PENTESTING REPORT ON

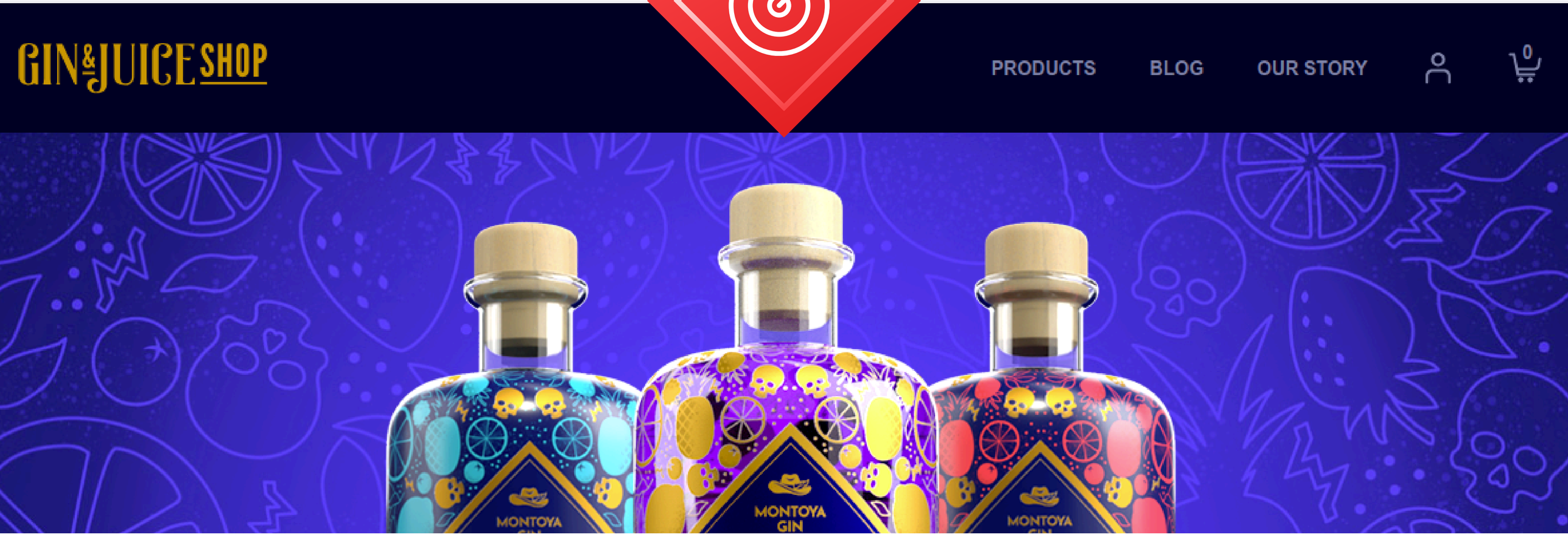
www.ginandjuice.shop

LockBit Team

About Our Target

Created in 2022 by the man Distiller's World has called "the evil genius of gin"

