

Packet Tracer - Troubleshoot Connectivity Issues

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/0	172.16.1.1	255.255.255.0	N/A
	G0/1	172.16.2.1	255.255.255.0	N/A
	S0/0/0	209.165.200.226	255.255.255.252	N/A
R2	G0/0	209.165.201.1	255.255.255.224	N/A
	S0/0/0 (DCE)	209.165.200.225	255.255.255.252	N/A
PC-01	NIC	172.16.1.3	255.255.255.0	172.16.1.1
PC-02	NIC	172.16.1.4	255.255.255.0	172.16.1.1
PC-A	NIC	172.16.2.3	255.255.255.0	172.16.2.1
PC-B	NIC	172.16.2.4	255.255.255.0	172.16.2.1
Web	NIC	209.165.201.2	255.255.255.224	209.165.201.1
DNS1	NIC	209.165.201.3	255.255.255.224	209.165.201.1
DNS2	NIC	209.165.201.4	255.255.255.224	209.165.201.1

Objectives

In this Packet Tracer activity, you will troubleshoot and resolve connectivity issues, if possible. Otherwise, the issues should be clearly documented so they can be escalated.

Background / Scenario

Users are reporting that they cannot access the web server, www.cisco.pka after a recent upgrade that included adding a second DNS server. You must determine the cause and attempt to resolve the issues for the users. Clearly document the issues and any solution(s). You do not have access to the devices in the cloud or the server www.cisco.pka. Escalate the problem if necessary.

Note: Router R1 can only be accessed using SSH with the username **Admin01** and password **cisco12345**. Router R2 is in the ISP cloud and is not accessible by you.

Instructions

Step 1: Determine connectivity issues from PC-01.

- On PC-01, open the command prompt. Enter the command **ipconfig** to verify what IP address and default gateway have been assigned to PC-01. Correct as necessary according to the Addressing Table.
- After verifying/correcting the IP addressing issues on PC-01, issue pings to the default gateway, web server, and other PCs. Were the pings successful? Record the results.

Ping to default gateway (172.16.1.1)? _____ **YES**

To web server (209.165.201.2)? _____ **YES**

Ping to PC-02? _____ **YES**

To PC-A? _____ **NO**

To PC-B? _____ **NO**

- c. Use the web browser to access the web server on PC-01. Access the web server by first entering the URL <http://www.cisco.pka> and then by using the IP address 209.165.201.2. Record the results.

Can PC-01 access www.cisco.pka? _____ **YES**

Using the web server IP address? _____ **YES**

- d. Document the issues and provide the solution(s). Correct the issues if possible.

The ipv4 address of PC-01 was incorrectly set. It was fixed in IP configuration with correct address. However, PC-01 was unable to ping PC-A and PC-B. The fix for this requires troubleshooting from PC-A and PC-B respectively.

Step 2: Determine connectivity issues from PC-02.

- a. On PC-02, open the command prompt. Enter the command **ipconfig** to verify the configuration for the IP address and default gateway. Correct as necessary.
- b. After verifying/correcting the IP addressing issues on PC-02, issue pings to the default gateway, web server, and other PCs. Were the pings successful? Record the results.

Ping to default gateway (172.16.1.1)? _____ **YES**

To web server (209.165.201.2)? _____ **YES**

Ping to PC-01? _____ **YES**

To PC-A? _____ **NO**

To PC-B? _____ **NO**

- c. Navigate to www.cisco.pka using the web browser on PC-02. Record the results.

Questions:

Can PC-02 access www.cisco.pka? _____ **YES**

Using the web server IP address? _____ **YES**

- d. Document the issues and provide the solution(s). Correct the issues if possible.

The default gateway address of PC-02 was incorrectly set. It was fixed in IP configuration with correct address. However, PC-01 was unable to ping PC-A and PC-B. The fix for this requires troubleshooting from PC-A and PC-B respectively.

Step 3: Determine connectivity issues from PC-A.

- a. On PC-A, open the command prompt. Enter the command **ipconfig** to verify the configuration for the IP address and default gateway. Correct as necessary.
- b. After correcting the IP addressing issues on PC-A, issue the pings to the web server, default gateway, and other PCs. Were the pings successful? Record the results.

To web server (209.165.201.2)? _____ **NO**

Ping to default gateway (172.16.2.1)? _____ **NO**

Ping to PC-B? _____ **YES**

To PC-01? _____ **NO**

To PC-02? _____ **NO**

- c. Navigate to www.cisco.pka using the web browser on PC-A. Record the results.

Can PC-A access www.cisco.pka? _____ **Host Name Unresolved**

Using the web server IP address? _____ **Request timed out**

- d. Document the issues and provide the solution(s). Correct the issues if possible.

By accessing the CLI of router R1 through ssh connection via PC-01, it was seen that the G0/1 interface had wrong ip address. Fixing it solved the connection issues with PC-A which was confirmed by pinging PC-01 and www.cisco.pka from command prompt of PC-A.

Step 4: Determine connectivity issues from PC-B.

- a. On PC-B, open the command prompt. Enter the command **ipconfig** to verify the configuration for the IP address and default gateway. Correct as necessary.
- b. After correcting the IP addressing issues on PC-B, issue the pings to the web server, default gateway, and other PCs. Were the pings successful? Record the results.

To web server (209.165.201.2)? _____ **YES**

Ping to default gateway (172.16.2.1)? _____ **YES**

Ping to PC-A? _____ **YES**

To PC-01? _____ **YES**

To PC-02? _____ **YES**

- c. Navigate to www.cisco.pka using the web browser. Record the results.

Can PC-B access www.cisco.pka? _____ **Host Name Unresolved**

Using the web server IP address _____ **YES**

- d. Document the issues and provide the solution(s). Correct the issues if possible.

The possible fault was in DNS2. Which is inaccessible in the logical map and the server itself cannot be fixed in this scenario.

- e. Could all the issues be resolved on PC-B and still make use of DNS2? If not, what would you need to do?

It is not possible to make use of DNS2 and resolve all issues. Possible way to fix is this is using DNS1 address.

Step 5: Verify connectivity.

Verify that all the PCs can access the web server www.cisco.pka.

Your completion percentage should be 100%. If not, verify that the IP configuration information is correct on all devices and that it matches what is shown in the addressing table.