

Lifestyle Store E-Commerce Platform

<u>Detailed Developer Report</u>

Vulnerability Status: **EXTREMELY VULNERABLE**

- The Hacker can steal all the records in Lifestyle Store databases with SQLi.
- The Hacker can upload malicious programs by exploiting the file upload vulnerability.
- The Hacker can get account details of some other customer by changing the parameters in the URL link (IDOR).
- The Hacker can get access to seller details and login into the website using customer of the month usernames(PII).
- The Hacker can send multiple requests (Rate Limiting Flaw).
- The Hacker can add or remove items from the cart (CSRF).
- The website is very much vulnerable as it uses http instead of https.
- The website is vulnerable as in some modules the website uses GET based instead of POST.

VULNERABLITY STATISTICS:

CRITICAL	SEVERE	MODERATE	LOW
11	15	13	2

Modules in the Website:

- Lang
- My cart
- My Profile
- My Orders
- Blog
- Home
- Sign Up
- Log in

VULNERABILITIES LIST:

S.No	SEVERITY	VULNERABILITY	COUNT
1.	Critical	SQL Injection	2
2.	Critical	Insecure Direct Object Reference (IDOR)	5
3.	Low	Descriptive Error Message	2
4.	Moderate	Personally Identifiable Information Leakage	2
5.	Severe	Components with known Vulnerabilities	2
6.	Moderate	Default File Misconfiguration	4
7.	Critical	Open Redirection	2
8.	Severe	Cross Site Scripting (XSS)	2
9.	Severe	Forced Browsing	3
10.	Severe	Default/Weak Passwords	4
11.	Severe	File Inclusion Vulnerability	2

S.NO	SEVERITY	VULNERABILITY	COUNT
12.	Severe	Bruteforcing	2
13.	Critical	OTP Bypass	1
14.	Moderate	Rate Limiting Flaw	3
15.	Moderate	Improper Server Side Validation	3
16.	Moderate	Network Vulnerability	1
17.	Critical	Access to Admin Panel	2

1. SQL Injection:

SQL injection is a web security vulnerability that allows an attacker to interfere with the queries that an application makes to its database.

SQL Injection (Critical)

• In the link http://35.154.135.229/products.php
the modules T Shirt/Socks/Shoes is vulnerable to SQL Injection.

Affected URL: http://13.233.34.157/products.php?cat=1

Method used : GET based

• **Payload:** cat=1' --+

• In the link http://35.154.135.229/products.php
the modules T Shirt/Socks/Shoes is vulnerable to SQL Injection.

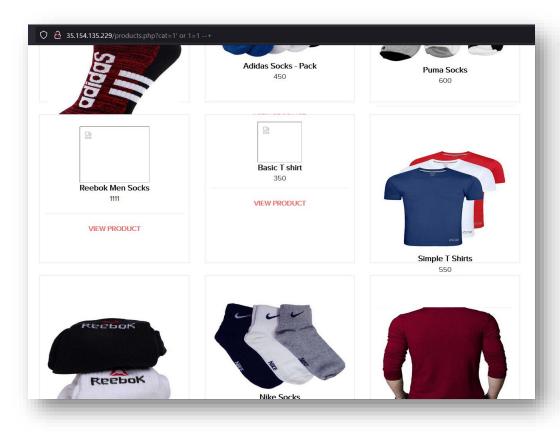
• Affected URL: http://35.154.135.229/products.php?q=socks

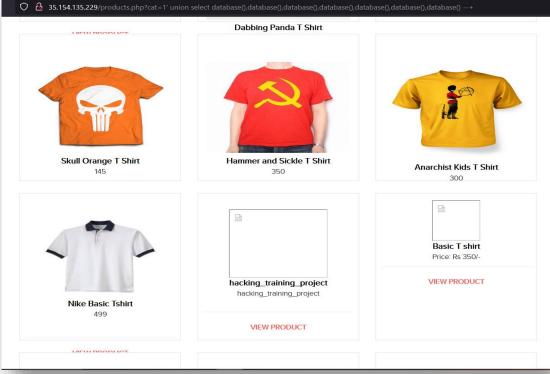
Method used : GET based

• Payload: q=socks' --+

OBSERVATION:

By adding '--+ into the URL we can clearly observe that we can pass the commands into the SQL database. This is called Error based SQL Injection.





PROOF OF CONCEPT (POC):

Through SQLi the hacker can run SQL commands on the URL and access the restricted data and harm the site.

Through Burp Suite by capturing the packet we can get all the details and use them to automate the SQL injection and find what all injections the site is vulnerable to.(Error based, Time based, BOOLEAN).

Command used: python sqlmap.py -r "pac.txt"

Through this we found the database name and now can access the database.

```
Type: boolean-based blind
  Title: AND boolean-based blind - WHERE or HAVING clause
  Payload: cat=1' AND 3539=3539 AND 'IsrW'='IsrW
  Title: MySQL >= 5.6 AND error-based - WHERE, HAVING, ORDER BY or GROUP BY clause (GTID_SUBSET)
Payload: cat=1' AND GTID_SUBSET(CONCAT(0x716b717671,(SELECT (ELT(1645=1645,1))),0x71787a7071),1645)
  Title: MySQL >= 5.0.12 AND time-based blind (query SLEEP)
  Payload: cat=1' AND (SELECT 8233 FROM (SELECT(SLEEP(5)))AOKK) AND 'XjLA'='XjLA
  Title: Generic UNION query (NULL) - 7 columns
  Payload: cat=1' UNION ALL SELECT CONCAT(0x716b717671,0x4a5462655442494f4f4b6a776a4d5978656d4976765a
--LUN, JULL, NULL, NULL, NULL, NÚLL, NÚLL
  server operating system: Linux Ubuntu
```

