

CCNA & MTCNA 2504: Project 1

Project Title

Enterprise LAN Design with Inter-VLAN Routing and EtherChannel for High Availability

1. Project Objective

Design and implement a LAN network for a medium-sized enterprise that:

- Separates departments using VLANs for security and traffic segmentation.
- Uses Inter-VLAN routing to allow controlled communication between departments.
- Implements EtherChannel to increase bandwidth and redundancy between core and distribution switches.

2. Network Scenario

A company has three departments:

- HR (VLAN 10)
- IT (VLAN 20)
- Finance (VLAN 30)

Requirements:

- Each department should have its own VLAN.
- Communication between VLANs must be done through a Router
- EtherChannel should be configured between the core switch and distribution switches for better throughput and failover.

3. IP Addressing Scheme

VLAN	Subnet	Gateway	Department
10	172.31.10.0/24	172.31.10.1	HR
20	172.31.20.0/24	172.31.20.1	IT
30	172.31.30.0/24	172.31.30.1	Finance

4. Deliverables (Project Outputs)

- Network Topology Diagram
- Configuration commands for each device
- Test results (Screen shots of Ping tests, EtherChannel redundancy verification).
- Documentation of IP scheme & VLAN mapping.
- Powerpoint presentation
- Deadline and Event time: Sep 6, 2025

5. Mark focus

- Dress Up
- Powerpoint Slide
- Effective Network topology
- Fluent Communication

6. Group Distribution

Groups	Participants
Group 1	Md. Abdul Halim Zayed
	MD Arafat Alam
	Tanvir Mahbub
Group 2	Dilruba Islam
	Shanta Islam

	Md Mehedi Hassan Piash
Group 3	Anas Abdullah
	Safiuddin Sayam
	Md. Ishrak Khan
Group 4	Sidratul Muntaha Shahel
	MD. Shishir Ahmed
	Shahriar Sami
Group 5	Md.Istique Ahmed
	Mostofa Shariar Fahim