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 |
| R1 | G0/1 | 172.16.2.1 | 255.255.255.0 | N/A |
| R1 | 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 |
| R2 | 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

## Determine connectivity issues from PC-01.

* + 1. 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.
    2. 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.

### Questions:

Ping to default gateway (172.16.1.1)?

**Answer:** **Yes**

Type you answers here.

To web server (209.165.201.2)?

**Answer:** **Yes**

Type you answers here.

Ping to PC-02?

**Answer:** **Yes**

Type you answers here.

To PC-A?

**Answer:** **No**

Type you answers here.

To PC-B?

**Answer:** **No**

Type you answers here.

* + 1. 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.

### Questions:

Can PC-01 access [www.cisco.pka](http://www.cisco.pka)?

**Answer:** **Yes**

Type you answers here.

Using the web server IP address?

**Answer:** **Yes**

Type you answers here.

* + 1. Document the issues and provide the solution(s). Correct the issues if possible.

**Answer: PC-1’s IP address was configured incorrectly. To correct this issue, the IP address is needed to be changed from 172.168.1.3 to 172.16.1.3. In addition, PC-A and PC-B were not reachable.**

Type your answers here.

## Determine connectivity issues from PC-02.

* + 1. 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.
    2. 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.

### Questions:

Ping to default gateway (172.16.1.1)?

**Answer: Yes**

Type you answers here.

To web server (209.165.201.2)?

**Answer: Yes**

Type you answers here.

Ping to PC-01?

**Answer: Yes**

Type you answers here.

To PC-A?

**Answer: No**

Type you answers here.

To PC-B?

**Answer: No**

Type you answers here.

* + 1. Navigate to www.cisco.pka using the web browser on PC-02. Record the results.

Questions:

Can PC-02 access [www.cisco.pka](http://www.cisco.pka)?

**Answer: Yes**

Type you answers here.

Using the web server IP address?

**Answer: Yes**

Type you answers here.

* + 1. Document the issues and provide the solution(s). Correct the issues if possible.

**Answer: PC-2’s IP address was configured incorrectly. To correct this issue, the IP address is needed to be changed from 172.16.1.11 to 172.16.1.1. In addition, PC-A and PC-B were not reachable.**

Type your answers here.

## Determine connectivity issues from PC-A.

* + 1. 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.
    2. 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.

### Questions:

To web server (209.165.201.2)?

**Answer: No**

Type you answers here.

Ping to default gateway (172.16.2.1)?

**Answer: No**

Type you answers here.

Ping to PC-B?

**Answer: Yes**

Type you answers here.

To PC-01?

**Answer: No**

Type you answers here.

To PC-02?

**Answer: No**

Type you answers here.

* + 1. Navigate to www.cisco.pka using the web browser on PC-A. Record the results.

### Questions:

Can PC-A access [www.cisco.pka](http://www.cisco.pka)?

**Answer: No**

Type you answers here.

Using the web server IP address?

**Answer: No**

Type you answers here.

* + 1. Document the issues and provide the solution(s). Correct the issues if possible.
    2. **Answer: R1 router’s interface G0/1 was configured incorrectly. To correct this issue, the IP address is needed to be changed from 172.16.3.1 to 172.16.2.1**

## Determine connectivity issues from PC-B.

* + 1. 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.
    2. 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.

### Questions:

To web server (209.165.201.2)?

**Answer: Yes**

Type you answers here.

Ping to default gateway (172.16.2.1)?

**Answer: Yes**

Type you answers here.

Ping to PC-A?

**Answer: Yes**

Type you answers here.

To PC-01?

**Answer: Yes**

Type you answers here.

To PC-02?

**Answer: Yes**

Type you answers here.

* + 1. Navigate to www.cisco.pka using the web browser. Record the results.

### Questions:

Can PC-B access [www.cisco.pka](http://www.cisco.pka)?

**Answer: No**

Type you answers here.

Using the web server IP address

**Answer: Yes**

Type you answers here.

* + 1. Document the issues and provide the solution(s). Correct the issues if possible.

**Answer: DNS2 server was not properly configured. As we do not have permission to access it, we are not able to solve it. Furthermore, there is a way to solve it. To solve it, we can change the PC-B’s DNS IP address from DNS2 to DNS1. This can be a temporary solution in this issue.**

* + 1. Could all the issues be resolved on PC-B and still make use of DNS2? If not, what would you need to do?

**Answer: As we do not have permission to access it, we are not able to solve it. The temporary solution can be by changing the IP address of DNS server from DNS2 to DNS1.**

Type your answers here.

## 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.

End of document