Available Databases : information schema

hacking_training_project

We can obtain the users information from Users table hacking_training_project. Command used: python sqlmap.py -r "pack.txt" -D "hacking_training_project" -T "users" --dump

```
password
                                                                                            | user_name | created_at
                                                                                                                                | unique_key
        phone_number | last_updated_at
                                       | admin@lifestylestore.com | Scholiverse Educare Pvt. Ltd. B-610, Unitech Business Zone, Nirvana Country, South Cit
xkmdvrxSCxgdvWSrDx5YSe1NAWX.7p02n0maTCovH4CFssxgvJTki | admin | 2019-02-15 12:55:00 | 15468927955c66694cba1174.29
y 2, Gurgaon, India - 122018 | $29$10$\text{Kdm/IN} | THESCYTESTORE.COM | SCHOTTVERSE Educare PVI. Ltd. |
688447 | 8521479630 | 2019-02-15 12:55:00 |
 2 | Donald Duck
                             customer | donald@lifestylestore.com | B-34/ the duck lane, Disneyland
                               $2y$10$PM.7nBSP5FMaldXiM/S3s./p5xR6GTKvjry7ysJtxOkBqOJURAHsO | Donal234
                                                                                                          | 2019-02-15 12:56:17 | 778522555c6669996f5a24.3499
      9489625136
                     2019-02-15 12:56:17
                              customer | Pluto@lifestylestore.com | A-56 Sailor's ship, popeyeworld
 3 | Brutus
                               $2v$10$xkmdvrxSCxqdvWSrDx5YSe1NAwX.7pO2nOmaTCovH4CFssxqvjTki | Pluto98
                                                                                                           | 2019-02-15 12:58:03 | 19486318945c666a037b1432.99
985767 | 8912345670
                     | 2019-02-15 12:58:03 |
                                      | chandan@lifestvlestore.com | GF-213. Nehru road. old Delhi market. 120078
 4 | Chandan
                              seller
                               $2y$10$4cZBEIrgthXdvTlhwUlivuFELe03rR.GIcdp03NjrlS0Vei0KLVDa | chandan
                                                                                                            2019-02-15 12:58:59 | 12404594545c666a3b49e0f8.08
173871 | 7854126395 | 2019-02-15 12:58:59 |
 5 | Popeye the sailor man | customer | popeye@lifestylestore.com | B-44 spinach house, Disneyworld
                               $2y$10$Fkv1RfwYTiow0w2CaZtAQuXVnhGAUjt/If/yTgkNPC5zTrsVm7EeC | Popeye786
                                                                                                          | 2019-02-15 12:59:23 | 18430379145c666a53af8431.79
566371 | 9745612300 | 2019-02-15 12:59:23
                              seller | radhika@lifestylestore.com | D-60, Ajmer street, Ajmer
 6 | Radhika
                               $2y$10$RYxNhOyV/G4g7OtFwpqYaexvHi8rF6XXui8kT1WtrfqhTutCA8JC. | Radhika
                                                                                                           | 2019-02-15 13:03:05 | 15611262655c666b312f73e0.70
827297 | 9512300052
                      | 2019-02-15 13:03:05 |
                             | seller | Nandan@lifestylestore.com | WB-45 Wayne house, Batwan world
 7 | Nandan
                               $2y$10$G.cRNLMEiG79ZFXE1Hg.R.o95334U0xmZu4.9MgzR5614ucwnk59K | Nandan
                                                                                                          | 2019-02-15 13:03:57 | 1587354115c666b65bb44a5.36
05317 | 7845129630
                      | 2019-02-15 13:03:57
 8 | Murthy Adapa
                              customer | murthy@internshala.com
                                                                    | Internshala (Scholiverse Educare Private Limited), B-610, Unitech Business Zone,, Nirva
na Country, South City 2
646347 | 8365738264 | 2
                               $2y$10$mzQGzD4sD$j2EunpCioe4eK18c1AbsOT2P1a1P6eV1DPR.11UubDG | MurthyAdapa | 2019-02-17 11:20:56 | 16357203785c68f640c699a2.83
                      | 2019-02-17 11:20:56 |
                              9 | John Albert
                                                                    | Black street, st.Anna road, 56 Dwell
                                                                                                          | 2019-02-18 11:02:15 | 9946437385c6a435f76bef0.146
75944 | 6598325015
                      | 2019-02-18 11:02:15 |
 10 | Bob
                              customer | bob@building.com
                                                                     Bob, 23-Avenue street, construction Arcade, Dallas
                               $2y$10$kiUikn3HPFbuyTtK75lLNurxzqCOLX3eMGy0/Uxl6JOoG37dCGKLq | bob
                                                                                                           | 2019-02-18 11:04:36 | 4305822125c6a43ec507df0.683
09267 | 8576308560
                      | 2019-02-18 11:04:36 |
                                                                     customer | jack@ronald.com
 11 | Jack
                               $2y$10$z/nyN1kRJ76m9ItMZ4N51OeRxy6Gkqi9N/UBcJu5ZeO7eM7N4pTHu | jack
903432 | 9848478231
                     | 2019-02-18 11:06:06
                              customer | bulla@ranto.com
 12 | Bulla Boy
                                                                     | Bulla Boy, 98B, St. Peter road, Ramanin
                               $2y$10$HT5oiRMetqaZ7xGZPE9s2.Mk1yF4PnYDJHCWbm2w/xuKpjEEI/zjG | bulla
                                                                                                           2019-02-18 11:07:23 | 18292501185c6a4493a5ddb0.87
138000 | 7645835473 | 2019-02-18 11:07:23
 13 | hunter
                              customer | konezo@web-experts.net
                                                                   | alert(1)
                               $2y$10$pB3U9iFxwBgSb12AkBpiEeIBdhiYfwy9y.xV23q12gGbMCyn7N3g2 | hunter
                                                                                                          | 2019-03-07 06:43:50 | 13824560345c80704e821145.26
019698 | 9788777777
                      2019-03-07 06:43:50
 14 | asd
                              customer | asd@asd.com
                                                                    asdasd
                               $2y$10$At5pFZnRWpjCD/yNnJWDL.L3Cc4Cv0W8Q/WEHmWzBFqVIkBQFpCF2 | asd
                                                                                                           | 2019-03-11 14:59:35 | 8057400125c862a7f5916c9.061
11587 | 9876543210
                     | 2019-03-11 14:59:35 |
```

Business Impact : CRITICAL

- With no mitigating controls, SQL injection can leave the application at a highrisk of compromise resulting in an impact to the confidentiality, and integrity of data as well as authentication and authorization aspects of the application.
- An adversary can steal sensitive information stored in databases used by vulnerable programs or applications such as user credentials, trade secrets, or transaction records.
- If the authentication or authorization aspects of an application is affected an attacker may be able login as any other user, such as an administrator which elevates their privileges.