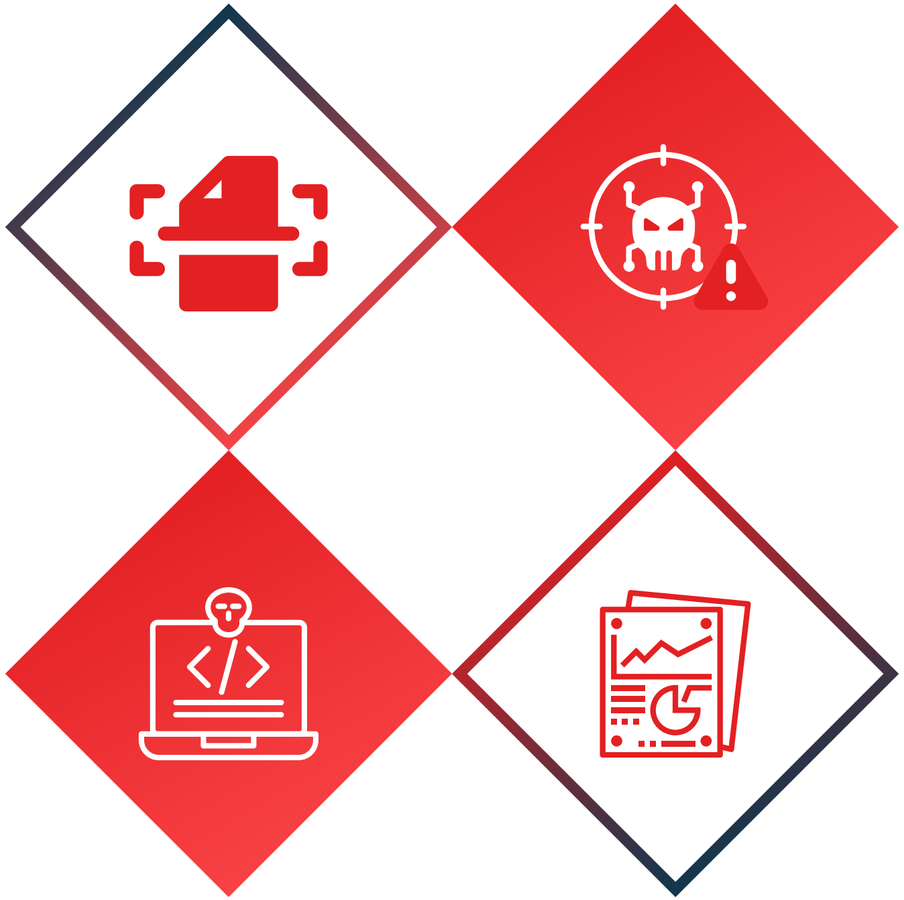
Gin & Juice Shop is open 24/7 to satisfy all of your web vulnerability scanner evaluation needs.



Pentesting Time Line

Reconnaissance

We have made active and passive reconnaissance as a first important thing before starting to scan the target for identify the vulnerabilities



Vulnerability Assessment

We have made a careful analysis of the target system to identify potential points of exploitation. That have been done by some automated tools and other manual methodologies

Exploitation

We have been attempting to capitalize on the vulnerabilities discovered during the previous phase.

Reporting

After finding and exploit the finding vulnerabilities. It’s time for the final stage which is reporting every thing.

Site Preview

Accessed Pages

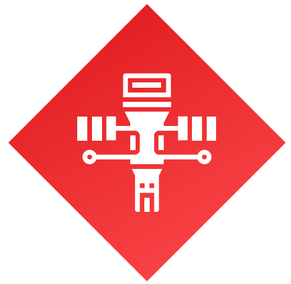
+ https://ginandjuice.shop/
+ https://ginandjuice.shop/catalog
+ https://ginandjuice.shop/blog
+ https://ginandjuice.shop/about
+ https://ginandjuice.shop/login
+ https://ginandjuice.shop/catalog/cart
+ https://ginandjuice.shop/blog/post?postId=1-6
+ https://ginandjuice.shop/catalog/product?productId=1-18

Pages that takes inputs

https://ginandjuice.shop/blog
https://ginandjuice.shop/login
https://ginandjuice.shop/catalog
Noted that every page takes an email to subscribe and gives a coupon 9In&JUICE5H0P

Other Notes

- You can view the stock of each item in every location (london, paris, milan)
- Login Page provides you a username and password :
  - username: carlos
  - password: hunter2



Passive Reconnaissance

- **Hosting company :** Amazon - EU West (Ireland) datacenter
- **Location :** Ireland
- **Domain Owner :** Godaddy
- **IPv4 address :** 34.246.169.176 – 34.246.169.140
- **DNS admin :** awsdns-hostmaster@amazon.com
- **CNAME**
  - ns-1000.awsdns-61.ne
  - ns-110.awsdns-13.com
  - ns-1496.awsdns-59.org
  - ns-1543.awsdns-00.co.uk
- **Reverse DNS :** ec2-34-246-169-176.eu-west-1.compute.amazonaws.com
- **Open Ports :** 80 (HTTP), 443 (TCP)

