From **PC3**, enter the necessary command to trace the route to **PC1**.

#### Question:

What is the last successful IPv4 address that was reached?

10.10.1.17

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

*Open configuration window*

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.

#### Question:

What is the other?

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.

#### Question:

What are they?

10.10.1.6/32  
 10.10.1.4/30

Type your answers here.

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

10.10.1.10  
 10.10.1.8/30  
 10.10.1.10/32

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

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

10.10.1.2  
 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.

Compare your answers in Step 2 to the documentation you have available for the network.

#### Question:

What is the error?

What solution would you propose to correct the problem?

Type your answers here.

1. R2’s Serial 0/0/0 interface is configured with the wrong IP address

2. Configure the correct IP address on R2’s Serial 0/0/0 interface (10.10.1.5)

### Step 5: Verify that connectivity is restored.

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

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

#### Question:

Is the problem resolved?

Yes

### Step 2: Locate the source of connectivity failure.

a.     From **PC2**, enter the necessary command to trace the route to **PC4**.

#### Question:

What is the last successful IPv6 address that was reached?

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**.

#### Question:

What is the last successful IPv6 address that was reached?

No IPv6 address 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.

#### Question:

Is there a discrepancy?

Yes

### Step 3: Propose a solution to solve the problem.

Compare your answers in Step 2 to the documentation you have available for the network.

#### Question:

What is the error?

PC4 is using the wrong default gateway configuration

What solution would you propose to correct the problem?

Configure PC4 with the correct default gateway address: FE80::3

### Step 5: Verify that connectivity is restored.

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

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

#### Question:

Is the problem resolved?

Yes

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