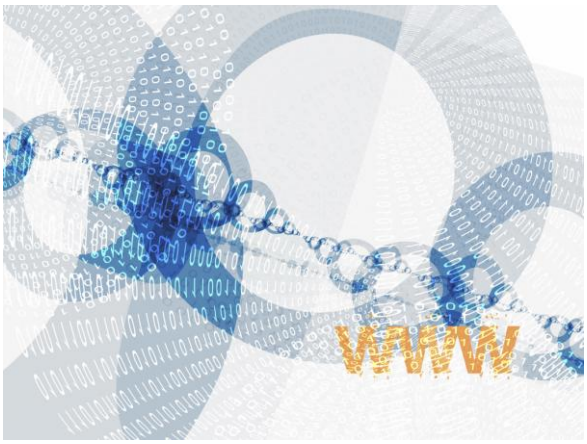
NAIT

Edmonton **Alberta**

CYBR3010

Cybersecurity Foundations

Virtual Lab Build - CML



Student:_____ **Group**:____

Virtual Lab Build - CML

Estimated time: 180 minutes

Objectives

Virtual labs refer to labs that are based on virtual machines and are designed to provide hands-on cybersecurity training through simulated real-world environments. They offer students the opportunity to practice different aspects of cybersecurity and network building, with the added benefit of being able to save their work on a portal drive that can be accessed from the classroom or at home.

Background:

In this lab, students will work within a Cisco Modeling Lab (CML) environment.
Your task is to design, build, configure, and document a virtual lab network. This exercise will help you become familiar with the lab environment you'll be using for the remainder of the course.
Include screen captures as evidence of your work.

Instructions:

Using a virtual firewall, a virtual switch, and virtual client machines, create and configure a virtual network with the following requirements:

1- **Network Design**
   - Use MS Visio (or any other diagramming tool) to design an interconnected network containing:
     1- 1x Virtual Firewall
     2- 1x Virtual Network Switch
     3- 4× Virtual Machines, each running a different operating system (Kali Linux, Windows 10, Windows 11, Windows 7, Linux)
   - Build and interconnect your network on a virtual lab environment (CML)
   - Turn on all devices and ensure all devices are up and running and ready for configuration
2- **Lab Setup in CML**
   - Build and interconnect your network in the CML virtual lab environment.
   - Power on all devices and verify that they are running and ready for configuration.

Deliverables

Submit a PDF document containing screenshots and explanations, including:

- **Network Diagram**: A Visio (or equivalent) diagram showing the final network layout.
- **Introduction:** A brief overview of your network build and its purpose.
- **Device Status Proof:** Screenshots confirming that each virtual device is operational.
- **Rebuild Guide:** A clear, step-by-step set of instructions that could be followed to recreate the system from scratch.