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.**

Reply from 172.16.1.1: bytes=32 time=1ms TTL=255

Reply from 172.16.1.1: bytes=32 time<1ms TTL=255

Reply from 172.16.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 172.16.1.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 1ms, Average = 0ms

answers here.

To web server (209.165.201.2)?

**Ans: Yes.**

Reply from 209.165.201.2: bytes=32 time=12ms TTL=126

Reply from 209.165.201.2: bytes=32 time=13ms TTL=126

Reply from 209.165.201.2: bytes=32 time=13ms TTL=126

Ping statistics for 209.165.201.2:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),

Approximate round trip times in milli-seconds:

Minimum = 12ms, Maximum = 13ms, Average = 12ms

Ping to PC-02?

**Ans: Yes.**

Type you answer8

Reply from 172.16.1.4: bytes=32 time<1ms TTL=128

Reply from 172.16.1.4: bytes=32 time=1ms TTL=128

Reply from 172.16.1.4: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.1.4:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 1ms, Average = 0ms

ere.

To PC-A?

09.1**Ans: No.**ost unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Ping statistics for 172.16.2.3:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)

To PC-B?

**Ans: No**

Type .165.200.225: Destination host unreachable.

` Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Ping statistics for 172.16.2.4:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)

* + 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?

**Ans: Yes.**

Using the web server IP address?

**Ans: Yes.**here.

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

=> PC1s Ip Address was fixed to 172.16.1.1e.

## 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. ==> PC2s default gateway was fixed to 172.16.1.1
    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.**

Reply from 172.16.1.1: bytes=32 time<1ms TTL=255

Reply from 172.16.1.1: bytes=32 time<1ms TTL=255

Reply from 172.16.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 172.16.1.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

u answers here.

To web server (209.165.201.2)?

**Ans: Yes.**

Reply from 209.165.201.2: bytes=32 time=6ms TTL=126

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Ping statistics for 209.165.201.2:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 1ms, Maximum = 8ms, Average = 4ms

answers here.

Ping to PC-01?

**Ans: Yes.**yo8

Reply from 172.16.1.3: bytes=32 time<1ms TTL=128

Reply from 172.16.1.3: bytes=32 time<1ms TTL=128

Reply from 172.16.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.1.3:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 1ms, Average = 0ms

here.

To PC-A?

**Ans: No**25: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Ping statistics for 172.16.2.3:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)

To PC-B?

**Ans: No.**

Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Reply from 209.165.200.225: Destination host unreachable.

Ping statistics for 172.16.2.4:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)

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

Questions:

Can PC-02 access www.cisco.pka?

**Ans: Yes.**

Using the web server IP address?

**Ans: Yes.**

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

TPC2s default gateway was fixed 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)?

**Ans: No.**

After fixing:

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Ping statistics for 209.165.201.2:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 1ms, Maximum = 2ms, Average = 1ms

Ping to default gateway (172.16.2.1)?

**Ans: No.**

Reply from 172.16.2.1: bytes=32 time<1ms TTL=255

Reply from 172.16.2.1: bytes=32 time<1ms TTL=255

Reply from 172.16.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 172.16.2.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

Ping to PC-B?

**Ans: Yes.**

Reply from 172.16.2.4: bytes=32 time<1ms TTL=128

Reply from 172.16.2.4: bytes=32 time<1ms TTL=128

Reply from 172.16.2.4: bytes=32 time<1ms TTL=128

Reply from 172.16.2.4: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.2.4:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

s here.

To PC-01?

**Ans: No.**

Reply from 172.16.1.3: bytes=32 time=2ms TTL=127

Reply from 172.16.1.3: bytes=32 time<1ms TTL=127

Reply from 172.16.1.3: bytes=32 time<1ms TTL=127

Reply from 172.16.1.3: bytes=32 time<1ms TTL=127

Ping statistics for 172.16.1.3:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 2ms, Average = 0ms

s here.

To PC-02?

**Ans: No.**

Reply from 172.16.1.4: bytes=32 time<1ms TTL=127

Reply from 172.16.1.4: bytes=32 time<1ms TTL=127

Reply from 172.16.1.4: bytes=32 time<1ms TTL=127

Ping statistics for 172.16.1.4:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

re.

* + 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.**

Type you answers here.

Using the web server IP address?

**Ans: No.**

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

**Ans: Router 1’s interface gigabit ethernet 0/1 had an incorrect IP Address. To solve this issue, we need to update the correct IP Address given in the Address Table for PC-A to successfully load the website.**yanswers 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)?

**Ans: Yes.**26

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Reply from 209.165.201.2: bytes=32 time=1ms TTL=126

Ping statistics for 209.165.201.2:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 1ms, Maximum = 1ms, Average = 1ms

Ping to default gateway (172.16.2.1)?

**Ans: Yes.**

Reply from 172.16.2.1: bytes=32 time<1ms TTL=255

Reply from 172.16.2.1: bytes=32 time<1ms TTL=255

Reply from 172.16.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 172.16.2.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

Ping to PC-A?

**Ans: Yes.**

Reply from 172.16.2.3: bytes=32 time<1ms TTL=128

Reply from 172.16.2.3: bytes=32 time<1ms TTL=128

Reply from 172.16.2.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.2.3:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 1ms, Average = 0ms

To PC-01?

**Ans: Yes.**7

Reply from 172.16.1.3: bytes=32 time<1ms TTL=127

Reply from 172.16.1.3: bytes=32 time=1ms TTL=127

Reply from 172.16.1.3: bytes=32 time<1ms TTL=127

Ping statistics for 172.16.1.3:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 1ms, Average = 0ms

here.

To PC-02?

**Ans: Yes.**

Reply from 172.16.1.4: bytes=32 time<1ms TTL=127

Reply from 172.16.1.4: bytes=32 time<1ms TTL=127

Reply from 172.16.1.4: bytes=32 time<1ms TTL=127

Ping statistics for 172.16.1.4:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

you answers here.

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

### Questions:

Can PC-B access www.cisco.pka?

**Ans: No.** here.

Using the web server IP address

**Ans: Yes.** you answers here.

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

**Ans: DNS 2 is not properly configured. Since we don’t have direct access to DNS 2 so we cannot fix any internal problems within DNS 2 server.**

* + 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:** **No. As we do not have direct access to DNS 2 so we cannot fix any internal problems within DNS 2 server. But a temporary solution can be changing the DNS IP to DNS 1 for PC-B and 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