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)? Successful

To web server (209.165.201.2)?

Successful

Type you answers here.

Ping to PC-02?

Successful

Type you answers here.

To PC-A?

Unsuccessful

Type you answers here.

To PC-B?

Unsuccessful

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 PC1 was incorrect. So, we just need to change the IP address to 172.16.1.3

The PC1 could not ping PCA and PCB because the GigabitEthernet0/1 interface of Router1 had incorrect IP address. So we just need to change it to the correct IP address which is 172.16.2.1 and correct subnet mask which is 255.255.255.0

There were no issue with accessing the web server using the URL and using the IP address of the web server.

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.
    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)?

Successful

Type you answers here.

To web server (209.165.201.2)? Unsuccessful

Type you answers here.

Ping to PC-01?

Successful

Type you answers here.

To PC-A?

Unsuccessful

Type you answers here.

To PC-B?

Unsuccessful

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)?

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.

PC2 could not ping PCA and PCB, also could not access the web server of cisco using URL or IP address of the web server. This is due to the incorrect default gateway of PC2 which is set to 172.16.1.11. To solve this, we just need to change the default gateway to correct one which is 172.16.1.1

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)?

Successful

Ping to default gateway (172.16.2.1)?

Successful

Type you answers here.

Ping to PC-B?

Successful

Type you answers here.

To PC-01?

Successful

Type you answers here.

To PC-02?

Successful

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)?

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.

No issue found.

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)?

Successful

Type you answers here.

Ping to default gateway (172.16.2.1)?

Successful

Type you answers here.

Ping to PC-A?

Successful

Type you answers here.

To PC-01?

Successful

Type you answers here.

To PC-02? Successful

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.

The web server could not be accessed using the URL but can be accessed using the IP address of the web server. This is because PCB is not being able to map the domain name of the IP address of the web server therefore, showing the message “Host Name Unresolved”. To solve this problem we can change the DNS, PCB is connected to DNS2 which has an IP address 209.165.201.4 so, we need to change the DNS2 to DNS1 whose IP address is 209.165.201.3 and then we can get access to the web server using the URL.

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?

No, because the problem is the incorrect configuration of DNS2 and we don’t have access to the DNS server which is locked. So, what we can do is changing the DNS to DNS1 and then we can get access to web server using URL.

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