Active Reconnaissance

Dirb Results

```
+ https://ginandjuice.shop/subscribe (CODE:405|SIZE:20)
+ https://ginandjuice.shop/my-account (CODE:302|SIZE:0)
+ https://ginandjuice.shop/logout (CODE:302|SIZE:0)
+ https://ginandjuice.shop/Login (CODE:200|SIZE:7442)
+ https://ginandjuice.shop/login (CODE:200|SIZE:7451)
+ https://ginandjuice.shop/favicon.ico (CODE:200|SIZE:15406)
+ https://ginandjuice.shop/catalog (CODE:200|SIZE:16798)
+ https://ginandjuice.shop/Blog (CODE:200|SIZE:10905)
+ https://ginandjuice.shop/blog (CODE:200|SIZE:10923)
+ https://ginandjuice.shop/analytics (CODE:200|SIZE:0)
+ https://ginandjuice.shop/ADMIN (CODE:403|SIZE:15)
+ https://ginandjuice.shop/Admin (CODE:403|SIZE:15)
+ https://ginandjuice.shop/admin (CODE:403|SIZE:15)
```

Nikto Results

```
- Nikto v2.5.0/
+ Target Host: ginandjuice.shop
+ Target Port: 80
+ GET /: The anti-clickjacking X-Frame-Options header is not present.
+ GET /: The X-Content-Type-Options header is not set.
```

Nmap Scan

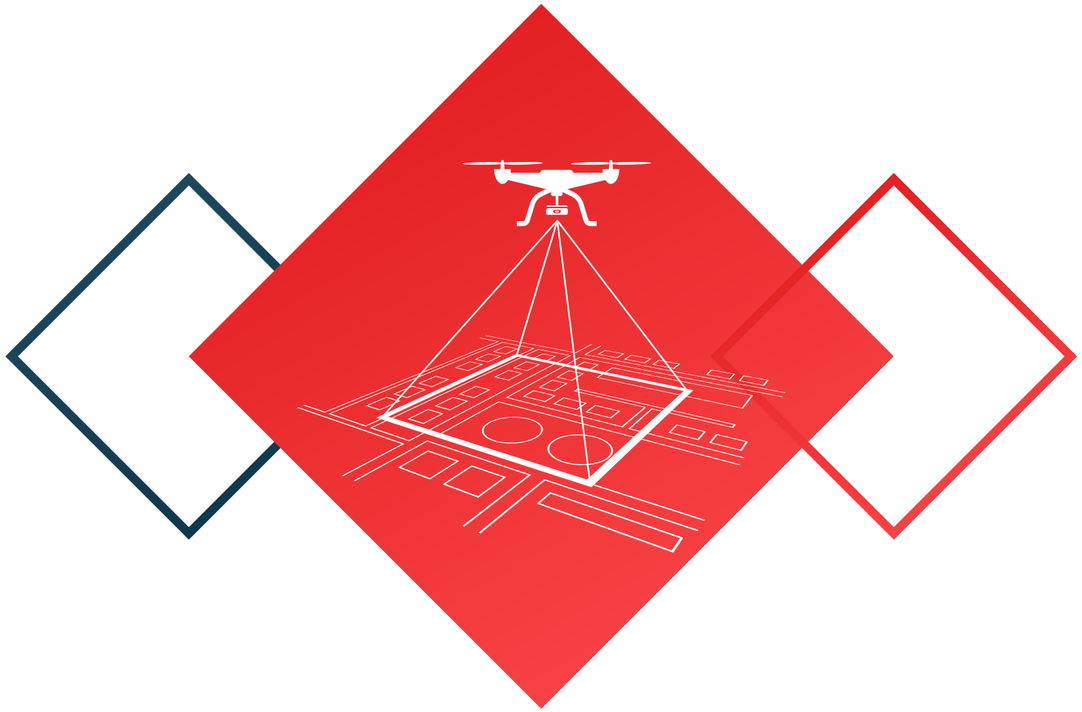
```
# nmap -Pn -p- -sS -sV -sC -O -oN namp.test -A --script vuln ginandjuice.shop

Nmap scan report for ginandjuice.shop (34.249.203.140)
Host is up (0.066s latency).
Other addresses for ginandjuice.shop (not scanned): 34.246.169.176
rDNS record for 34.249.203.140: ec2-34-249-203-140.eu-west-
1.compute.amazonaws.com
Not shown: 65533 filtered tcp ports (no-response)
PORT    STATE SERVICE   VERSION
80/tcp  open  http      awselb/2.0
```

Vulnerabilities Discovered

Tools Used

- **Nmap** (for port and service scanning)
- **Nikto** (for web vulnerability scanning)
- **Burp Suite**
- **Arjun** (for parameters discovering)
- **Sqlmap** (for SQL injunction scanning)
- **Others as applicable** (custom scripts, etc.)