Recommendation:

- Use of Prepared Statements (with Parameterized Queries).
- Use of Stored Procedures.
- Allow-list Input Validation.
- Escaping All User Supplied Input.
- Do not run Database Service as admin/root user .
- Disable/remove default accounts, passwords and databases.
- Assign each Database user only the required permissions and not all permissions.

References:

https://www.owasp.org/index.php/SQL Injection

2. <u>Insecure Direct Object Reference (IDOR)</u>:

Insecure direct object references (IDOR) are a type of access control vulnerability that arises when an application uses user-supplied input to access objects directly.

Insecure Direct Object
Reference (IDOR)
(CRITICAL)

Affected URL: http://35.154.135.229/profile/16/edit

Method used: GET based

Payload: profile/16

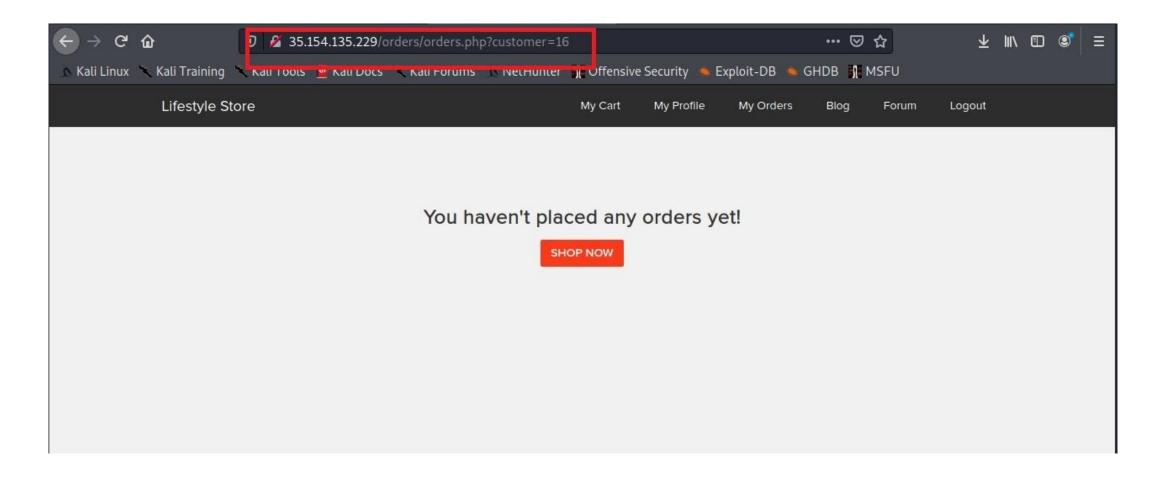
Affected URL: http://35.154.135.229/orders/orders.php?customer=16

Method used: GET based

Payload: customer=16

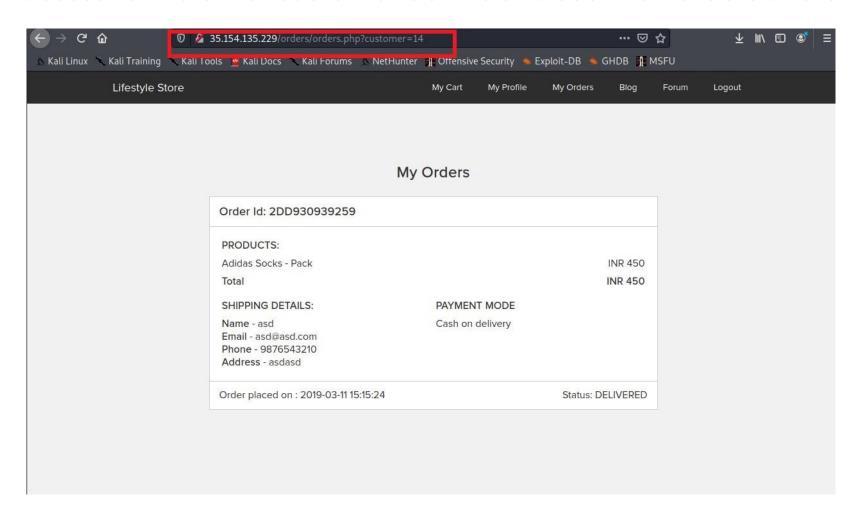
Observation:

We can clearly observe that in the URL we can change the customer=16 and we can access the other the other customer's information.



Proof Of Concept (POC):

By changing the parameter "customer=16" to "customer=14" the hacker can get access to the other customer details and see their orders and other details.



Business Impact: Critical

 With this vulnerability the hacker can get unauthorized access to the customers details and their personal information like address, phone number, email are all disclosed.

 The company may fall into severe trouble as this is a security flaw and the company may be seized for leaking the data.

Recommendations:

- Validation of Parameters should be properly implemented.
- Verification of all the Referenced objects should be done.
- Developers should avoid displaying private object references such as keys or file names.

References:

• https://www.owasp.org/index.php/Insecure Configuration Management

3. <u>Descriptive Error Message</u>:

An error message is a message displayed to the user by an operating system or application when an unexpected condition happens.

Descriptive Error
Message
(LOW)

• **URL**: http://52.66.143.169/ the **Lang** module in the page is vulnerable to Descriptive Error Message.

Affected URL: http://52.66.143.169/?includelang=lang/en.php

Method Used: GET based

Payload Used: <>'

• URL: http://65.2.128.198/productus.php?cat=1 the cat=1 in the URL is vulnerable to Descriptive Error Message.

