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)? **Yes**

***Type you answers here.***

To web server (209.165.201.2)? **Yes**

***Type you answers here.***

Ping to PC-02? **Yes**

***Type you answers here.***

To PC-A? **No**

***Type you answers here.***

To PC-B? **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)? **Yes**

***Type you answers here.***

Using the web server IP address? **Yes**

***Type you answers here.***

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

**The IP address of PC-01 was configured incorrectly and to solve this issue we need to update the IP address from 172.168.1.3 to 172.16.1.3. Also, PC-A and PC-B could not be reached.**

***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.

**The default gateway of PC-02 was configured incorrectly and it updated from 172.16.1.11 to 172.16.1.1**

* + 1. 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)? **Yes**

***Type you answers here.***

To web server (209.165.201.2)? **Yes**

***Type you answers here.***

Ping to PC-01? **Yes**

***Type you answers here.***

To PC-A? **No**

***Type you answers here.***

To PC-B? **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)? **Yes**

***Type you answers here.***

Using the web server IP address? **Yes**

***Type you answers here.***

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

**One of the issues were that the default gateway IP address was configured incorrectly which had been solved and the other issue is neither PC-A nor PC-B could be reached.**

***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)? **No**

***Type you answers here.***

Ping to default gateway (172.16.2.1)? **No**

***Type you answers here.***

Ping to PC-B? **Yes**

***Type you answers here.***

To PC-01? **No**

***Type you answers here.***

To PC-02? **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)? **No**

***Type you answers here.***

Using the web server IP address? **No**

***Type you answers here.***

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

**The interface G0/1 port had an incorrect IP address. However, by updating it from 172.16.3.1 to 172.16.2.1 the issue was solved and the website could be loaded.**

***Type your answers here.***

## 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)? **Yes**

***Type you answers here.***

Ping to default gateway (172.16.2.1)? **No**

***Type you answers here.***

Ping to PC-A? **Yes**

***Type you answers here.***

To PC-01? **Yes**

***Type you answers here.***

To PC-02? **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)? **No**

***Type you answers here.***

Using the web server IP address **Yes**

***Type you answers here.***

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

**We can’t access the website using the URL and this is because of the DNS2 server’s internal issues which PC-B is connected to. However, we can’t solve it as we don’t have access to the DNS2 server.**

**Furthermore, a temporary solution can be to change the IP address of the DNS server to that of DNS1 server.**

***Type your answers here.***

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

**A temporary solution can be to change the IP address of the DNS server to that of DNS1 server.**

***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*