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| **Practicum Case** |  |
| COMP6548  Programming for Penetration Testing |
| **Cyber Security** | **<Case Code>** |
| ***Valid on*** *[Odd/Even/Compact] Semester Year 9999/9999* | **Revision 00** |

## Learning Outcomes

* Socket Network Program for Penetration Testing
* Web Vulnerability with Programming
* Additional tools for Penetration Testing

## Topic

* Introduction to Python Programming

## Subtopics

* Basic Python (Input, Output, Selection, Looping, Function)
* Python List, Tuple, Dictionary
* Python Classes and Object
* Python Modules
* Python Threading, Thread Types, Event and Multi-processing

## Soal

*Case*

**DOS Simulator**

You are asked to make DOS Simulator on Python programming language that simulates DOS attack on a server with 2 types of service. Here are the requirements for the program:

* **Menu**

Background pattern

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**Figure 1. Menu View**

The menu consists of some options, they are:

* + Add Target

Add target menu consists of the following requirement:

* + - Target name must be **5 to 25 characters long**.
    - The bandwidth must be more **than 100**.
    - Location must end with **Nation, State or Country**.
    - The user must choose between **Website or Server**.
    - If the user chose **Website**, the user needs to insert **URL address starting** with **“https://”**
    - If the user chose Server, the user needs to insert server type between **ftp or smb**. After inserting the server type, the user needs to **insert ipv4 address**.

Text

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**Figure 2. Insert Target (Website)**

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**Figure 3. Insert Target (Server)**

* + View Target

If the user chose the View Target menu, the program needs to view the websites and servers that have been added by the user.

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**Figure 4. View Targets**

* + Delete Target

Simply delete the target from the list.

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**Figure 5. Before Deleting**

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**Figure 6. Delete Process**

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**Figure 7. After Deleting**

* + Check Attack Log

The attack log will have an **Event** that will trigger a thread to read the **last** **5 attack logs** **progress from the log file**.

After printing the last 5 logs, the **thread will wait** until the **Event triggers** again.

The thread must have a “**forever loop**” and use **Daemon Thread**.

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**Figure 8. Check Attack Log**

* + Lock Target

Lock target menu will delete the target from the list and move it to the targeted dictionary. The target will be “attacked” **20 times** and every strike will be delayed for **1.5 seconds**. The attack will have its **own thread** and the attack progress will be written to the **log file**.

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**Figure 9. Before and After Locking Target**

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**Figure 10. Log after Locking**

* + Exit

Before exiting the program, you need to make the Thread **finish all the attack** first and then after finishing all the attack and input it into the log file, simply exit the program.

Graphical user interface, text

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**Figure 11. The Program Waiting for All Threads to Finish**