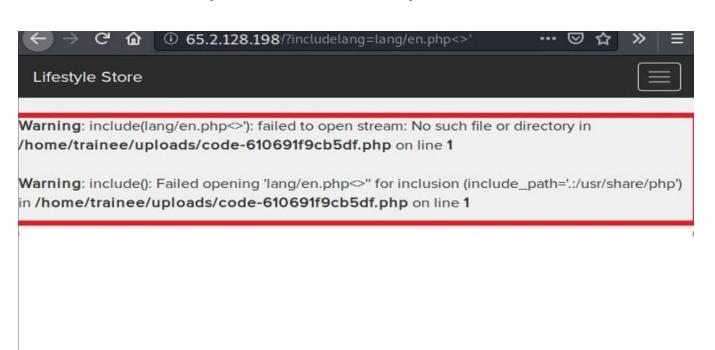
Affected URL: http://65.2.128.198/productus.php?cat=1

Method Used: GET based

Payload Used: '

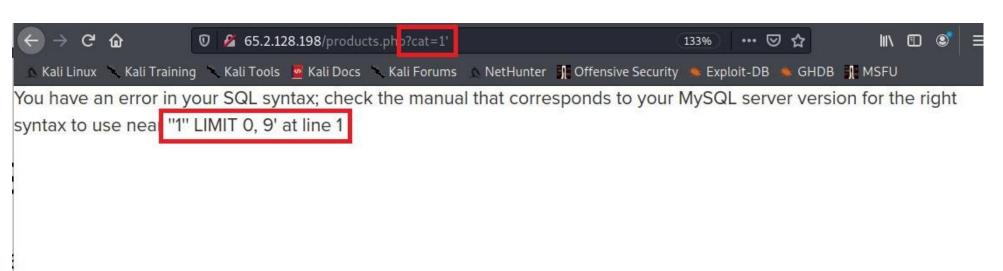
Observation:

When the hacker adds some random special characters in the URL an Descriptive Error will be displayed. This may reveal the code of the page which can be used by hacker and exploit it more.



Proof of Concept (PoC):

As the error reveals some valuable information like the directory path the hacker can now access the directories and steal the data. These error may reveal if the website is vulnerable to SQL injection.



Business Impact: LOW

These vulnerabilities does not directly cause an impact on the business, but it reveals some important information about the server and lets the hacker have a clear information of the servers stats.

Recommendation:

- Do not display more than what needs to be displayed.
- Turn off Descriptive Error Messages.

Reference:

https://cheatsheetseries.owasp.org/cheatsheets/Error_Handling_Cheat_Sheet.html

4. Personally Identifiable Information Leakage (PII):

- This allows cyber criminals to steal your data.
- The Sellers details are revealed including with PAN number which should no to be shown publicly.
- These details can be used for other purposes if hacker gets access to them.

Unauthorized access to Seller's Details.
(MODERATE)

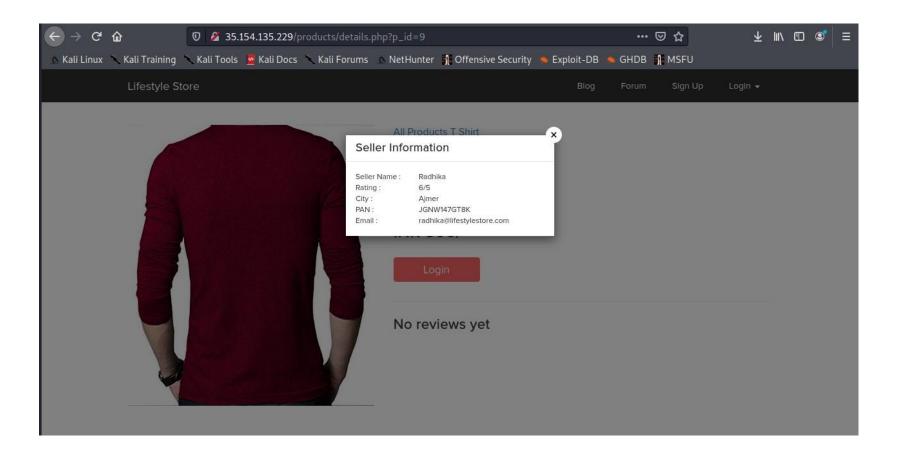
Affected URL: http://35.154.135.229/products/details.php?p_id=9

Method Used: GET based

Affected Module: Seller info

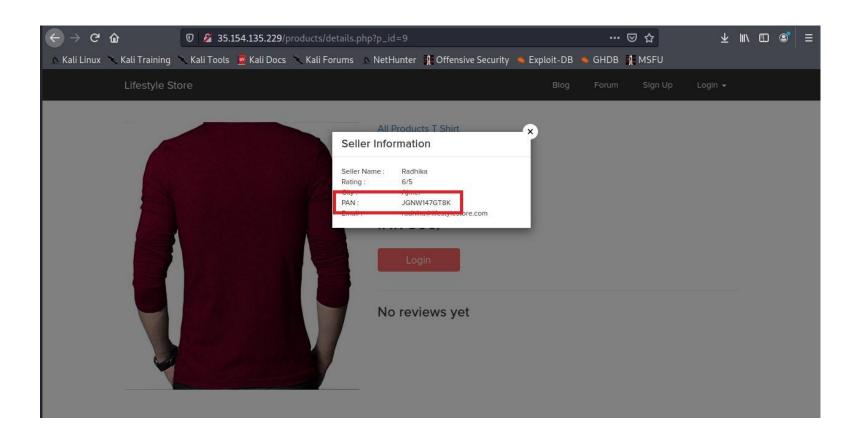
Observations:

Some personal details of the sellers are being displayed publicly which not be the case. Instead it should be secured.



Proof Of Concept (POC):

In this case, PAN card number of the seller is displayed without any security which allows cyber criminals to steal your data. It is dangerous to both the seller and site to leak such information.



Business Impact: Moderate

- The will be no direct impact on the business.
- The sellers could loose trust on the company and the dealing between them may get cancelled.

Recommendation:

- No need to display the personal information of the seller like PAN card number etc..
- Securely store the data in the database.

