

# Configuration Manual

MSc Research Project  
MSc in Cybersecurity

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



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**Programme:** MSc in Cybersecurity **Year:** 2021-2022  
**Module:** Research project  
**Supervisor:** Imran Khan  
**Submission Due Date:** 16-Dec-2021  
**Project Title:** How to detect lateral movement in the Windows operating system?  
**Word Count:** 553 **Page Count:** 6

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.

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**Date:** 15-Dec-2021

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

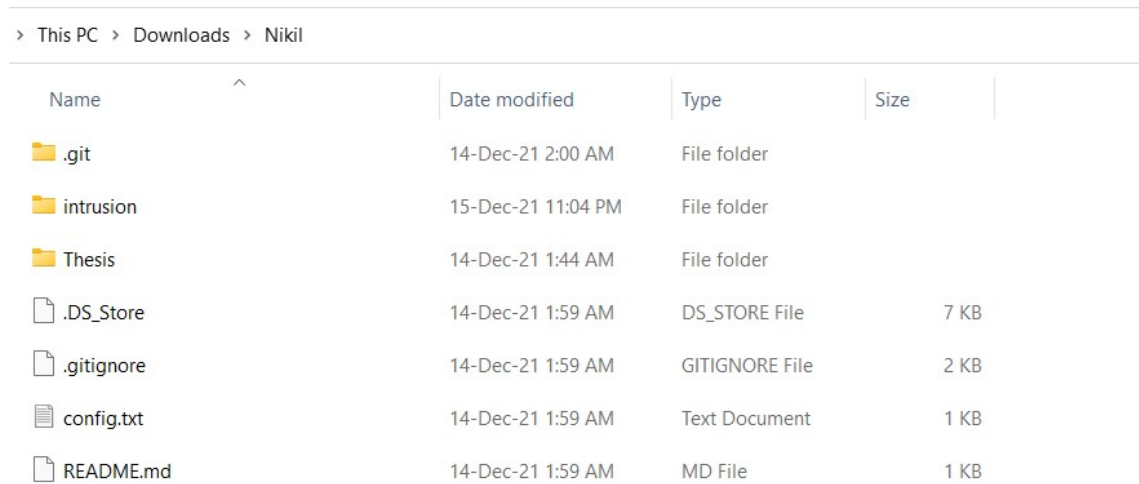
<b>Office Use Only</b>	
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Date:	
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# Configuration Manual

Nikhil Somashekarappa  
Student ID: 20179162

## 1 Application prerequisite steps

1. Unzip the code artefact package and extract the required application files.
2. Install Python 3 or higher version to launch the application.
3. Launch IDE (Visual Studio Code (Microsoft, 2016) or PyCharm).
4. Open the directory 'Nikil' and the below files can be seen as shown in figure 1.



The screenshot shows a Windows File Explorer window with the address bar displaying '> This PC > Downloads > Nikil'. The main area contains a table of files and folders. The table has four columns: Name, Date modified, Type, and Size. The files listed are: a folder named '.git' (modified 14-Dec-21 2:00 AM), a folder named 'intrusion' (modified 15-Dec-21 11:04 PM), a folder named 'Thesis' (modified 14-Dec-21 1:44 AM), a file named '.DS\_Store' (7 KB, modified 14-Dec-21 1:59 AM), a file named '.gitignore' (2 KB, modified 14-Dec-21 1:59 AM), a file named 'config.txt' (1 KB, modified 14-Dec-21 1:59 AM), and a file named 'README.md' (1 KB, modified 14-Dec-21 1:59 AM).

