Tutorial (TD) – IPv4 Subnetting

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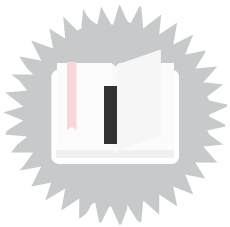

Tutorial Overview

This tutorial focuses exclusively on IPv4 subnetting with equal-size subnets.
CIDR notation is NOT allowed. Only dotted-decimal subnet masks must be used.
All subnets created in each exercise must have the same size.
Students must clearly show all calculation steps.

Exercise 1 : Subnetting a Class C Network

Given the network 192.168.1.0 with the default mask 255.255.255.0:

- a) Divide the network into 4 equal subnets.
- b) Give the new subnet mask in dotted-decimal format.

- c) For each subnet, give:
  - Network address
  - Broadcast address
  - Usable host range

Exercise 2 : Fixed Number of Subnets

Given the network 192.168.10.0 with mask 255.255.255.0:

- a) Create 8 equal-size subnets.
- b) Determine the subnet mask.
- c) Give the network address of the first 5 subnets.

Exercise 3 : Host Capacity Verification

The network 192.168.20.0 uses the subnet mask 255.255.255.224.

- a) How many equal-size subnets are created from the original Class C network?
- b) How many usable hosts are available per subnet?
- c) Give the network and broadcast address of the second subnet.

Exercise 4 : Class B Network Subnetting

Given the network 172.16.0.0 with the default mask 255.255.0.0:

- a) Divide the network into 16 equal-size subnets.
- b) Give the new subnet mask.
- c) Give the network address of the first 4 subnets.

Exercise 5 : Subnet Increment Method

Given the network 192.168.50.0 and subnet mask 255.255.255.192:

- a) Determine the subnet increment.
- b) List all subnet network addresses.
- c) Give the broadcast address of the last subnet.

Exercise 6 : Complete Subnet Analysis

Given the network 192.168.100.0 with subnet mask 255.255.255.240:

- a) How many equal-size subnets are created?
- b) How many usable hosts per subnet?
- c) Give the complete details of the third subnet:
  - Network address
  - Broadcast address
  - Usable host range

Mentions légales

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