# DEPI Final Project - Cisco Cybersecurity Engineer Track

Welcome to our team's final project for the DEPI Cisco Cybersecurity Engineer Track. This project encompasses the key concepts from both the CCNA and CyberOps courses, showcasing our skills in network design, implementation, and security using Cisco technologies.

## Team Members

We are a team of five enthusiastic Cisco cybersecurity engineers:

* 1. Mustafa Gomaa
* 2. Mohammed Quandel
* 3. Youssef Samuel
* 4. Abdallah Sleim

## Project Overview

Title: Building and Securing a Small Network

Platform: Cisco Packet Tracer

Our project focuses on designing, implementing, and securing a small network for an organization. The tasks were divided among the team, and the network was fully tested for functionality, security, and performance.

## Tasks and Deliverables

### 1. IP Addressing Table ()

- Designed and documented a detailed IP addressing scheme for all network devices.

### 2. Initial Configuration ()

- Configured routers and switches with:  
 - Hostnames  
 - SSH-only access  
 - Passwords  
 - no shutdown commands  
 - DHCP for dynamic IP allocation  
 - Additional essential configurations for basic functionality

### 3. OSPF Routing ()

- Implemented OSPF (Open Shortest Path First) for dynamic routing between network segments.

### 4. VLANs and Inter-VLAN Routing ()

- Configured:  
 - VLANs for network segmentation  
 - VLAN trunks  
 - Inter-VLAN routing using the Router-on-a-Stick method

### 5. Network Security ()

- Enhanced security by implementing:  
 - Port security  
 - Access Control Lists (ACLs)  
 - Basic firewall rules  
- Secured routers and switches to mitigate unauthorized access and potential threats.

## Project Workflow

### Week 1: Network Design and Configuration

- Created the network topology, IP addressing scheme, and initial device configurations.

### Week 2: VLANs and Inter-VLAN Routing

- Implemented VLANs and established Inter-VLAN routing.

### Week 3: Network Security Implementation

- Applied security measures, including ACLs and basic firewall rules.

### Week 4: Final Testing and Reporting

- Conducted thorough testing for functionality, security, and performance.  
- Prepared a final report and presentation.

## Tools and Technologies

* Cisco Packet Tracer: Network simulation tool
* Cisco IOS: Device operating system
* Network Security Features: ACLs, port security, and firewall rules
* Dynamic Routing: OSPF

## Acknowledgments

We extend our gratitude to our instructors and mentors for guiding us throughout the DEPI program. This project reflects the skills and knowledge we gained during the Cisco Cybersecurity Engineer Track.