Name	Date modified	Type	Size
.git	14-Dec-21 2:00 AM	File folder	
intrusion	15-Dec-21 11:04 PM	File folder	
Thesis	14-Dec-21 1:44 AM	File folder	
.DS_Store	14-Dec-21 1:59 AM	DS_STORE File	7 KB
.gitignore	14-Dec-21 1:59 AM	GITIGNORE File	2 KB
config.txt	14-Dec-21 1:59 AM	Text Document	1 KB
README.md	14-Dec-21 1:59 AM	MD File	1 KB

**Figure 1**

5. Open the subdirectory 'intrusion' and the below program files can be seen as shown in figure 2.

This PC > Downloads > Nikil > intrusion

Name	Date modified	Type	Size
.git	14-Dec-21 2:00 AM	File folder	
__pycache__	15-Dec-21 9:42 PM	File folder	
templates	14-Dec-21 1:32 AM	File folder	
utils	14-Dec-21 1:32 AM	File folder	
.DS_Store	14-Dec-21 1:24 AM	DS_STORE File	7 KB
__init__.py	14-Dec-21 1:24 AM	Python.File	1 KB
auth.py	14-Dec-21 1:24 AM	Python.File	4 KB
data.csv	15-Dec-21 4:03 AM	Microsoft Excel Co...	5 KB
db.sqlite	14-Dec-21 1:24 AM	SQLITE File	12 KB
main.py	15-Dec-21 9:41 PM	Python.File	6 KB
models.py	14-Dec-21 1:24 AM	Python.File	1 KB
requirements.txt	14-Dec-21 1:24 AM	Text Document	1 KB

Figure 2

6. Run the command “pip3 install -r requirements.txt” in the terminal of the IDE after reaching the intrusion directory.  
This command will install all the necessary packages for the application.  
NOTE: Use “pip install -r requirements.txt” if pip3 (packaging.python.org, 2021) does not work.
7. Run the command “python3 main.py” to execute the program.  
After the execution, the application will be hosted on the URL <http://127.0.0.1:5000/>

```
PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL
nikhil@MSI-Nikhil: /mnt/c/Users/nikhi/Downloads/Nikil/Intrusion$ python3 main.py
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
█
```

Figure 3

NOTE: Use “python main.py” if python3 (Python, 2019) does not work.

