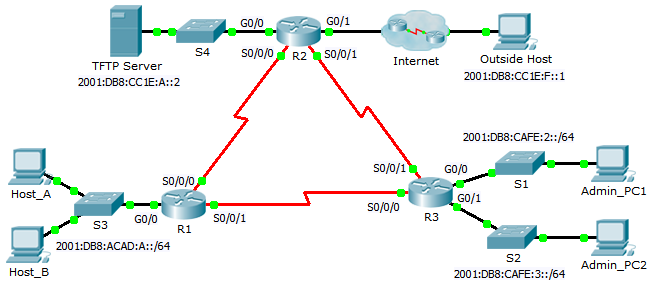
Packet Tracer – Troubleshooting Enterprise Networks 2 (Instructor Version)

**Instructor Note**: Red font color or Gray highlights indicate text that appears in the instructor copy only.

1. Topology



1. Addressing Table

|  |  |  |  |
| --- | --- | --- | --- |
| Device | Interface | IPv6 Address/Prefix | Default Gateway |
| R1 | G0/0 | 2001:DB8:ACAD:A::1/64 | N/A |
| S0/0/0 | 2001:DB8:ACAD:12::1/64 | N/A |
| S0/0/1 | 2001:DB8:ACAD:31::1/64 | N/A |
| R2 | G0/0 | 2001:DB8:CC1E:A::1/64 | N/A |
| G0/1 | 2001:DB8:ACAD:F::2/64 | N/A |
| S0/0/0 | 2001:DB8:ACAD:12::2/64 | N/A |
| S0/0/1 | 2001:DB8:ACAD:23::2/64 | N/A |
| R3 | G0/0 | 2001:DB8:CAFE:2::1/64 | N/A |
| G0/1 | 2001:DB8:CAFE:3::1/64 | N/A |
| S0/0/0 | 2001:DB8:ACAD:31::2/64 | N/A |
| S0/0/1 | 2001:DB8:ACAD:23::1/64 | N/A |
| Admin\_PC1 | NIC | 2001:DB8:CAFE:2::2/64 | FE80::3 |
| Admin\_PC2 | NIC | 2001:DB8:CAFE:3::2/64 | FE80::3 |
| Host\_A | NIC | DHCP Assigned | DHCP Assigned |
| Host\_B | NIC | DHCP Assigned | DHCP Assigned |
| TFTP Server | NIC | 2001:DB8:CC1E:A::2/64 | FE80::2 |
| Outside Host | NIC | 2001:DB8:CC1E:F::1/64 | FE80::4 |

1. Background

This activity uses IPv6 configurations that include DHCPv6, EIGRPv6, and IPv6 default routing. Your task is to review the requirements, isolate and resolve any issues, and then document the steps you took to verify the requirements.

1. Requirements

**DHCPv6**

* **Host\_A** and **Host\_B** are assigned through IPv6 DHCP configured on R1.

**IPv6 Routing**

* Each router is configured with IPv6 EIGRP and uses AS 100.
* **R3** is advertising a summary route to **R2** and **R1** for the two **R3** LANs.
* **R2** is configured with a fully specified default route pointing to the **ISP**.

**Connectivity**

* Devices should be configured according to the Addressing Table.
* Every device should be able to ping every other device.

1. Troubleshooting Documentation

|  |  |  |
| --- | --- | --- |
| **Device** | **Error** | **Correction** |
| R1 | Host\_A and Host\_B do not get addressing from R1 because the IPv6 DHCPv6 pool is not assigned under the G0/0 interface. | interface g0/0  ipv6 dhcp server R1\_LAN |
| R1 | Interface S0/0/1 is configured with the wrong IPv6 address. | int s0/0/1  no ipv6 address 2001:DB8:ACAD:32::1/64  ipv6 address 2001:DB8:ACAD:31::1/64 |
| R1 | S3 is connected to the wrong interface of R1. | Switch the cable in the topology from G0/1 to G0/0 |
| R2 | The default route has the incorrect next-hop address configured. | no ipv6 route ::/0 GigabitEthernet0/0 2001:DB8:ACAD:F::  ipv6 route ::/0 GigabitEthernet0/1 2001:DB8:ACAD:F::1 |
| R2 | IPv6 EIGRP is configured with the wrong autonomous system. | int g0/0  no ipv6 eigrp 1000  ipv6 eigrp 100 |
| R3 | IPv6 EIGRP 100 is shutdown. | ipv6 router eigrp 100  no shutdown |
| R3 | EIGRP summary address is incorrectly advertised on S0/0/1. | int s0/0/0  no ipv6 summary-address eigrp 100 2001:DB8:CAFE::/65 5  ipv6 summary-address eigrp 100 2001:DB8:CAFÉ:2::/63 5  int s0/0/1  no ipv6 summary-address eigrp 100 2001:DB8:CAFE::/65 5  ipv6 summary-address eigrp 100 2001:DB8:CAFE:2::/63 5 |
|  |  |  |
|  |  |  |
|  |  |  |

1. Verification Documentation

Capture output from verification commands and provide documentation proving that each of the requirements has been satisfied.

**Note**: Some EIGRPv6 commands are not scored in Packet Tracer v6.0.1. Your instructor will verify that all requirements are met.

**Instructor’s Note**: The answer key for this section is left blank because there are many ways to verify the requirements. For grading purposes, note that the EIGRPv6 summary routes are not graded in Packet Tracer. Also, Packet Tracer does not grade the next hop address in the fully specified IPv6 default route. Check the student’s file to verify configurations.

1. Suggested Scoring Rubric

Packet Tracer scores 50 points. The troubleshooting documentation and instructor verification is worth 50 points.