

Double Guard Security System for e-commerce Website

Prof S.A.Deshmukh, Shital Bagal, Rajeshri Chilme, Shaileja Chitupe,
Harshada Dhope

BVCOEW, BVCOEW, BVCOEW, BVCOEW

saylee.deshmukh@rediffmail.com, Sheetalbagal277@gmail.com, chilmerajeshri44@gmail.com, shailejachitupe@gmail.com, harshu2344dhope@gmail.com

Abstract:

DoubleGuard, an IDS system that models the network behavior of user session across both front end web server and back-end database. By monitoring both web and subsequent database requests, we are able to ferret out attacks that an independent IDS would not be able to identify. We implemented DoubleGuard using an Apache web server with MySQL Query browser.

Keyword:

Vulnerability, Inextricable, Intrusion Detection, Anomaly Detection, Integrated Development Environment, Bootstrap

1. Introduction

Web Delivered services and applications have increased in both popularity and complexity over the fast few years. Daily task such as networking banking, travel and social networking, all are done via web. Such services uses front end that runs the application user interface logic, as well as back end server that consists of database or file server. Intrusion detection system currently examine network packets individually within both the webserver and database system. We present Double Guard, an IDS system that models the network behavior of user session. by monitoring both web and subsequent database request we are able to ferret out attacks than independent IDS would not be able to identify.

2. System Architecture

Web applications are deployed over a network. Clients will access the web application via web server. A web services will be given to each client separately. Client will send a web request using UI of web application, based on the web request, database query will be generated and data will be fetched back to particular client. The attack on the system will be in the form of web request. The well-structured SQL

query that will attack over the database of web application forming a SQL injection attack.

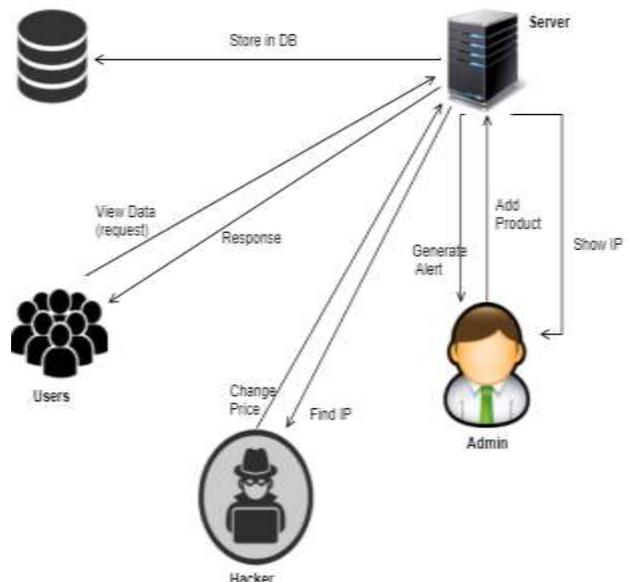


Figure 1. System Architecture

In the system client request to view data that is product which they want to buy. Server will respond for their request. Hacker will try to change the price of the product then by using swing application which is running on the admin side he will get temper attack detection in which it will show the hacker information at which time which product id hacker try to change.

3. Modules

Module 1:

Study HTML, CSS and JavaScript design DoubleGuard system GUI for web application

□ User

1. Home Page(front page)
2. User Registration(Name, Mobile no., Gender, Email, Password)
3. User Login(Username, Password)
4. User Home (View all products) Enter id to buy product.

Module 2:

□ Admin

1. Admin Login(Username, Password)
2. View all registered user
3. View all item or products
4. Add products(Product image, Product name, id and price)
5. Update password
6. Logout

Module 3:

1. Design application for DB attack finder.
2. Swing application used for admin to find DB attacker
3. Design UI for start system.

Module 4:

1. Design application for database temper detection system
2. Swing application used for admin to view the attacker information
3. Admin login page (Username, Password)
4. Home page(Admin setting, start system ,logout)
5. Admin setting(Update password)
6. Start engine/system(Temper result frame)

Module 5:

1. Database connectivity of all pages with its validation.
2. Implantation of MD5 algorithm for security.
3. Implementation of Data Leakage algorithm.

4. Software Requirements

1. Frontend-JSP, HTML, CSS and Bootstrap.JSP will be used for communicating with servlet.HTML and CSS will be used for creating UI elements with some style elements. Bootstrap will be used for making web pages responsive.
2. Backend-Servlet will be used for interfacing with database. We will use JAVA as language for this.
3. IDE-For integration of backend and frontend we will use NetBeans.

5. Hardware Requirements

1. System: Pentium IV 2.4 GHz
2. Hard disk: 160 GB
3. Monitor: 15 VGA color
4. Keyboard: 110 Keys enhanced
5. Ram: 1GB

6. Tools to be used

1. NetBeans:

Platform framework for java applications and an integrated development environment (IDE) for developing with java, JavaScript and others.

2. JDK 7

J2SE (Java 2 Standard Edition) java would be the required as language for development kit used to compile java programs.

7. Attacks and Algorithms

Attacks:

1. SQL Injection Attack
2. DDOS Attack
3. DB attack

Algorithms:

1. Data leakage algorithm
2. MD5 algorithms

8. System Feature

1. Our system mainly focuses on providing safe and secure environment to all user while they are doing online payment or online shopping.
2. Ease and comfort for use
3. System help to detect and prevent those attacks.

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10. References

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