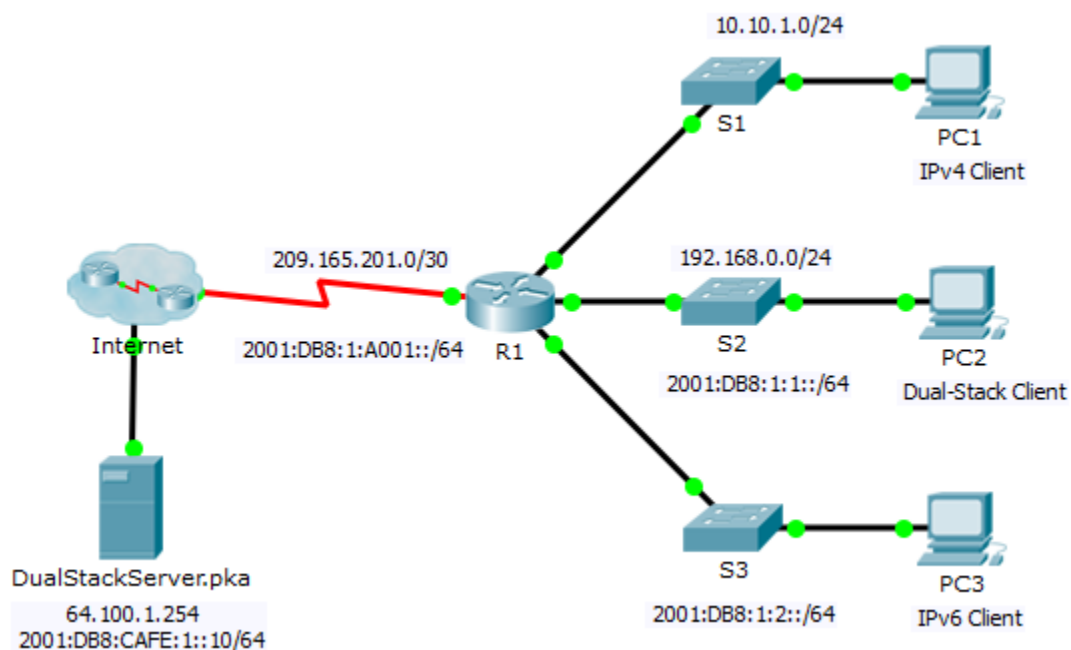


Packet Tracer - Troubleshooting IPv4 and IPv6 Addressing

Topology



Addressing Table

| Device | Interface | IPv4 Address | Subnet Mask | Default Gateway |
|-------------------|------------|------------------------|-----------------|-----------------|
| | | IPv6 Address/Prefix | | |
| R1 | G0/0 | 10.10.1.1 | 255.255.255.0 | N/A |
| | G0/1 | 192.168.0.1 | 255.255.255.0 | N/A |
| | | 2001:DB8:1:1::1/64 | | N/A |
| | G0/2 | 2001:DB8:1:2::1/64 | | N/A |
| | S0/0/0 | 209.165.201.2 | 255.255.255.252 | N/A |
| | | 2001:DB8:1:A001::2/64 | | N/A |
| | Link-local | FE80::1 | | N/A |
| Dual Stack Server | NIC | 64.100.1.254 | 255.255.255.0 | 64.100.1.1 |
| | | 2001:DB8:CAFE:1::10/64 | | FE80::A |
| DNS Server | NIC | 64.100.1.254 | 255.255.255.0 | 64.100.1.1 |
| | | 2001:DB8:CAFE:1::10/64 | | FE80::A |
| PC1 | NIC | 10.10.1.2 | 255.255.255.0 | 10.10.1.1 |
| PC2 | NIC | 192.168.0.2 | 255.255.255.0 | 192.168.0.1 |
| | | 2001:DB8:1:1::2/64 | | FE80::1 |
| PC3 | NIC | 2001:DB8:1:2::2/64 | | FE80::1 |

Objectives

Part 1: Troubleshoot First Issue

Part 2: Troubleshoot Second Issue

Part 3: Troubleshoot Third Issue

Scenario

You are a network technician working for a company that has decided to migrate from IPv4 to IPv6. In the interim, they must support both protocols (dual-stack). Three co-workers have called the help desk with problems and have received limited assistance. The help desk has escalated the matter to you, a Level 2 support technician. Your job is to locate the source of the problems and implement appropriate solutions.