References:

https://digitalguardian.com/blog/how-secure-personally-identifiable-information-against-loss-or-compromise

5. Components with known Vulnerabilities:

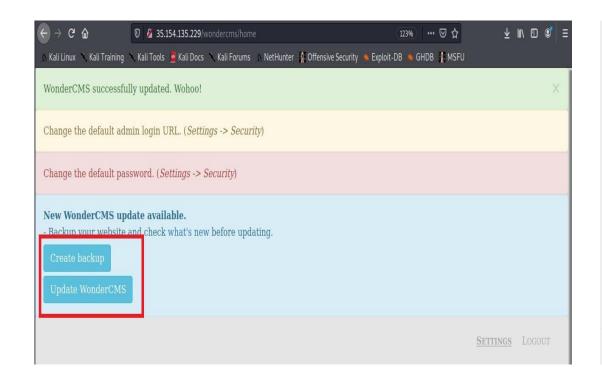
Some vulnerable components (e.g., framework libraries) can be identified and exploited with automated tools, expanding the threat agent pool beyond targeted attackers to include chaotic actions.

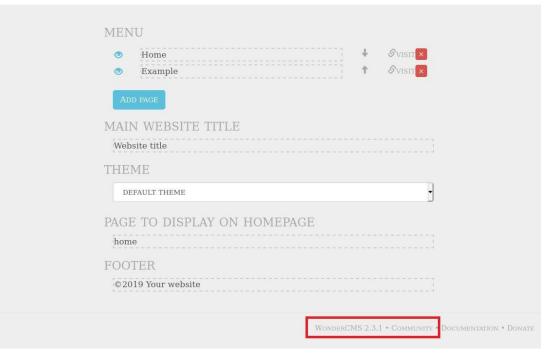
Components with known Vulnerabilities (SEVERE)

Affected URL: http://35.154.135.229/wondercms/ is not an updated version

Observation:

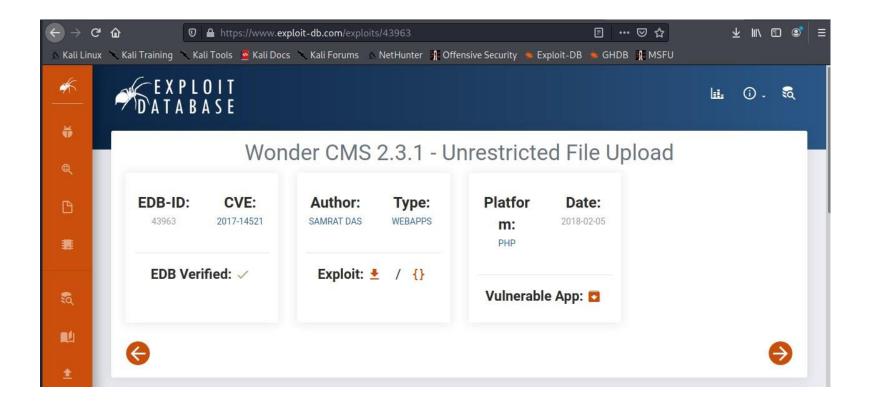
As the CMS is not up-to-date and the version is older than the present versions. The hacker can identify the version and the exploits in it easily.





Proof of Concept:

- We can find the types of Vulneravilities and bugs that affect the website which uses the Wonder CMS 2.3.1.
- This version allows Unrestricted File Uploads.



Business Impact: SEVERE

This does not create an direct impact on the business but due to the exploits the server may be hacked easily and the hacker can take control.

Recommendations:

- Frequently checks for bugs, exploits and patch them.
- Check for updates regularly.

References:

https://www.exploit-db.com/exploits/43963

6. Default File Misconfiguration:

Directory listing is not disabled on the server. An attacker discovers they can simply list directories.

Affected URL: http://35.154.135.229/ is vulnerable to Default File Misconfiguration

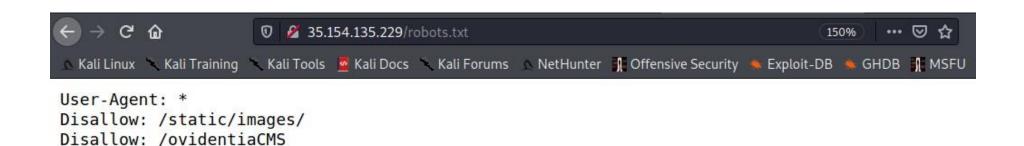
Default File
Misconfiguration
(SEVERE)

Payloads: http://35.154.135.229/server-status/

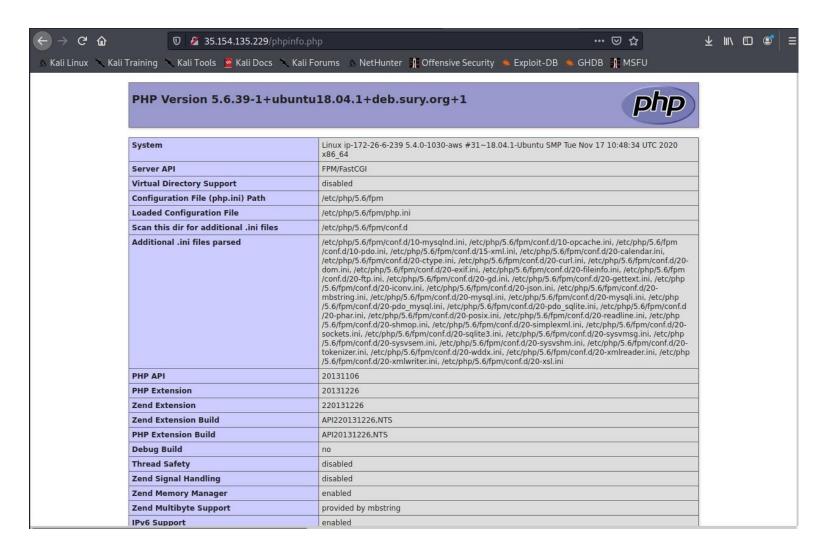
http://35.154.135.229/robots.txt/ http://35.154.135.229/phpinfo.php/ http://35.154.135.229/userlist.txt/

Observation:

