

SecureBank Penetration Testing & Threat Hunting – Report

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Executive Summary

This engagement identifies CVE-2024-43451 via IBM X-Force Exchange, investigates exposure using Google Dorking queries (site: and filetype: filters), and defines a penetration test plan for SecureBank covering scoping, objectives, rules of engagement, information gathering, exploitation strategy, and reporting. The project also demonstrates symmetric AES encryption to protect credentials.

Key Findings & Actions

Vulnerability Identified	CVE-2024-43451 (documented via IBM X-Force Exchange)
Dorking Investigation	Used site: and filetype:pdf queries to locate references and government reports
Penetration Plan Highlights	Full-scope testing; prioritize vulnerability discovery; after-hours testing to reduce impact; comb
Encryption Demo	AES key generation (passkey), encrypted userdetails -> userdetails_encrypt, validated decryp

Recommendations

1. Patch affected systems or apply vendor mitigations for CVE-2024-43451 promptly. 2. Implement continuous monitoring and alerting for public-facing assets. 3. Strengthen phishing defenses and conduct user awareness training. 4. Enforce strong password policies and MFA. 5. Use AES-based encryption for credential storage and manage keys securely.