Configuration Manual

MSc Internship
Cybersecurity

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Programme: MSc. Cybersecurity  
Year: 2019-2020

Module: Academic Internship

Lecturer: Imran Khan

Submission Due Date: 12 December 2019

Project Title: Behavioural Based Threat Modelling to Increase The Efficiency in Breach Identification and Notification

Word Count: 693  
Page Count: 7

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1 Introduction

This manual explains how the system and software are set up to produce the results of thesis “Behavioural based threat modelling to increase the efficiency in breach identification and notification” in relation to software and hardware requirements.

2 System Specifications:

Hardware Requirements:

Processor: 1.6 GHz Intel. Core i5  
Memory: 8 GB 2133 MHz LPDDR3  
Hard disk size: 121.02 GB

Software Used:

Operating System: macOS 10.14.6

Tools & Applications:

Visual Studio Code 1.40.2: Code editor that is used to develop and debug modern web applications.

Xampp: Cross-platform web server used for testing and deployment which has apache HTTP Server and MySQL.

Postman: Tool used for testing API in various environments, helps us to simulate the user interaction with the system.

Angular CLI: Command line tool used to generate and modify applications
3 Execution

The steps followed for installing and execution are as follows

Step 1: Install Visual Studio Code in the system.

Step 2: Install Xampp to access MySQL database.

Step 3: Install the postman tool to generate API request

Step 4: Install Nodejs and Angular CLI.

Step 5: Check and validate token that has been passed as token

![Figure – 1 Validating Tokens](image1.png)

Step 6: Controllers/logs.js is used to handle requests and response from postman application

![Figure –2 Handling API Requests](image2.png)
Step 7: Checking the login attempts to identify Brute Force.

Figure –3 Brute Force Identification

Figure –4 Login attempts validation
Step 8: Check tokens to identify Access Token Manipulation Technique.

![Step 8: Check tokens to identify Access Token Manipulation Technique.](image)

Step 9: Validate new token and old token to check whether the sent token is valid or not.

![Step 9: Validate new token and old token to check whether the sent token is valid or not.](image)
The Dashboard developed using pages template will show the suspicious activities from the API requests generated from Postman.

![Dashboard displaying alerts for above techniques](image)

**Figure – 7** *Dashboard displaying alerts for above techniques*