VULNERABILITY ASSESSMENT AND PENETRATION TESTING REPORT

Target: https://juice-shop.herokuapp.com

Report Date: September 17, 2025

Assessment Period: September 2025

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DOCUMENT CONTROL

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EXECUTIVE SUMMARY

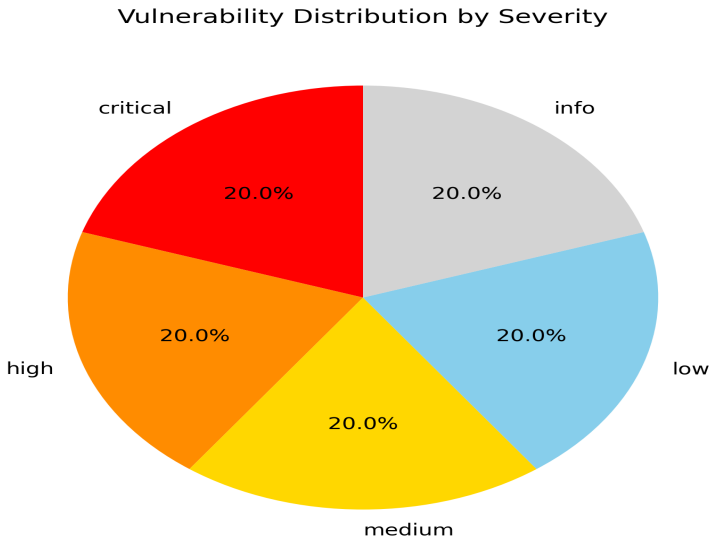
Cybrty Security Services conducted a comprehensive Vulnerability Assessment and Penetration Testing (VAPT) engagement against https://juice-shop.herokuapp.com during September 2025. **Assessment Overview:** This security assessment identified 5 security findings requiring attention across various severity levels. The evaluation encompassed automated vulnerability scanning, manual penetration testing, and security configuration reviews. **Immediate Action Required:** This assessment identified 2 high-priority security vulnerabilities that require immediate remediation. These findings pose significant risk to the confidentiality, integrity, and availability of the assessed systems. **Findings Summary:** • Critical: 1 finding • High: 1 finding • Medium: 1 finding • Low: 1 finding • Info: 1 finding **Overall Risk Assessment:** • Risk Rating: Medium • Risk Score: 5.2/10.0 • Total Security Findings: 5 **Business Impact:** The identified vulnerabilities present varying levels of risk to business operations. Critical and high-severity findings could potentially lead to data breaches, service disruptions, or unauthorized system access if left unaddressed. **Strategic Recommendations:** • Prioritize remediation of critical and high-severity vulnerabilities • Implement defense-in-depth security controls • Establish continuous security monitoring capabilities • Develop incident response and recovery procedures

Risk Assessment Summary

Metric	Value	Rating
Overall Risk Score	5.2/10.0	Medium
Total Findings	5	Various
Critical/High Priority	2	Immediate Action
Assessment Date	September 17, 2025	Current

SUMMARY OF FINDINGS

Vulnerability Distribution by Severity



Severity Level	Count	Percentage
Critical	1	20.0%
High	1	20.0%
Medium	1	20.0%
Low	1	20.0%
Info	1	20.0%

DETAILED FINDINGS

Finding 1: SQL Injection Vulnerability

Vulnerability ID	CYB-CRIT-001
Severity	CRITICAL
CVSS Score	9.8
Affected System	https://juice-shop.herokuapp.com
Discovery Tool	SQLMap

Description:

The application is vulnerable to SQL injection attacks through the user login form. Malicious SQL code can be injected through the username parameter, potentially allowing unauthorized access to the database.

Impact:

Critical: This vulnerability could allow complete database compromise, data theft, and unauthorized administrative access.

Recommendation:

Implement parameterized queries and input validation. Use prepared statements and escape user input properly.

