Configuration Manual

MSc Research Project
Msc. In Cyber Security

Ishaan Singh
Student ID: x20233485

School of Computing
National College of Ireland

Supervisor: Mr. Niall Heffernan

Student Name:	Ishaan Singh
Student ID:	x20233485
Programme:	Msc. In Cyber Security **Year:** 2021-2022
Module:	Msc. Research Project
Lecturer:	Mr. Niall Heffernan
Submission Due Date:	19/09/2022
Project Title:	Cybersecurity Challenges and Data Protection in Smart Grids: Providing Blockchain & Cryptographic Countermeasures
Word Count:	471 **Page Count:** 2

Signature:	Ishaan Singh
Date:	19/09/2022

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

Configuration Manual

Ishaan Singh
Student ID: x20233485

1　Introduction

Detailed information about the software and hardware used in the research project can be found in the configuration manual. All the specifications and basic computer requirements which are important is described in the following sections. What new software and libraries need to be pre – installed in the system are required for reproducing the work is discussed.

2　Environment Specifications

For this Research Project, there are certain specifications and requirements which need to be fulfil before running the code or data.

2.1　Hardware Specifications

Minimum Hardware Requirements for the research project are as follows;

1) System: Laptop or Desktop
2) Operating System: Windows 10 (64-bit Operating System) or higher
3) Second Operating System required: Kali Linux
4) RAM: Minimum 8 GB
5) Hard Disk: 512 GB (SSD) or more
6) Graphic Card: 2GB or more

2.2　Software Specifications

Minimum Software Requirements for the research project are as follows;

1) Operating System: Windows 10 and Kali Linux
2) Scripting Language: Python
3) Scripting Language Version: 3.7
4) IDE: Jupyter Notebook

2.3　Libraries

Some Libraries are required to run the python script in Kali Linux terminal.

Web3Py: Command- pip install web3
Pandas: Command- pip install pandas
Numpy: Command- pip install numpy
Matplot: Command- pip install matplotlib

2.4 Prerequisites

Some prerequisites are required to run the code.

1) Download and Install the Python 3.7 (https://www.python.org/downloads/)
2) Install [Node.js] (https://nodejs.org/en/download/) and npm (comes with node)
3) [Git] (https://git-scm.com/downloads)
4) Download and install [Ganache UI] (https://www.trufflesuite.com/ganache).

3 Installation

In this section, we will perform the next steps after checking the python version and installing the libraries. Open Kali Linux terminal and now we have to check for the node js.

- ✓ First, we will check the version of npm by typing command- node -v and after that if it's not installed, we have to install it.
- ✓ After we have to run the command- sudo apt install npm and after that if it's not installed, we have to install it.
- ✓ Now, we have to download and install the Ganache UI (Blockchain Interface). It can be downloaded from https://trufflesuite.com/ganache/. For Tutorial of installation [1] Below are the two commands which are required to install the ganache.
  $ chmod +x ganache-2.5.4-linux-x86_64.AppImage
  $ ./ganache-2.5.4-linux-x86_64.AppImage
- ✓ After that it is needed to clone the repository.
- ✓ Now run the Ganache, and add new project and upload the Truffle-config.js.
- ✓ After that we need to enter the Mnemonic, in the settings go to account and keys and enter: *talk shift pulse announce life expand laundry creek brown swallow antique disagree*
  or you can choose and auto generate HD Mnemonic also.
- ✓ Now, go to the terminal and change the directory to the repository and you have to run the command python3 app.py.
- ✓ After that the app will start and working properly.

References

[1] https://www.youtube.com/watch?v=apf8hC08tPw