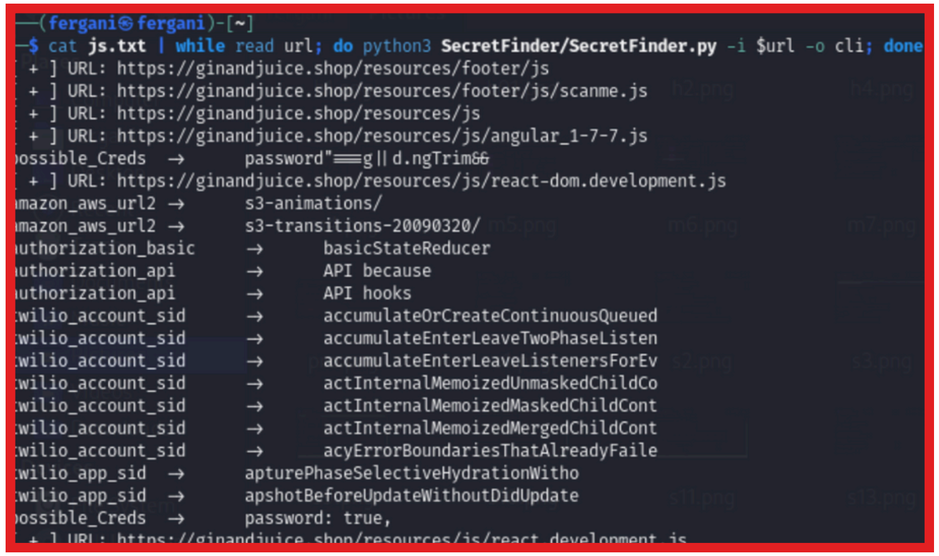
Overview of Vulnerabilities

- **JavaScript Secrets Exposure**
- **SQL Injection**
- **Base64-encoded data in parameter**
- **DOM Based XSS** (Document.Write())

JavaScript Secrets Exposure

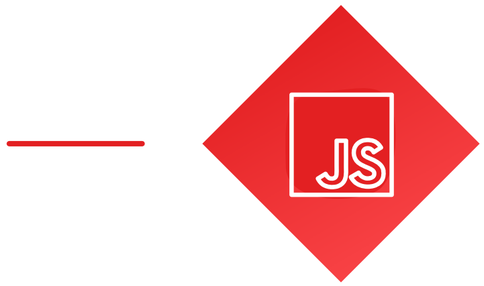
How We Found It

Running this command used to scan multiple JavaScript files listed in the file js.txt using SecretFinder, a tool designed to detect sensitive data, such as API keys, tokens, and passwords, within JavaScript files.



Findings

1. **URL: https://ginandjuice.shop/resources/footer/js/scamme.js**
    - password="gld.ngTmited" in plain text
2. **URL: https://ginandjuice.shop/resources/js/react-dom.development.js**
    - password="true" in plain text
3. **Multiple Twilio account keys were exposed within the JavaScript files:**
    - twilio_account_sid, twilio_app_sid, twilio_api_sid



JavaScript Secrets Exposure

Security Implications

Exposed secrets such as API keys and passwords can be used by attackers to:

- **Gain Unauthorized Access :** Attackers can exploit exposed credentials to access internal services
- **Data Theft or Modification :** Sensitive customer data or website functionality can be altered or stolen
- **Reputation Damage :** Exposing sensitive data can cause harm to the company’s reputation, leading to loss of customer trust and potential legal repercussions.

