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)?

Type you answers here.

=>Successful

To web server (209.165.201.2)?

Type you answers here.

=>Successful

Ping to PC-02?

Type you answers here.

=>Successful

To PC-A?

Type you answers here.

=>Unsuccessful

To PC-B?

Type you answers here.

=>Unsuccessful

* + 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.

=>PC1’s IP configuration was incorrect. It can be solved by changing IP from 172.168.1.3 to 172.16.1.3

## 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.

=>Successful

To web server (209.165.201.2)?

Type you answers here.

=>Successful

Ping to PC-01?

Type you answers here.

=>Successful

To PC-A?

Type you answers here.

* Unsuccessful

To PC-B?

Type you answers here.

* Unsuccessful
  + 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.

=>Successful

Using the web server IP address?

Type you answers here.

=>Successful

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

Type your answers here.

* The default gateway address was wrong. We can solve it by changing it from 172.16.1.11 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.

=>Unsuccessful

Ping to default gateway (172.16.2.1)?

Type you answers here.

=>Unsuccessful

Ping to PC-B?

Type you answers here.

=>Successful

To PC-01?

Type you answers here.

=>Unsuccessful

To PC-02?

Type you answers here.

=>Unsuccessful

* + 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.

=>Unsuccessful

Using the web server IP address?

Type you answers here.

=>Unsuccessful

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

Type your answers here.

=>The R1 router’s GigabitEthernet0/1 IP configuration was incorrect. It can be solved by changing IP 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)?

Type you answers here.

=>Successful

Ping to default gateway (172.16.2.1)?

Type you answers here.

=>Successful

Ping to PC-A?

Type you answers here.

=>Successful

To PC-01?

Type you answers here.

=>Successful

To PC-02?

Type you answers here.

=>Successful

* + 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.

=>Unsuccessful

Using the web server IP address

Type you answers here.

=>Successful

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

Type your answers here.

* Here the DNS2 server is not properly configured. So DNS2 configuration problems cannot be solved which makes it inaccessible. But we can solve the problem temporarily by using DNS1 server instead of DNS2
  + 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.

* Here the DNS2 server is not properly configured. As it is inaccessible so even if all the issues of PC-B are resolved the problem will remain. But we can solve the problem temporarily by using DNS1 server instead of DNS2

**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