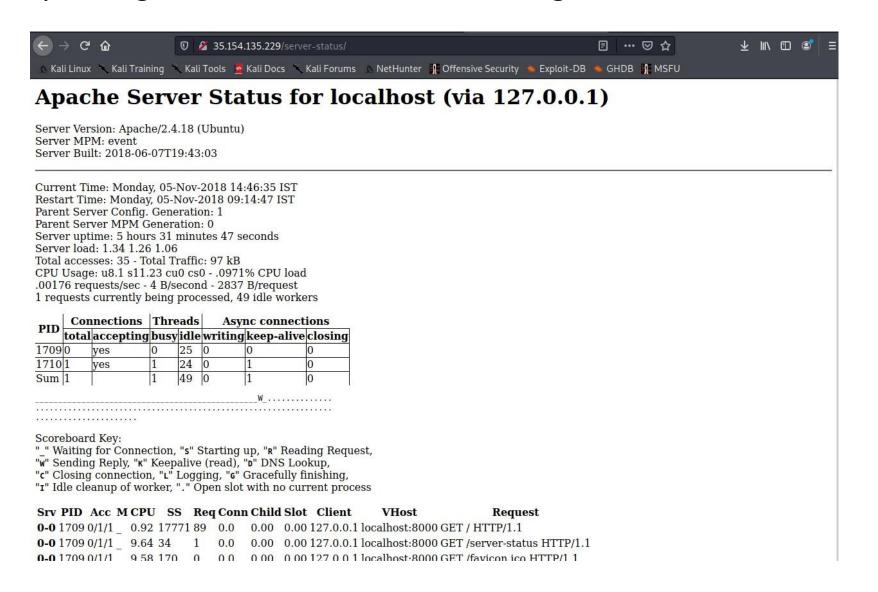
By adding "robots.txt" in the URL we get the info of the restricted file location.



By adding "phpinfo.php" we get the PHP related information.

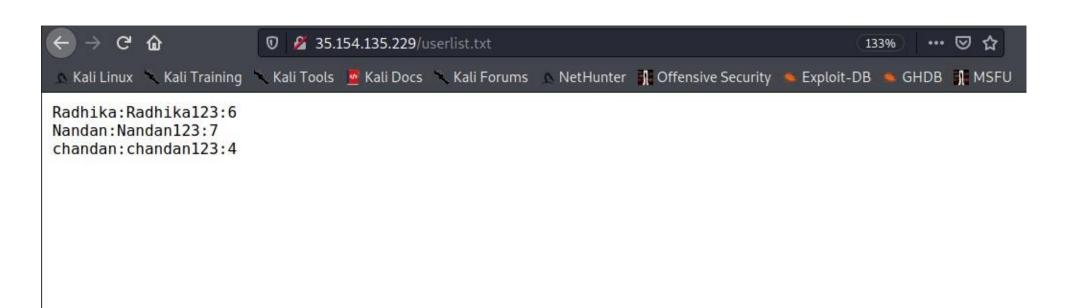


By adding "server-status" in the URL we get the whole server information.



Proof of Concept:

Because of this vulnerability the hacker can gain access to the files and databases which are restricted to the other users and can exploit it.



Business Impact: MODERATE

This vulnerability does not have a direct impact to users or the server but it can help the attacker with information about the server and the users.

Recommendations:

Disable access to all the default files and folders including server-status and server-info.

References:

https://owasp.org/www-project-top-ten/2017/A6 2017-Security Misconfiguration

7. Open Redirection:

A web application accepts a user-controlled input that specifies a link to an external site, and uses that link in a Redirect. This simplifies phishing attacks.

Open Redirection (SEVERE)

URL: http://65.0.80.6/ in this page the Lang module is vulnerable to Open

Redirection

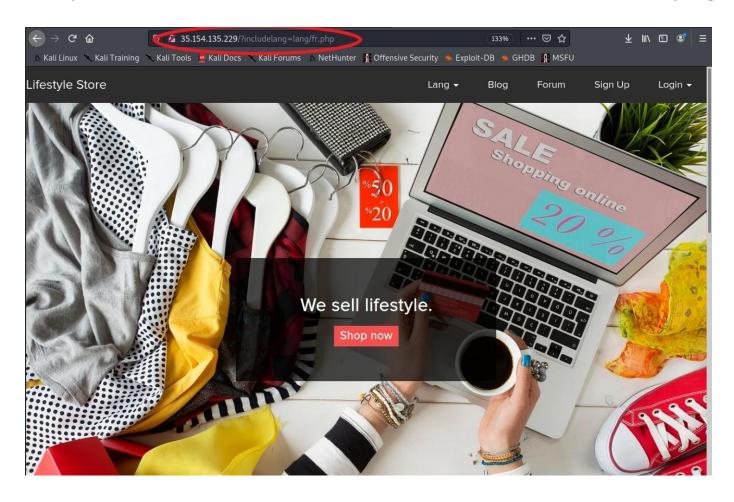
Affected URL: http://65.0.80.6/?includelang=lang/en.php

Method Used: POST based

Affected Parameter: includelang=lang/en.php

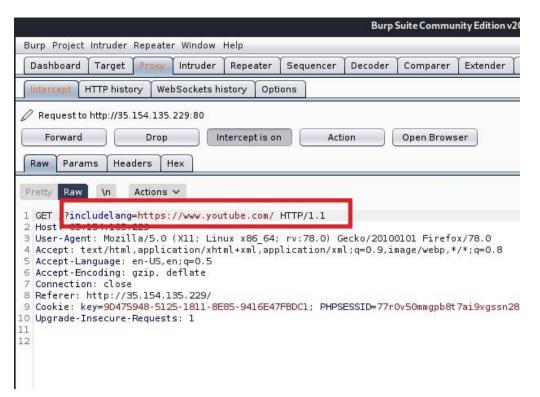
Payload: https://www.youtube.com/

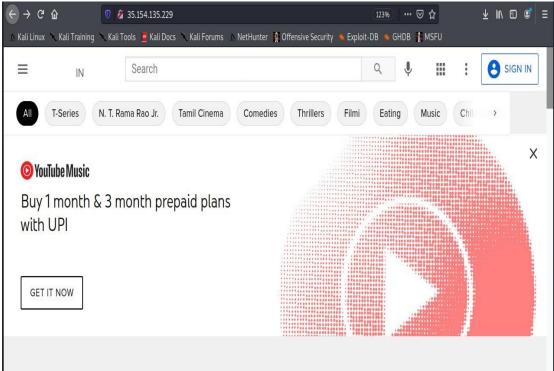
By changing the value in "includelang" parameter in the post request using burpsuite the victim will be redirected to another page.



