LOVELY PROFESSIONAL UNIVERSITY

PROJECT REPORT

ON

WEB VULNERABILITY SCANNER

PROGRAMMING IN JAVA

BACHELOR OF TECHNOLOGY

COMPUTER SCIENCE AND ENGINEERING

LOVELY PROFESSIONAL UNIVERSITY

PHAGWARA, PUNJAB.

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Introduction:

Web applications are becoming an essential part of businesses and organizations, making them more vulnerable to cyber-attacks.
A web vulnerability scanner is a tool that helps in identifying potential security threats in web applications.
This project is a web vulnerability scanner built using Java programming language.
The scanner includes three modules: XSS Scanner, SQL Injection Scanner, and Port Scanner.

Objective:

The main objective of this project is to provide a tool that can quickly scan web applications and identify potential security threats.
The tool is intended for use by web developers, security professionals, and system administrators to ensure that their web applications are secure.

Features:

The web vulnerability scanner has the following features:

XSS Scanner: This module helps in identifying Cross-Site Scripting (XSS) vulnerabilities in web applications. It scans the web application through URL and tries to inject malicious code if any malicious code gets executed then it will display
“URL IS VULNERABLE” else “URL IS SAFE”.

SQL Injection Scanner: This module helps in identifying SQL injection vulnerabilities in web applications. It scans the web application through URL and tries to inject malicious code if any malicious code gets executed then it will display
“URL IS VULNERABLE” else “URL IS SAFE”.

Port Scanner: This module helps in identifying open ports on a web server. Using getByName() method of InetAddress class it determines the IP address of the URL and using connect() method of Java Socket class it tries to connect with the specified socket if the connection is stablished then it will display
“PORT OPEN” else “PORT CLOSED”.

Requirement:

Hardware:

Operating System: Windows 10

Memory (RAM): 4 GB or higher.

Hard Disk Space: 50GB or higher.

Processor: Intel Core i3 or higher.

Software:

Java Development Kit (JDK)

Java Runtime Environment (JRE)

Any IDE for Java

Import used:

The import keyword is used to import a package, class, or interface.

import java.io.IOException;

This imports the IOException class, which is used for handling input/output errors in Java.

import java.net.InetSocketAddress;

This imports the InetSocketAddress class, which represents a socket address with an IP address and a port number.

import java.net.Socket;

This imports the Socket class, which is used for creating a client-side socket connection to a server.

import java.util.Scanner;

This imports the Scanner class, which is used for reading input from the console.

import java.io.BufferedReader;

This imports the BufferedReader class, which is used for reading input from a stream.

import java.io.InputStreamReader;

This imports the InputStreamReader class, which is used for reading input from a stream and converting it to character format.

import java.net.HttpURLConnection;

This imports the HttpURLConnection class, which is used for creating HTTP connections and exchanging data with a server.

import java.net.URL;

This imports the URL class, which represents a Uniform Resource Locator (URL) and is used for opening connections to resources on the internet.

import java.net.*;

This imports all the classes in the java.net package, which provides networking capabilities in Java.

import java.io.FileReader;

This imports the FileReader class, which is used for reading files.

Conclusion:

The web vulnerability scanner is a powerful tool that can help in securing web applications from potential security threats.
The scanner includes three modules: XSS Scanner, SQL Injection Scanner, and Port Scanner.
The scanner is easy to use and easy to understand scan results.
The hardware and software requirements for running the scanner are minimal, making it accessible to a wide range of users.