This is a fourth-year students' laboratory, it represents the practical side of the theoretical study of Network Protocols, which is given for the network engineering branch during two semesters.

LABORATORY OBJECTIVES.

1. Introducing students to the basis of networks, network devices, how to connect them, ways to subnet networks and apply different protocols.
2. Teach students how to assign IP Address to router ports and apply static routing.
3. Teach students dynamic routing for internal and external networks using OSPF and EIGRP protocols.
4. Teach students how to apply:
    a. Redundancy using HSRP.
    b. Load Balancing mechanism using GLPB.
    c. Standard ACL and Extended ACL.
5. Teach students how to use VLAN and access internal networks using ROS and protection mechanism using STP.
6. Teaching students how to implement external networks (WLAN) and provide secure connection using VPN.