Lab Assignment
& Solution

Network Fundamentals

IC-04-LS2
IP Addressing

Lab Objective

Acquire additional knowledge of IP address communication.

Lab Mission

Learn about IP addresses by way of a short quiz.

Lab Duration

10–15 minutes

Requirements

- Basic knowledge of the Internet Protocol (IP)

Resources

- Environment & Tools
  - Text editor

Textbook References

- Chapter 3: Network Fundamentals
  - Section 2: Network Addressing

Lab Task: IP Addressing Quiz

Test your knowledge of IP addressing via a short quiz.

The questions below assume the use of the classful network addressing model. Answer each of the questions below.

1. PC1 has the IP address **10.0.25.29**, and tries to communicate with PC2, which has the IP address **192.168.1.12**. Assume that both PCs are on the same LAN and are not connected to a router. Will PC1's communication attempt succeed if the addresses follow the A, B, C network class system? Why or why not?

> No; their subnets are different, and they would not be able to communicate on the same LAN.

2. PC5 has the **IP 172.20.7.12**. What is its subnet mask and CIDR, according to network addressing?

> **/16** or **255.255.0.0**, the default subnet mask for this IP range.

3. PC3 has the IP **172.20.0.13** and wants to communicate with PC5, which has the IP **172.20.7.12**. Both PCs are not connected to a router. Can PC3 communicate with PC5 if the addresses follow the classful network addressing model? Why?

> Yes. By default, their subnets are the same and they are part of the same network, **172.20.0.0/16**.

4. PC6 has the IP address **10.0.0.25**. Can packets be routed directly to PC6 from the internet and vice versa? Why?

> No; **10.0.0.25** is a private address (RFC 1918) and would not operate on the internet.

5. List two public IP addresses.

> Examples: **134.159.32.0** and **192.104.249.0**

6 Which class does the network address *172.16.0.0* belong to?

Class B.

7 What are the network and host portions of the address *192.168.0.54/24*?

192.168.0 is the network portion; *.54* is the host portion.