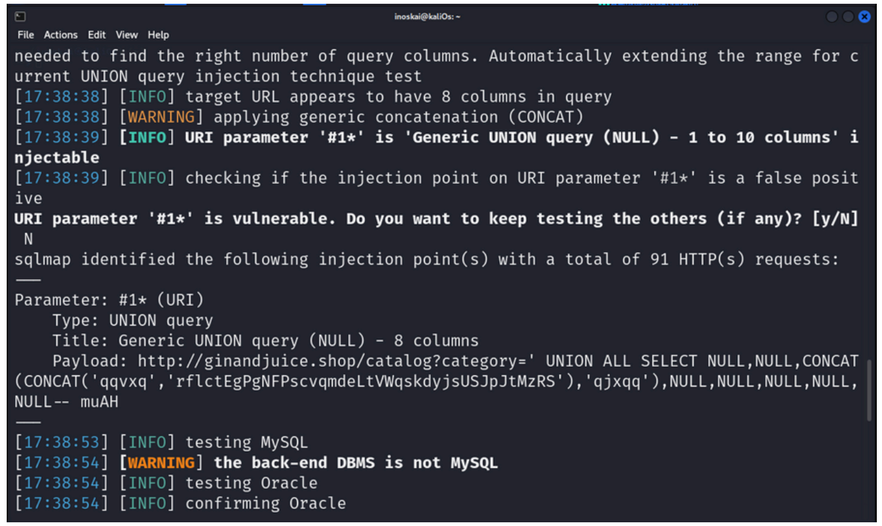
How To Protect

- **Never Store Secrets in JavaScript Files**
  - Keep sensitive information like API keys or tokens out of front-end code.
- **Move Secrets to Server-Side**
  - Always store sensitive data on the server and interact with it via server-side logic.
- **API Gateway with Server-Side Authentication**
  - Use server-side authentication for APIs. API keys or tokens should never be exposed in the browser.

SQL Injection – Discovery

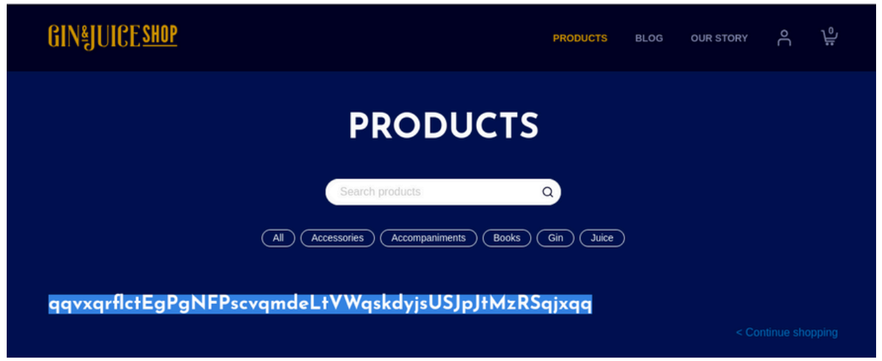
How We Found It

- Using **Arjun** to identify all hidden pentameters in the URL of the pages.
- Using **sqlmap** on these parameters to discover any injunction we can exploit.
- Using **sqlmap** to raise the impact and reach the database which has sensitive information



Findings

1. **An infected parameter in the catalog page (category)**
2. **Getting the databases names, columns names and access them**
   - INFORMATION_SCHEMA, PUBLIC (**Databases**)
   - USERS, TRACKING, PRODUCTS .etc (**Tables**)
   - carlos (**username**), hunter2 (**password**)



SQL Injection

Security Implications

- **Data Exposure:** An attacker can retrieve sensitive data from the database, including user information, product details, and potentially confidential business data.
- **Database Manipulation:** Depending on the privileges of the database user, an attacker could alter, delete, or insert new records.
- **Application Compromise:** Further exploitation could lead to complete control over the application or the underlying server.

