ABSTRAK

Regina. Analisis Keamanan Website Perpustakaan Menggunakan Metode Penetration Testing (Studi Kasus : Perpustakaan Universitas Maritim Raja Ali Haji). Dibimbing oleh FERDI CHAHYADI dan BERTA ERWIN SLAM.

Perkembangan teknologi informasi menjadikan *website* sebagai layanan penting dalam penyediaan informasi, termasuk pada sistem *Online Public Access Catalog (OPAC)* Perpustakaan Universitas Maritim Raja Ali Haji. Namun, penggunaan website juga menimbulkan risiko keamanan seperti kebocoran data dan manipulasi informasi. Penelitian ini bertujuan untuk menganalisis tingkat keamanan *website* OPAC UMRAH menggunakan metode *penetration testing* dengan pendekatan *black box*. Pengujian dilakukan melalui tahapan *reconnainsance, scanning* dan *enumeration, vulnerability testing, exploitation, post exploitation*, hingga reporting menggunakan berbagai *tools* seperti Nmap, Nikto, FFUF, Burp Suite, Pentest Tool Website, SQLMap, dan OWAPS ZAP. Hasil Pengujian menunjukkan adanya beberapa kerentanan antara lain *port* layanan yang terbuka, direktori sensitif yang terekspos, potensi SQL *Injection*, ketiadaan header keamanan seperti *X-Frame-Options* yang memungkinkan serangan *clickjacking*, serta kelemahan konfigurasi server yang dapat dimanfaatkan untuk memperoleh informasi internal. Berdasarkan temuan tersebut, *website* OPAC UMRAH masih memerlukan peningkatan keamanan melalui konfigurasi *header*, pembaruan server, penguatan validasi *input*, serta penerapan keamanan berlapis. Penelitian ini diharapkan menjadi acuan dalam meningkatkan keamanan layanan perpustakaan berbasis web.

Kata kunci: Keamanan *Website*, *Penetration Testing,* Kerentanan, *Online public Access Catalog (OPAC)*, Pengujjian Sistem.

ABSTRACT

Regina. Website Security Analysis of the University Library Using Penetration Testing Methods (Case Study: The Library of Universitas Maritim Raja Ali Haji). Supervised by FERDI CHAHYADI and BERTA ERWIN SLAM.

The development of information technology has made websites an essential platform for delivering information, including the Online Public Access Catalog (OPAC) System of the Universitas Maritim Raja Ali Haji. However, the use of web-based services also introduces security risks such as data leakkage and information manipulation. This study aims to analyse the security level of the OPAC UMRAH website using penetration testing with a black-box approach. The assessment was conducted through several stages, including reconnaissance, scanning and enumeration, vulnerability testing, exploitation, post-exploitations, and reporting, utiziling various tools such as Nmap, Nikto, FFUF, Burp Suite, Pentest-Tools, SQLMap, and OWASP ZAP. The resultes reveal several security issues, including open service ports, exposed sensitive directories, potensial SQL Injection Vulnerabilities, Missing Security Security header such as X-frame_Options that enable clickjacking, and improper server configurations that may disclose internal information. Based on these findings, the OPAC UMRAH website requires security header configurations, server updates, stronger input validation, and multilayer security implementation. This research is expected to serve as a reference for enchancing the security of web-bases library services.

Keywords: Website Security, Penetration Testing, Vulnerability, Online Public Access Catalog (OPAC), System Testing.