Finding 2: Cross-Site Scripting (XSS)

Vulnerability ID	CYB-HIGH-001
Severity	HIGH
CVSS Score	8.1
Affected System	https://juice-shop.herokuapp.com
Discovery Tool	OWASP ZAP

Description:

Stored XSS vulnerability found in the product review section. User input is not properly sanitized before being stored and displayed to other users.

Impact:

High: This vulnerability could allow session hijacking, credential theft, and malicious content injection.

Recommendation:

Implement output encoding and content security policy. Validate and sanitize all user inputs.

Finding 3: Weak Password Policy

Vulnerability ID	CYB-MEDI-001
Severity	MEDIUM
CVSS Score	5.3
Affected System	https://juice-shop.herokuapp.com
Discovery Tool	Manual Review

Description:

The application allows users to set weak passwords without enforcing complexity requirements.

Impact:

Medium: Weak passwords increase the risk of brute force attacks and account compromise.

Recommendation:

Implement strong password policy requiring minimum length, complexity, and regular rotation.

Finding 4: Information Disclosure

Vulnerability ID	CYB-LOW-001
Severity	LOW
CVSS Score	3.1
Affected System	https://juice-shop.herokuapp.com
Discovery Tool	Nmap

Description:

Server response headers reveal information about the technology stack and server version.

Impact:

Low: Information disclosure may assist attackers in reconnaissance activities.

Recommendation:

Configure the web server to hide version information and remove unnecessary response headers.

Finding 5: HTTP Security Headers Missing

Vulnerability ID	CYB-INFO-001
Severity	INFO
CVSS Score	N/A
Affected System	https://juice-shop.herokuapp.com
Discovery Tool	Nikto

Description:

Some recommended HTTP security headers are missing, including Content-Security-Policy and X-Frame-Options.

Impact:

Informational: Missing security headers may leave the application vulnerable to certain client-side attacks.

Recommendation:

Implement comprehensive HTTP security headers to enhance browser-side security.

RECOMMENDATIONS & REMEDIATION

Based on the security assessment findings, we recommend implementing the following remediation measures in order of priority: **Immediate Actions (Critical/High Risk):** • Address all critical and high-severity vulnerabilities within 24-48 hours • Implement emergency security patches for identified vulnerabilities • Review and strengthen access controls **Short-term Actions (1-4 weeks):** • Remediate medium-severity vulnerabilities • Implement additional security monitoring • Update security policies and procedures **Long-term Actions (1-3 months):** • Address low-severity and informational findings • Implement security awareness training • Establish regular security assessment schedule **Ongoing Security Practices:** • Regular vulnerability scanning • Security patch management • Incident response planning • Continuous security monitoring

CONCLUSION & NEXT STEPS

This VAPT assessment of https://juice-shop.herokuapp.com has identified 5 security findings that require attention. The assessment provides a comprehensive view of the current security posture and offers actionable recommendations for improvement. **Key Takeaways:** • Total findings identified: 5 • Critical/High priority items: 2 • Assessment date: September 17, 2025 **Next Steps:** 1. Review and prioritize remediation activities based on risk severity 2. Develop an implementation timeline for recommended security controls 3. Schedule follow-up assessment to validate remediation efforts 4. Establish ongoing security monitoring and assessment procedures Cybrty Security Services recommends addressing critical and high-severity findings immediately, followed by systematic remediation of medium and low-severity issues. We appreciate the opportunity to conduct this security assessment and remain available to assist with remediation planning and implementation.

APPENDICES

Appendix A: Security Testing Tools

The following security testing tools were utilized during this assessment: • Manual Review • Nikto • Nmap • OWASP ZAP • SQLMap

Appendix B: Testing Methodology

The security assessment followed a structured methodology including: **1. Reconnaissance and Information Gathering** • Network discovery and port scanning • Service enumeration and fingerprinting • Web application discovery **2. Vulnerability Assessment** • Automated vulnerability scanning • Manual security testing • Configuration review **3. Penetration Testing** • Exploitation of identified vulnerabilities • Privilege escalation testing • Lateral movement assessment **4. Analysis and Reporting** • Risk assessment and prioritization • Documentation of findings • Remediation recommendations

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