# 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 |
| | G0/1 | 172.16.2.1 | 255.255.255.0 | N/A |
| | 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 |
| | 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.
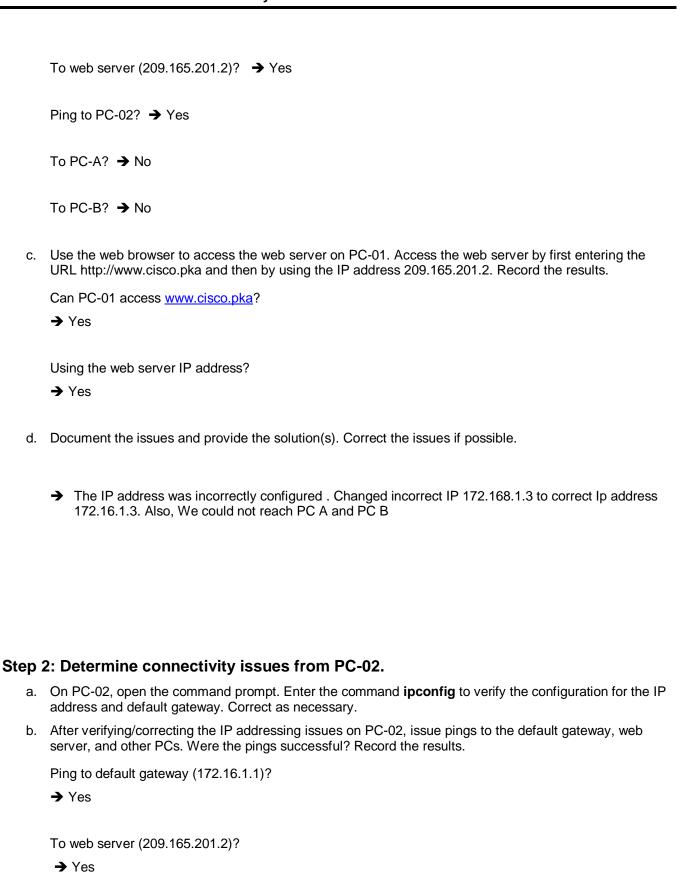
**Note:** Router R1 can only be accessed using SSH with the username **Admin01** and password **cisco12345**. Router R2 is in the ISP cloud and is not accessible by you.

## Instructions

### Step 1: Determine connectivity issues from PC-01.

a. 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.

b. 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.

Ping to default gateway (172.16.1.1)?  ➔  Successful

To web server (209.165.201.2)?  ➔  Yes

Ping to PC-02?  ➔  Yes

To PC-A?  ➔  No

To PC-B?  ➔  No

c. 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.

Can PC-01 access [www.cisco.pka](www.cisco.pka)?

➔ Yes

Using the web server IP address?

➔ Yes

d. Document the issues and provide the solution(s). Correct the issues if possible.

➔ The IP address was incorrectly configured . Changed incorrect IP 172.168.1.3 to correct Ip address 172.16.1.3. Also, We could not reach PC A and PC B

## Step 2: Determine connectivity issues from PC-02.

a. 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.

b. 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.

Ping to default gateway (172.16.1.1)?

➔ Yes

To web server (209.165.201.2)?

➔ Yes

               www.netacad.com

Ping to PC-01?

➔ Yes


To PC-A?

➔ No


To PC-B?

➔  No


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

Questions:

Can PC-02 access www.cisco.pka?


=➔ Yes it can


Using the web server IP address?


➔ Yes


d.  Document the issues and provide the solution(s). Correct the issues if possible.


➔ The default gateway was incorrectly configured for PC2 .We then changed the incorrect gateway

172.16.1.11 to the correct  one which is 172.16.1.1 .We could not reach PC A and PC B

### Step 3: Determine connectivity issues from PC-A.

    a. 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.

    b. 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.

        To web server (209.165.201.2)?

          ➔ No

        Ping to default gateway (172.16.2.1)?

          ➔ No

        Ping to PC-B?

          ➔ Yes

        To PC-01?

          ➔ No

        To PC-02?

          ➔ No

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

        Can PC-A access www.cisco.pka?  ➔ Host name unresolved

        Using the web server IP address?  ➔ Host name unresolved

d.  Document the issues and provide the solution(s). Correct the issues if possible.

➔ R1 had a communication problem because its g0/1 interface had the wrong IP address, so we used SSH from PC-01 to fix it. The incorrect IP, 172.16.3.1, was changed to the correct IP, 172.16.2.1, since R1's CLI was locked.

## Step 4: Determine connectivity issues from PC-B.

a.  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.

b.  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.

To web server (209.165.201.2)?

➔ Yes

Ping to default gateway (172.16.2.1)?

➔ Yes

Ping to PC-A?

➔ Yes

To PC-01?

➔ Yes

To PC-02?

➔ Yes

c.  Navigate to www.cisco.pka using the web browser. Record the results.

Can PC-B access www.cisco.pka?

➔ Host name unresolved

Using the web server IP address

➔ Yes possible

d.  Document the issues and provide the solution(s). Correct the issues if possible.

➔ DNS2 configuration not correct so we could not solve the problem

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

➔ No. Configured PC B's DNS to DNS1 ( 209.165.201.3 ) as a temporary solution.

## Step 5: 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.