

# Configuration Manual

MSc Research Project  
MSc. In Cyber Security

Prateek Pulastya  
Student ID: x21112541

School of Computing  
National College of Ireland

Supervisor: Dr Vanessa Ayala-Rivera

**National College of Ireland**  
**MSc Project Submission Sheet**  
**School of Computing**



**Student Name:** Prateek Pulastya  
**Student ID:** x21112541  
**Programme:** MSc in Cyber Security **Year:** 2022-2023  
**Module:** MSc Research Project  
**Lecturer:** Dr Vanessa Ayala-Rivera  
**Submission Due Date:** 15/12/2022  
**Project Title:** Enhancing Authorization and Authentication in Cloud Services using Blockchain  
**Word Count:** 666 **Page Count:** 4

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

**Signature:** Prateek Pulastya  
**Date:** 15/12/2022

**PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST**

Attach a completed copy of this sheet to each project (including multiple copies)	<input type="checkbox"/>
<b>Attach a Moodle submission receipt of the online project submission,</b> to each project (including multiple copies).	<input type="checkbox"/>
<b>You must ensure that you retain a HARD COPY of the project,</b> both for your own reference and in case a project is lost or mislaid. It is not sufficient to keep a copy on computer.	<input type="checkbox"/>

Assignments that are submitted to the Programme Coordinator Office must be placed into the assignment box located outside the office.

<b>Office Use Only</b>	
Signature:	
Date:	
Penalty Applied (if applicable):	

# Configuration Manual

Prateek Pulastya  
Student ID: x21112541

## 1 Introduction

The configuration manual provides a detailed overview of the hardware and software used in the project. It also explains the necessary steps to install and reproduce the work. The following sections cover the various requirements that are needed to make the project work.

## 2 Environment Specifications

These requirements are for the Research Project. Before a program or data can be run, various steps need to be taken.

### 2.1 Hardware Specifications

The following are the minimum hardware requirements for this research project:

- 1) System: Laptop
- 2) Operating System: Windows 11 (64-bit Operating System) or higher
- 3) RAM: Minimum 8 GB
- 4) Hard Disk: 256 GB (SSD) or more
- 5) Graphic Card: 4GB or more

### 2.2 Software Specifications

The following are the minimum hardware requirements for this research project:

- 1) Operating System: Windows 10
- 2) Programming Language and version: Python version 3.9
- 3) IDE: Anaconda

### 2.3 Libraries

Libraries that are required to run the python scripts.

- Slocx
- Boto3
- Base64
- Random
- Pandas

### 2.4 Prerequisites

To execute the code, several prerequisites must be met.

- 1) Download and Install the Python 3.9 (<https://www.python.org/downloads/release/python-3916/>)
- 2) Download and Install Anaconda3 (<https://www.anaconda.com/>)

- 3) Create an account on Amazon AWS (<https://aws.amazon.com/>)
- 4) Download and install Ganache UI (<https://www.trufflesuite.com/ganache>)
- 5) After installing all the software's, download the anaconda environment from the following link  
([https://studentncirl-my.sharepoint.com/:u:/g/personal/x21112541\\_student\\_ncirl\\_ie/EVkdGtQ8-EBAhRIclMpzwksBqm7A9BvesK8NX9TF\\_58HTw?e=dux7Ld](https://studentncirl-my.sharepoint.com/:u:/g/personal/x21112541_student_ncirl_ie/EVkdGtQ8-EBAhRIclMpzwksBqm7A9BvesK8NX9TF_58HTw?e=dux7Ld))

### 3 Installation

- After installing the software and libraries, we will perform the next steps.
- To check the version of python, we will first need to type in the command `python --version` in PowerShell.
- After installing Anaconda, extract the environment from the above code file in the envs folder.
- The Ganache UI is a blockchain-based app that can be downloaded from the blockchain suite's website at <https://trufflesuite.com/ganache>. Run it and create a new workspace.
- The following steps will take place in the Anaconda Navigator, which is a GUI that allows users to launch different environments in the Anaconda.
- After that run the following commands: -
  - In prompt Navigate to 'Blockchain\_Fullcode' folder: - `cd /d <Path to Code folder>`
  - Run the command: `activate ml_env`
  - Run the command: `python blockchain.py`
  - Run the command: `python manage.py makemigrations`
  - Run the command: `python manage.py migrate`
  - Run command: `python manage.py runserver`
- After that copy the address and paste it into the browser. The website will start and work properly.