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)?

Type you answers here. **Yes**

Ping to PC-02?

Type you answers here. **Yes**

To PC-A?

answers here. No

To PC-B?

answers here. No

* + 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?

Type you answers here. **Yes**

Using the web server IP address?

Type you answers here. **Yes**

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

Type your answers here.

The Ip address of PC1 is configured incorrectly. To solve this issue we need to update the IP address from 172.168.1.3 to 172.16.1.3 and 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)?

Type you answers here. Yes

To web server (209.165.201.2)?

Type you answers here. Yes

Ping to PC-01?

Type you answers here. Yes

To PC-A?

Type you answers here. No

To PC-B?

Type you answers here. No

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

Questions:

Can PC-02 access www.cisco.pka?

Type you answers here. Yes

Using the web server IP address?

Type you answers here. Yes

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

Type your answers here.

PCA-PCB couldn’t be reached. PC02 had wrong Default Gateway Configuration. In order to solve this issue we have to change the Default Gateway to 172.16.1.1.

## 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)?

Type you answers here. No

Ping to default gateway (172.16.2.1)?

Type you answers here. No

Ping to PC-B?

Type you answers here. Yes

To PC-01?

Type you answers here. No

To PC-02?

Type you answers here. No

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

### Questions:

Can PC-A access www.cisco.pka?

Type you answers here. No

Using the web server IP address?

Type you answers here. No

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

Type your answers here.

Router 1’s interface gigabyte ethernet 0/1 port had a incorrent IP address. By updating with the correct IP address given in the table this problem can be resolved.

**Step 4: 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)?

Type you answers here. Yes

Ping to default gateway (172.16.2.1)?

Type you answers here. Yes

Ping to PC-A?

Type you answers here. Yes

To PC-01?

Type you answers here. Yes

To PC-02?

Type you answers here. Yes

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

### Questions:

Can PC-B access www.cisco.pka?

Type you answers here. No

Using the web server IP address

Type you answers here. Yes

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

Type your answers here.

There might be something wrong in DNS. It maps domain name and IPs. This is an issue. DNS might not be configured correctly too.

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

Type your answers here.

DNS2 is not properly configured. Since we don’t have access to DNS2, we can’t solve this issues. However there can be a temporary solution.We can change the DNS server from PC-B config to 209.165.201.4 and than we can access the website.

## 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