8. After accessing the URL, the application home page can be seen.

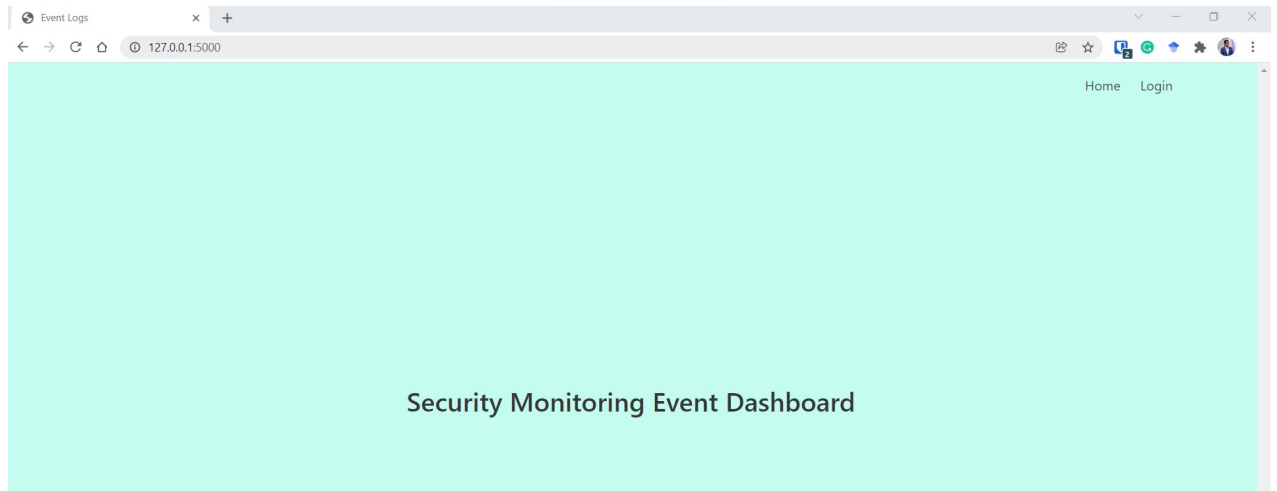


Figure 4

9. Click on the “Login” button to enter the monitoring dashboard and you can see the below login screen.

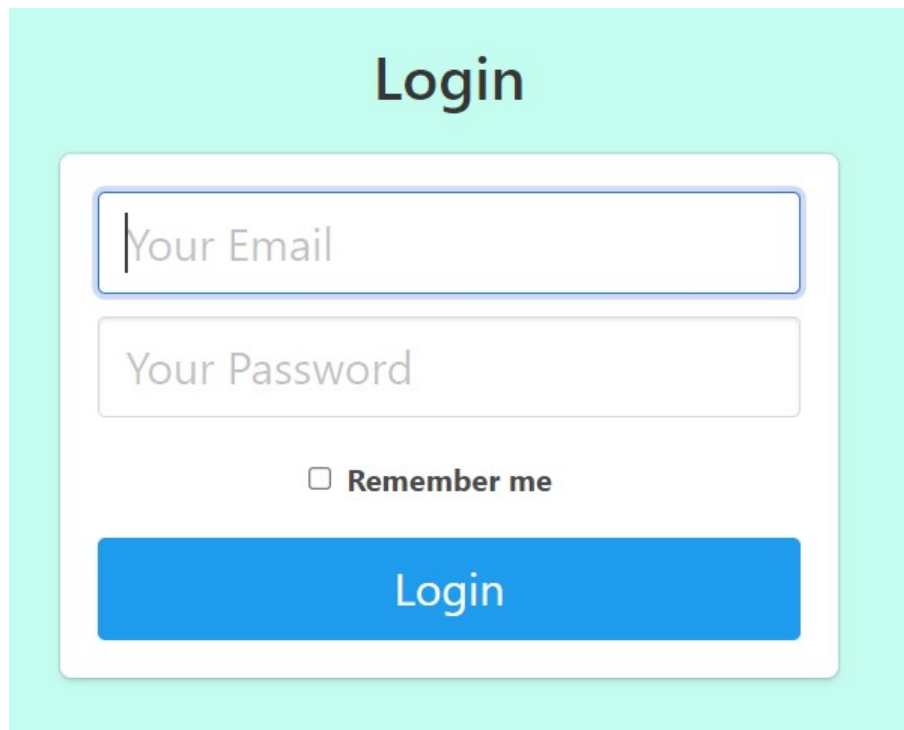


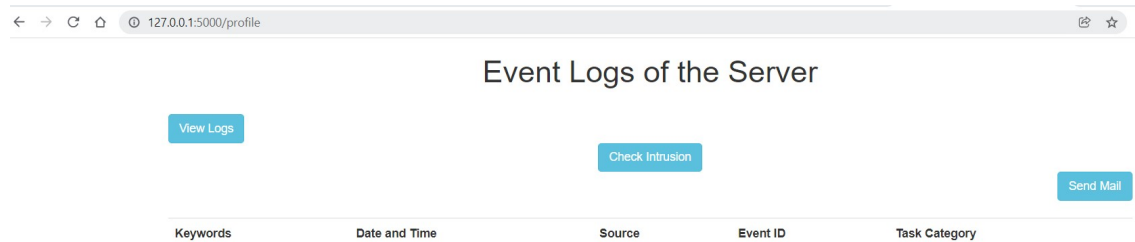
Figure 5

10. The login credentials are as below:

Email: [admin@gmail.com](mailto:admin@gmail.com)

Password: Hello@123

11. Post logging in the user can see the application dashboard.



**Figure 6**

12. On clicking the “View Logs” button, user can see the event log list.

13. Click on the “Check intrusion” button to check for the lateral movement attacks.

14. Click on the “Send Mail” button if any intrusion has been noticed.

## References

Microsoft (2016). *Visual Studio Code*. [online] Visualstudio.com. Available at: <https://code.visualstudio.com/>.

packaging.python.org. (2021). *Installing Packages — Python Packaging User Guide*. [online] Available at: <https://packaging.python.org/en/latest/tutorials/installing-packages/> [Accessed 16 Dec. 2021].

Python (2019). *Welcome to Python.org*. [online] Python.org. Available at: <https://www.python.org/>.