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)?

**Ans: Yes! Successful.**

Type you answers here.

To web server (209.165.201.2)?

**Ans: Yes! Successful.**

Type you answers here.

Ping to PC-02?

**Ans: Yes! Successful.**

Type you answers here.

To PC-A?

**Ans: No! Not successful.**

Type you answers here.

To PC-B?

**Ans: No! Not successful.**

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)?

**Ans: Yes! Accessible.**

Type you answers here.

Using the web server IP address?

**Ans: Yes! Accessible.**

Type you answers here.

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

**Ans:**

**First off, PC-01 had the incorrect IP address configured, which was 172.168.1.3 when it should have been 172.16.1.3. I corrected it from the addressing table to match the right configuration. Additionally, PC-A and PC-B cannot be reached.**

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)?

**Ans: Yes! Successful.**

Type you answers here.

To web server (209.165.201.2)?

**Ans: Yes! Successful.**

Type you answers here.

Ping to PC-01?

**Ans: Yes! Successful.**

Type you answers here.

To PC-A?

**Ans: No! Not successful.**

Type you answers here.

To PC-B?

**Ans: No! Not successful.**

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)?

**Ans: Yes! Accessible.**

Type you answers here.

Using the web server IP address?

**Ans: Yes! Accessible.**

Type you answers here.

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

**Ans: Here, the default gateway for PC-02 was incorrectly configured. I have set that to the correct one from the addressing table in ‘Config’ from 172.16.1.11 to 172.16.1.1. However, both PC-A and PC-B cannot be reached.**

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)?

**Ans: No! Not successful.**

Type you answers here.

Ping to default gateway (172.16.2.1)?

**Ans: No! Not successful.**

Type you answers here.

Ping to PC-B?

**Ans: Yes! successful.**

Type you answers here.

To PC-01?

**Ans: No! Not successful.**

Type you answers here.

To PC-02?

**Ans: No! Not 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)?

**Ans: No! Not accessible.**

Using the web server IP address?

**Ans: No! Not accessible.**

Type you answers here.

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

**Ans:**

**Here, the issues found are PC-A cannot reach out to PC-01, PC-02, default gateway and the web address. It leads to a suspicion that R1 router must not have been configured it the correct way. So, I checked the default gateway and found that it has been set wrong.**

## 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)?

**Ans: Yes! Successful.**

Type you answers here.

Ping to default gateway (172.16.2.1)?

**Ans: Yes! Successful.**

Type you answers here.

Ping to PC-A?

**Ans: Yes! Successful.**

Type you answers here.

To PC-01?

**Ans: Yes! Successful.**

Type you answers here.

To PC-02?

**Ans: Yes! 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)?

**Ans: No! Not accessible**

Type you answers here.

Using the web server IP address

**Ans: Yes! Accessible.**

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

**Ans: There remain one issue which is we cannot access** [**www.cisco.pka**](http://www.cisco.pka) **using the web browser. Here DNS is not properly configured and DNS alteration in settings is not allowed.**

* + 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: DNS access to website can be considered as a solution in this case.**

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