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: Success***

To web server (209.165.201.2)?

***Answer: Success***

Ping to PC-02?

***Answer: Success***

To PC-A?

***Answer: Unreachable***

To PC-B?

***Answer: Unreachable***

* + 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.

***Answer: Success***

### Questions:

Can PC-01 access www.cisco.pka?

***Answer: Yes, it can***

Using the web server IP address?

***Answer: Yes, it can***

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

Answer: PC01 had wrong IPv4 address, corrected in desktop IP configuration. Couldn’t ping PCA and PCB.

## 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: Success***

To web server (209.165.201.2)?

***Answer: Success***

Ping to PC-01?

Answer: Success

To PC-A?

Answer: Unreachable

To PC-B?

Answer: Unreachable

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

Questions:

Can PC-02 access www.cisco.pka?

Answer: Yes, it can

Using the web server IP address?

Answer: Yes, it can

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

Answer: Default Gateway was set to 172.16.1.11, should have been 172.16.1.1. PCA and PCB is unreachable.

## 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: NOT successful

Ping to default gateway (172.16.2.1)?

Answer: NOT successful

Ping to PC-B?

Answer: Success

To PC-01?

Answer: NOT successful

To PC-02?

Answer: 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?

Answer: NO

Using the web server IP address?

Answer: NO

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

Answer: PCA can’t ping/reach anything beyond Router R1, we assume there’s something wrong with R1 interface. Logged into R1 with SSH, issued command “show ip interface brief”, and saw that interface G0/1 had the wrong IPv4 address 172.16.3.1 instead of 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: Success

Ping to default gateway (172.16.2.1)?

Answer: Success

Ping to PC-A?

Answer: Success

To PC-01?

Answer: Success

To PC-02?

Answer: Success

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

### Questions:

Can PC-B access www.cisco.pka?

Answer: NOT successful

Using the web server IP address

Answer: Success

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

Answer: PC-B could not access [www.cisco.pka](http://www.cisco.pka) using the web browser. Assume there is something wrong with the DNS server. Nothing we can do here. Possible solution is to change the DNS server to DNS1 209.165.201.3, was configured to DNS2 209.165.201.4.

* + 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: PC-B is/was configured to use DNS2, however DNS2 seems to be wrongly configured. Can’t resolve this issue because we don’t have authorized access to R2/ISP.

## 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