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: Ping to default gateway (172.16.1.1) is successful.**

To web server (209.165.201.2)?

**Answer: Ping to the web server (209.165.201.2) is successful.**

Ping to PC-02?

**Answer: Ping to PC-02 (172.16.1.4) is successful.**

To PC-A?

**Answer: Ping to PC-A (172.16.2.3) is not successful.**

To PC-B?

**Answer: Ping to PC-B (172.16.2.4) is not successful.**

* + 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)?

**Ans: Yes PC-01 can access** [**www.cisco.pka**](http://www.cisco.pka)

Using the web server IP address?

**Ans: Yes PC-01 can access the website using IP address 209.165.201.2**

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

**Ans: PC-01 had the wrong ip address configured. To solve the problem we reconfigured the ip address of PC-01 by following the Addressing table from 172.168.1.3 to 172.16.1.3. Moreover, PC-A and PC-B could not be reached.**

## 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: Ping to default gateway (172.16.1.1) is successful.**

To web server (209.165.201.2)?

**Answer: Ping to the web server (209.165.201.2) is successful.**

Ping to PC-01?

**Answer:** **Ping to the PC-01 is successful.**

To PC-A?

**Answer: Ping to PC-A (172.16.2.3) is not successful.**

To PC-B?

**Answer: Ping to PC-B (172.16.2.4) is not successful.**

* + 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)?

**Ans: Yes PC-02 can access** [**www.cisco.pka**](http://www.cisco.pka)

Using the web server IP address?

**Ans: Yes PC-02 can access the website using IP address 209.165.201.2**

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

**PC-02 had the wrong default gateway configured. To solve the problem we reconfigured the default gateway of PC-01 by following the Addressing table from 172.16.1.11 to 172.16.1.1. Moreover, PC-A and PC-B could not be reached.**

## 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: Ping to the web server (209.165.201.2) is not successful.**

Ping to default gateway (172.16.2.1)?

**Answer: Ping to default gateway (172.16.1.1) is not successful.**

Ping to PC-B?

**Answer: Ping to PC-B (172.16.2.4) is successful.**

To PC-01?

**Answer: Ping to the PC-01 (172.16.1.3) is not successful.**

To PC-02?

**Answer: Ping to the PC-01 (172.16.1.4) is not successful.**

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

### Questions:

Can PC-A access www.cisco.pka?

**Ans: No PC-A cannot access** [**www.cisco.pka**](http://www.cisco.pka). **After configuring the ip Address of the router it works.**

Using the web server IP address?

**Ans: No PC-A cannot access the website using IP address 209.165.201.2 . After configuring the ip Address of the router it works.**

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

***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)?

**Answer: Ping to the web server (209.165.201.2) is successful.**

Ping to default gateway (172.16.2.1)?

**Answer: Ping to default gateway (172.16.1.1) is successful.**

Ping to PC-A?

**Answer: Ping to PC-A is successful.**

To PC-01?

**Answer: Ping to PC-01 is successful.**

To PC-02?

**Answer: Ping to PC-02 is successful.**

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

### Questions:

Can PC-B access www.cisco.pka?

**No PC-B cannot access** [**www.cisco.pka**](http://www.cisco.pka).

Using the web server IP address

**Ans: Yes PC-B can access the website using IP address 209.165.201.2 .**

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

**Ans: We cannot access** [**www.cisco.pka**](http://www.cisco.pka) **because DNS is not properly configured and we are also not allowed to alternate DNS settings.**

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

Ans: Since, **we are also not allowed to alternate DNS settings. We can use DNS1 (209.165.201.3) to access website that is considered as temporary solution**

***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*