Kingdom of Saudi Arabia
Ministry of Education
University of Hail
College of Computer Science and
Engineering
Department of Computer Science



المملكة العربية السعودية وزارة التعليم جامعة حائل كلية علوم وهندسة الحاسب الالي قسم علوم الحاسب

# **University Network**

Submission date 27/4/2025

**Group 9** 

**Bushra Mohammad Alotaibi** 

**Course: Computer Networks – CSCE353** 

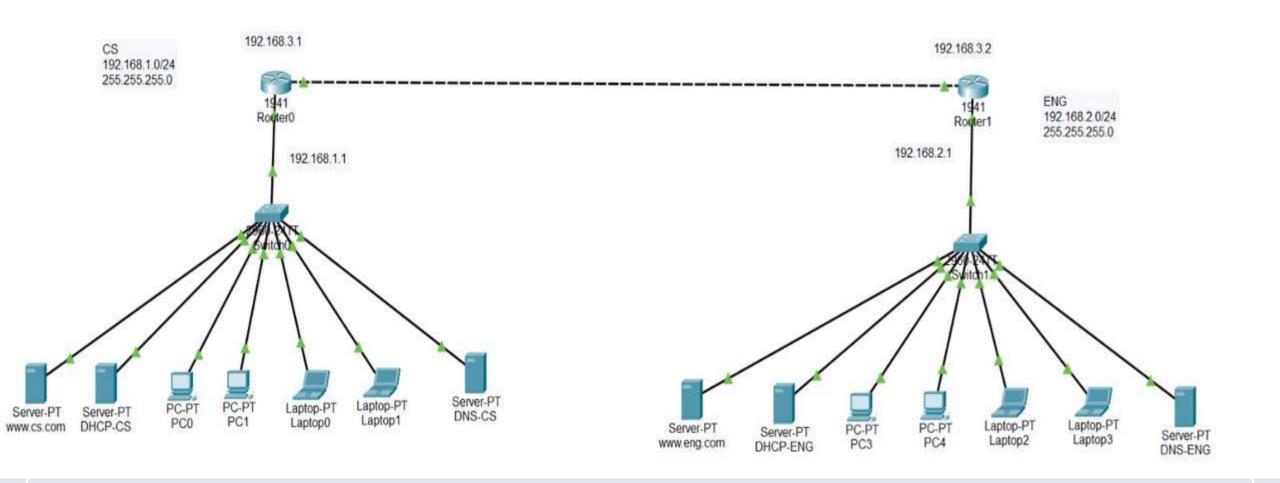
**Section: 351** 

**Instructor: Ghadah Alateeq** 

### **Project Objectives:**

The objective of this project is to design and implement a robust **university network infrastructure** that ensures seamless communication, security, and efficient resource management. This network will support students, faculty, and administrative staff by providing reliable connectivity and essential network services.

- 1- Scalable Design: Build a structured network that efficiently connects all university units.
- **2- Interdepartmental Communication:** Ensure secure and smooth communication across faculties and offices.
- 3- Centralized Services: Deploy core services (DNS, DHCP, Email, Web) centrally for better management.
- 4- Secure Internet Access: Provide reliable and protected internet connectivity campus-wide.
- **5- Performance & Reliability:** Optimize performance and reduce failure risks through proper routing and switching.
- **6- Future-Proofing:** Design with flexibility to support future expansions and technologies.
- **7- VLAN Implementation:** Segment the network using VLANs to enhance security and manage traffic.
- 8- Resource Sharing: Enable shared access to devices and services among authorized users.



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