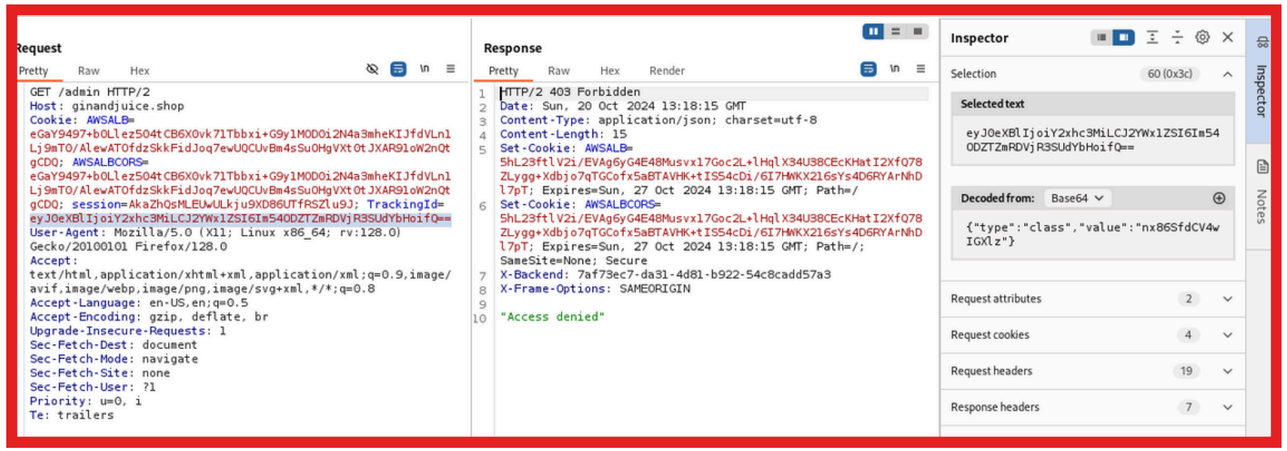
How To Protect

- **Input Validation:** Use parameterized queries (prepared statements) to avoid SQL injection.
- **Web Application Firewall:** Use a WAF to filter and block malicious traffic.
- **Error Handling:** Avoid exposing database errors to users.
- **Security Testing:** Regular vulnerability assessments.

Base64-Encoded Data

How We Found It

- By using **burp suite** we found that there is parameter encoded in Based64.



Security Implications

- **Easily Decoded**
  - Base64 is not a secure method of encoding; it can be easily decoded with simple tools or even through the browser's developer console.
- **Sensitive Data Exposure**
  - If confidential information (e.g., session tokens, authentication credentials) is encoded in Base64 and used in URLs or parameters, it can be exposed in server logs, browser history, and referer headers, making it easy for attackers to access.

Base64-Encoded Data – Mitigation

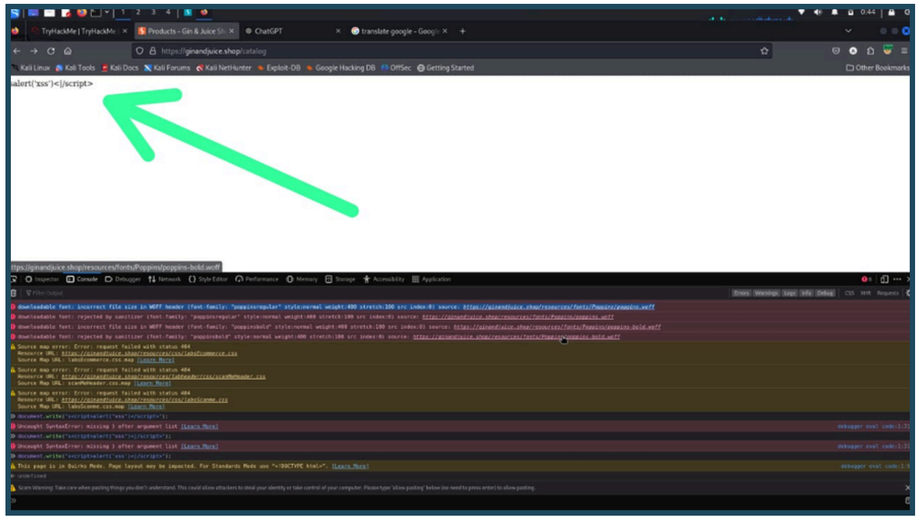
How To Protect

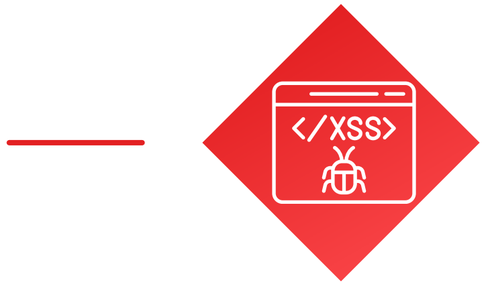
- **Avoid Using Base64 for Sensitive Data:**
  - Base64 encoding is not encryption—it is easily reversible. Avoid using Base64 encoding for sensitive data (like user IDs, session tokens, or any confidential information) in URLs or parameters.
- **Use Proper Encryption Instead of Base64:**
  - For any sensitive data that needs to be transmitted, use proper encryption techniques (e.g., AES or RSA). Ensure that data is encrypted securely on the server side before being sent to the client or transmitted in URLs or parameters.
- **Implement Server-Side Validation and Access Control:**
  - Always validate and authorize any incoming Base64-encoded data or parameters on the server side. Don’t rely on the client to handle validation—check on the back end to ensure the integrity and legitimacy of the data before processing.

