

Tutorial (TD) – IPv4 Addressing

Dr Amal BOUMEDJOUT

Oran National Polytechnic School (ENPO)

Department of Computer Systems Engineering

Email: amal.boumedjout@enp-oran.dz

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Oran National Polytechnic School (ENPO)

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Tutorial Overview



This tutorial is designed to reinforce the fundamental concepts of IPv4 addressing. Students are required to justify all answers.

Exercise 1 : IPv4 Address Class Identification



Identify the class (A, B, or C) of the following IPv4 addresses and justify your answer:

- a) 10.12.5.7
- b) 150.45.8.2
- c) 192.168.10.5
- d) 8.34.120.1

Exercise 2 : Public vs Private IPv4 Addresses



Indicate whether each IPv4 address is public or private. Justify your answer:

- a) 192.168.1.50
- b) 172.20.14.3
- c) 172.40.8.9
- d) 10.0.5.25
- e) 54.120.33.9

Exercise 3 : Network and Broadcast Address



Given the network 192.168.20.0/24:

- Determine the network address
- Determine the broadcast address
- Give the range of usable host addresses

Exercise 4 : Default Subnet Masks



For each IPv4 class below, give the default subnet mask and the number of hosts per network:

- Class A,
- Class B,
- Class C

Exercise 5 : Conceptual Questions



Answer the following questions:

1.) What is the role of an IPv4 network address?
2.) Why is the broadcast address important in a local network?
3.) Why are private IPv4 addresses commonly used in enterprise networks?

Exercise 6 : Real-World Scenario



A company uses the IPv4 address 10.25.0.0/16 for its internal network.

1.) Is this address public or private?
2.) Identify the IPv4 class of this network.
3.) Explain why this address range is suitable for an enterprise network.

Mentions légales



Dr. Amel BOUMADJOUT