Proof of Concept:

With this vulnerability the hacker can redirect the victim to some other malicious site and steal the data.





Business Impact: Critical

- An http parameter may contain a URL value and could cause the web application to redirect the request to the specified URL.
- Content-Security-Policy bypassing: If you use CSP to protect against XSS and one
 of the whitelisted domains has an open redirect, this vulnerability may be used to
 bypass CSP.

Recommendation:

- Force all redirects to first go through a page notifying users that they are going off of your site, with the destination clearly displayed, and have them click a link to confirm.
- Check for http protocols.

References:

• https://cheatsheetseries.owasp.org/cheatsheets/Unvalidated Redirects and Forwards Cheat Sheet.html

• https://www.netsparker.com/blog/web-security/open-redirection-vulnerability-information-prevention/

8. Cross Site Scripting (XSS):

Cross-site scripting (also known as XSS) is a web security vulnerability that allows an attacker to compromise the interactions that users have with a vulnerable application.

URL: http://35.154.135.229/products.php under this URL there are three modules T Shirt/Shoes/Socks

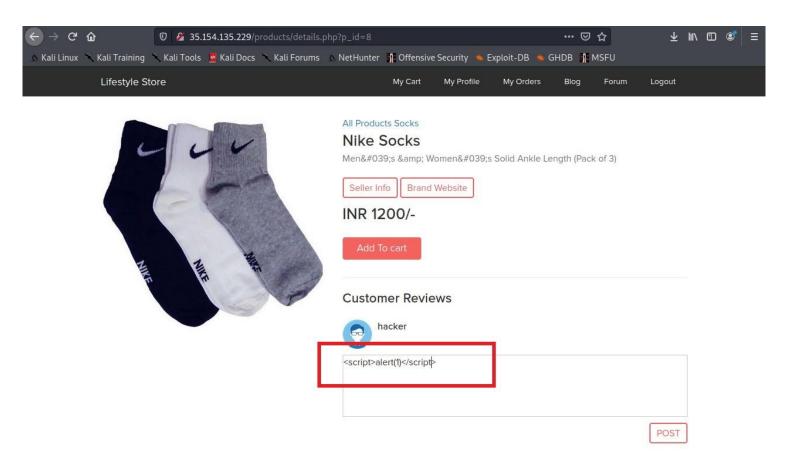
Affected URL: http://35.154.135.229/products/details.php?pid=8

Cross Site Scripting
XSS
(MEDIUM)

Method Used: GET based

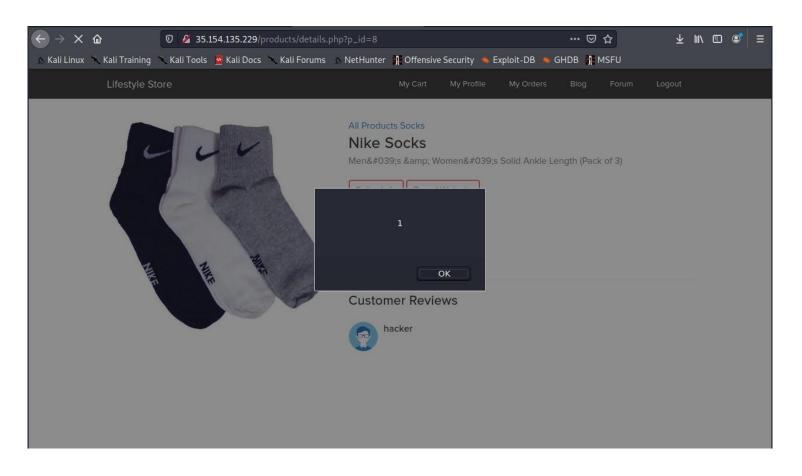
Payload : <script>alert(1)</script>

With this vulnerability the hacker can execute malicious Java Script codes and cause harm to the servers and the database.



Proof of Concept(PoC) :

In the revies tab type "<script>alert(1)</script>" and post the code and then a pop up box appears.



Business Impact: Severe

• As the hacker can inject HTML, CSS and JS via the review box the hacker can hack the website and gain complete control over the server.

• With the help of this vulnerability the hacker can now gain complete access to the victim's device and steal the information or even post some explicit content on the website.

Recommendations:

- Filter input on arrival At the point where user input is received, filter as strictly as possible based on what is expected or valid input.
- Encode data on output At the point where user-controllable data is output in HTTP responses, encode the output to prevent it from being interpreted as active content. Depending on the output context, this might require applying combinations of HTML, URL, JavaScript, and CSS encoding.
- Content Security Policy As a last line of defense, you can use Content Security Policy (CSP) to reduce the severity of any XSS vulnerabilities that still occur.

References:

https://www.owasp.org/index.php/Cross-site Scripting (XSS)

9. Forced Browsing:

Forced browsing is an attack where the aim is to enumerate and access resources that are not referenced by the application, but are still accessible.

Forced Browsing (SEVERE)

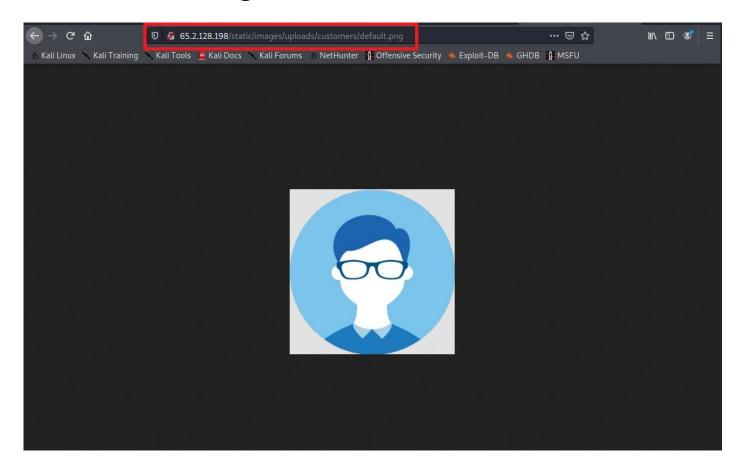
URL: http://65.0.80.6/profile/profile.php in this site the display picture is vulnerable to forced browsing. By opening the Display picture we can access the other directories from URL.