DOM Based XSS

How We Found It

- **Observation**: When searching for a term, the input value was reflected in the URL but was sanitized, preventing direct injection of a malicious payload via the search field.
- **Exploit Method**:
  - I switched to the browser’s Developer Tools, specifically the **Console**.
  - I attempted to inject an XSS payload directly using the **Document Object Model** (DOM) instead of relying on traditional input fields.
- `document.write("<script>alert('XSS');</script>");`





DOM Based XSS

Security Implications

- **Unauthorized Script Execution:**
  - Attackers can inject malicious scripts into a webpage, which can execute in the user’s browser.
- **Phishing and Social Engineering:**
  - An attacker could manipulate the webpage content using XSS to display fake login prompts or other deceptive messages, tricking users into giving away sensitive information.

How To Protect

- **Sanitize User Input:**
  - Ensure any data taken from the user (e.g., input fields, URLs) is sanitized and validated before being processed or rendered in the DOM.
- **Use Safe DOM Manipulation Methods:**
  - Avoid using methods like `document.write()`, `innerHTML`, or `eval()` to insert user input directly into the DOM.

Report Writing

Our penetration testing report provides a comprehensive summary of identified vulnerabilities, their impact, and actionable remediation steps, ensuring both technical teams and business stakeholders understand the security risks.

Gin and Juice Shop Report Link

18/10/2024

22/10/2024

Jr Penetration Tester Path

We have successfully make it just in 12 days and finished the path. Together after our collaboration and amazing efforts we made a lot and we will continue after our discussion to make more. This path covers the core technical skills that will allow us to succeed as a junior penetration tester.

CERTIFICATE OF COMPLETION

this is to acknowledge that

Philopater shenouda sedkiy shenouda

has **successfully** completed the

Jr Penetration Tester

Learning Path

24th October 2024

Time to complete: 29 hours 5 minutes

Ben Spring
CEO

Ashu Savani
CTO

Ahmed Elsaygh

ginandjuice.shop Pentest

Active Reconnaissance

- Interacting with the target to get information about it
- Using Burp suite to analyse the sent and received packets

Searching For Vulnerabilities in packets

- By using Burp suite

Report Writing

Jr. Pentesting Path

Introduction to Pentesting

Burp Suite

Metasploit

- All completed
- All Tasks Solved

Antony Essac

ginandjuice.shop Pentest

Active Reconnaissance

- Interacting with the target to get information about it
- Using Dirb tool to get the hierarchy of the target

Identify an XSS vulnerability

Raising the impact of the SQL injection vulnerability

- Make it further to get to the USERS table and got the user names and passwords

Jr. Pentesting Path

Introduction to Web Hacking

Belal Rabea

ginandjuice.shop Pentest

Active scanning

- Interacting with the target to get information about it
- Using Burp suite to analyse the sent and received packets

Identify SQL injunction vulnerability

- By using SQL map to search for it in all pages

Identify JS Secrets Exposure vulnerability

- By using script securityFinder

Jr. Pentesting Path

Vulnerability Research

- Completed
- Complete the Vulnerability Capstone

Osama Yousef

ginandjuice.shop Pentest

Passive Reconnaissance

- Searching for public information about the target
- Review the website as a normal user to identify its functionality

Identify Base64-encoded data in parameter

Identify SQL injection in an infected parameter

Jr. Pentesting Path

Introduction to cybersecurity

- Completed

Privilege Escalation

- Not completed yet

Philopater Shenoda

ginandjuice.shop Pentest

Passive Reconnaissance

- Searching for public information about the target
- Searching for subdomains

Active scanning

- **nmap**

Searching for XSS vulnerabilities

- Trying to find any working XSS payload manually.

Jr. Pentesting Path

Network Security

- Completed
- All tasks have been solved
- Complete Net Sec Challenge

THANK YOU

LockBit Team