Assessment 2 IOT­­­­­­

# Implement IOT environment

## Introduction

In this part I present my-self:

Student name: Marco

Student Surname: Cavani

Class for the recording: CSI2450 – IoT and OT Security case study Assessment 2

Student ID: 105570027

In this simulation I will demonstrates the configuration of both client and server of an IOT environment within a school who ask the implementation of measures to prevent unauthorized access to their system where only authorized students can access information about the computer lab room temperature. Additionally, I will simulate a DoS attack against the system and demonstrate the importance of having the firewall in place.

Set Up

in my screen I have two Linux terminal windows opened ubuntu and kali. Ubuntu OS is used as a server kali on the other hand plays the rule of subscriber with permission to reader and publisher represented by the staff with permission to write. So, Kali on the client side will play the rule of both publisher and subscriber.

In the first scenario, the subscriber is an authorized user which has the right credential to access the computer lab temperature While, in the second scenario, the subscriber is a malicious figure attempting to strike a DoS attack.

For the first scenario I will demonstrate the subscriber read permission while in the second scenario, I will address the firewall to mitigate the attack.

Kali publisher and subscriber???? Workshop 3?

Port scan workshop 5?

Username = student ID => read

Account Staff => can update temperature

Topic => computer\_lab python file

Access control

Firewall at home/student/mqtt.services???

Sudo Iptables -L is to check current rules as it can be seen the number of connections is limited to 20 to moderate the DDoS attack

Deploy a mosquito broker in ubuntu and a client in Kali

Kali will be the client playing the rule of both publisher and subscriber

Subscriber is an authorized student and receive temperature updates from the computer lab (script?) read permission

Staff user should be able to publish­ write permission

Etc controls the roles are defined

Workshop 5