Part 1: Troubleshoot First Issue

A customer using **PC1** complains that she cannot access the **dualstackserver.pka** web page.

Step 1: Verify a detailed help desk ticket.

The help desk collected the following information from the customer, over the phone. Verify that it is correct.

| Help Desk Ticket | |
|---|-----|
| Client Identifier: PC1 | |
| Issue: Unable to access the dualstackserver.pka web page. | |
| Detailed information about the issue | |
| Test: Does the computer have an IP address using ipconfig ? | Yes |
| Test: Can the computer contact its gateway using ping ? | Yes |
| Test: Can the computer contact the server using tracert ? | Yes |
| Test: Can the computer contact the server using nslookup ? | No |
| Resolution: Escalate to Level 2 support. | |

Step 2: Consider probable causes for the failure.

- Note the tests that have been conducted. If possible, discuss possible scenarios that would create this situation with your fellow network technicians (classmates).
- Run more tests if it helps visualize the problem. Simulation mode is available.

Step 3: Propose a solution to solve the problem.

Make a list of things that could be changed to solve this problem. Start with the solution that is most likely to work.

Step 4: Implement the plan.

Try the most likely solution from the list. If it has already been tried, move on to the next solution.

Step 5: Verify the solution resolved the problem.

- Repeat the tests from the help desk ticket. Did it solve the problem?
- If the problem still exists, reverse the change if you are not sure it is correct and return to Step 4.

Step 6: Document the solution.

Record the solution to the problem. If you ever encounter the same problem again, your notes will be very valuable.

Part 2: Troubleshoot Second Issue

A customer using PC2 complains that he cannot access files on the **DualStackServer.pka** at 2001:DB8:CAFE:1::10.

Step 1: Verify a detailed help desk ticket.

The help desk collected the following information from the customer, over the phone. Verify that it is correct.

| Help Desk Ticket | |
|---|-----|
| Client Identifier: PC2 | |
| Issue: Unable to access the FTP service of 2001:DB8:CAFE:1::10. | |
| Detail information about the Issue | |
| Test: Does the computer have an IPv6 address using ipv6config ? | Yes |
| Test: Can the computer contact its gateway using ping ? | Yes |
| Test: Can the computer contact the server using tracert ? | No |
| Resolution: Escalate to Level 2 support. | |

Step 2: Complete Steps 2 to 5 from Part 1 for this problem.

Step 3: Document the solution.

Record the solution to the problem. If you ever encounter the same problem again, your notes will be very valuable.

Part 3: Troubleshoot Third Issue

A customer using **PC3** complains that he cannot communicate with **PC2**.

Step 1: Verify a detailed help desk ticket.

The help desk collected the following information from the user over the phone. Verify that it is correct.

| Help Desk Ticket | |
|--|-----|
| Client Identifier: PC3 | |
| Issue: Unable to communicate with PC2. | |
| Detail information about the Issue | |
| Test: Does the computer have an IP address using ipconfig ? | Yes |
| Test: Does computer have an IPv6 address using ipv6config ? | Yes |
| Test: Can the computer contact its IPv4 gateway using ping ? | No |
| Test: Can the computer contact its IPv6 gateway using ping ? | Yes |
| Test: Can the computer contact the IPv4 client using tracert ? | No |
| Test: Can the computer contact the IPv6 client using tracert ? | Yes |
| Resolution: Escalate to Level 2 support. | |

Step 2: Complete Steps 2 to 5 from Part 1 for this problem.

Step 3: Document the solution.

Record the solution to the problem. If you ever encounter the same problem again, your notes will be very valuable.