

Internship Final Report - Cyber Security

Student Name: Harihara Suthan G

University: Anna University

Major: Cyber Security

Internship Duration: November 1st, 2023 – November 31st, 2023

Company: ShadowFox

Domain: Cyber Security

Mentor: Mr. Surendharan

Assistant Mentor: Mr. Pranshu

Coordinator: Mr. Aakash

Objectives

My primary objectives for this internship were to:

1. Develop a deep understanding of cybersecurity principles and practices.
2. Gain hands-on experience in identifying, analyzing, and mitigating security threats.
3. Enhance my skills in using cybersecurity tools and techniques in real-world scenarios.

Tasks and Responsibilities

During my internship, I was involved in the following key tasks:

- **Vulnerability Assessment:** Conducted scans to identify open ports and potential vulnerabilities.
- **Penetration Testing:** Performed brute-force attacks and directory enumeration to uncover hidden directories and files.
- **Traffic Analysis:** Intercepted network traffic using tools like Wireshark during simulated login attempts to capture and analyze transmitted credentials.
- **Decryption and Cryptanalysis:** Decrypted password-protected files and analyzed hash values to recover plaintext passwords.
- **Reverse Engineering:** Used analysis tools to study executable files, identifying entry points and critical information.
- **Network Security:** Executed controlled de-authentication attacks, captured handshakes, and cracked Wi-Fi passwords using custom wordlists.
- **Payload Creation:** Developed Metasploit payloads for establishing reverse shell connections in virtualized environments.

Learning Outcomes

- 1. Technical Proficiency:**
Gained practical experience in vulnerability scanning, penetration testing, and cryptographic analysis.
- 2. Understanding of Cybersecurity Lifecycle:**
Learned the systematic approach to securing systems, from assessment to mitigation.
- 3. Problem-Solving Skills:**
Improved analytical thinking by tackling complex security scenarios and devising solutions.
- 4. Professional Development:**
Enhanced teamwork, communication, and time management skills in a professional setting.

Challenges and Solutions

- **Adapting to Complex Tools:**
Mastering advanced tools like Metasploit and Wireshark was challenging. This was overcome by studying tutorials and practicing in simulated environments.
- **Handling Advanced Security Scenarios:**
The complexity of real-world threats required in-depth learning. Continuous study and guidance from mentors helped address these challenges effectively.

Conclusion

The internship at ShadowFox was an enriching experience that deepened my knowledge and skills in cybersecurity. It offered practical exposure to real-world challenges and prepared me for future complexities in the field.

Acknowledgments

I am grateful to ShadowFox for this opportunity and to my mentors for their guidance and support. This internship was instrumental in my personal and professional growth, bridging the gap between academic learning and industry application.