Affected URL:

http://65.2.128.198/static/images/uploads/customers/default.png

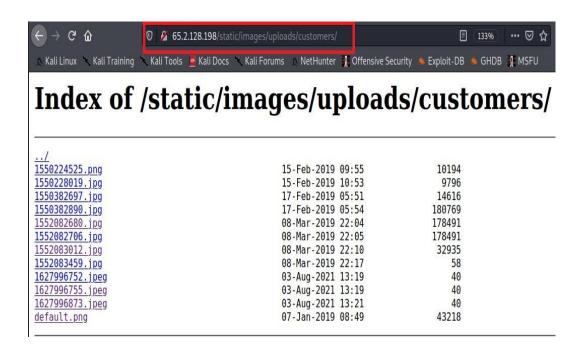
Method used: GET based

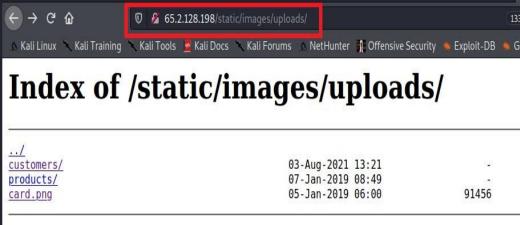
After going to the My profiles we can see the display picture which can be opened in the new tab. A hacker can observe that he can remove some modules in URL and access other things in database.



Proof of Concept:

After opening the picture, by removing default.png from URL can access the data present in customers and by removing the customers folder from URL we can access uploads folder.





Business Impact: Severe

The potential impact of forced browsing includes unauthorized access to all administration functions and to other user's personal information.

Recommendation:

- The developer must never assume that a publicly accessible URL is impossible to find. If it exists, it can be found. Authentication is a must.
- The developer must never assume that once the user is authenticated, they don't need any other access control.

References:

https://owasp.org/www-community/attacks/Forced_browsing

10. <u>Default/Weak Passwords</u>:

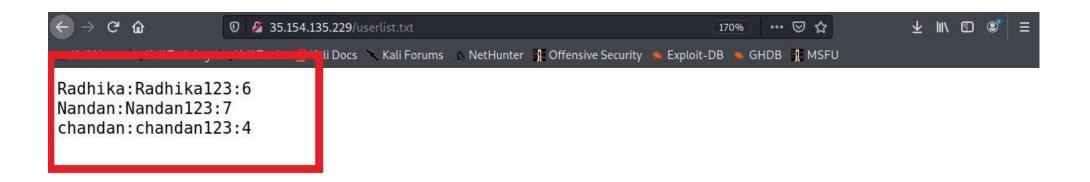
The default passwords are very much vulnerable and can be guessed easily.

Deafult Password (SEVERE)

Affected URL: http://13.126.121.253/login/seller.php this have weak passwords which are easy to guess.

Affected URL: http://52.66.143.169/wondercms/ this have default password.

The hacker can easily guess the password and log in as a seller and can change the products and their prices.



Business Impact: Severe:

Default and common passwords makes it easy for attackers to take control of the admin and make illegal use of them and can harm the website.

Recommendation:

- There length of the password must be of minimum 8 characters
- There should be password strength check at every creation of an account.

References:

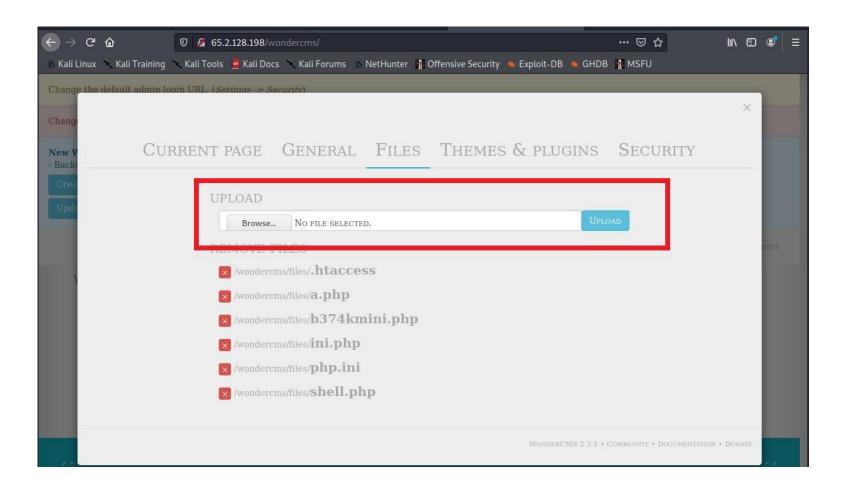
https://owasp.org/www-project-web-security-testing-guide/latest/4-Web Application Security Testing/04-Authentication Testing/02-Testing for Default Credentials

11. File Inclusion Vulnerability:

Shell Uploading (CRITICAL)

- **URL**: http://65.2.128.198/ the Blog module in this page is vulnerable to Shell upload and execution
- Affected URL: http://65.2.128.198/wondercms/ under the security module navigate to files and upload the file
- Method Used : GET based
- Payload : index.php (PHP Shell)

The hacker can upload the file and to run it.



Proof of Concept:

After uploading the file a hacker can run the file and execute the Linux based commands and can access the files and directories. This also called as shell scripting.





Business Impact: SEVERE

 After successfully logging in to the admin's account the hacker can easily steal sensitive data and cause harm to the website.

The hacker can run malicious shell scripts and steal the data.

Other than injecting malicious code, the attacker can even get the details of the
websites like its version and he can find the vulnerabilities to that version and
easily exploit them and cause damage to the website.

Recommendations:

- Only allow specific file extensions.
- Only allow authorized and authenticated users to use the feature.
- Make sure it is actually an image or whatever file type you expect.
- Serve fetched files from your application rather than directly via the web server.
- Store files in a non-public accessible directory if you can.

References:

https://www.offensive-security.com/metasploit-unleashed/file-inclusion-vulnerabilities/

12. Brute force:

Brute force is an attack in which the hacker tries various combination to find the successful results through Burp Suite.

URL: http://35.154.135.229/products.php in this URL the My Cart

module is vulnerable to Brute Force attacking.

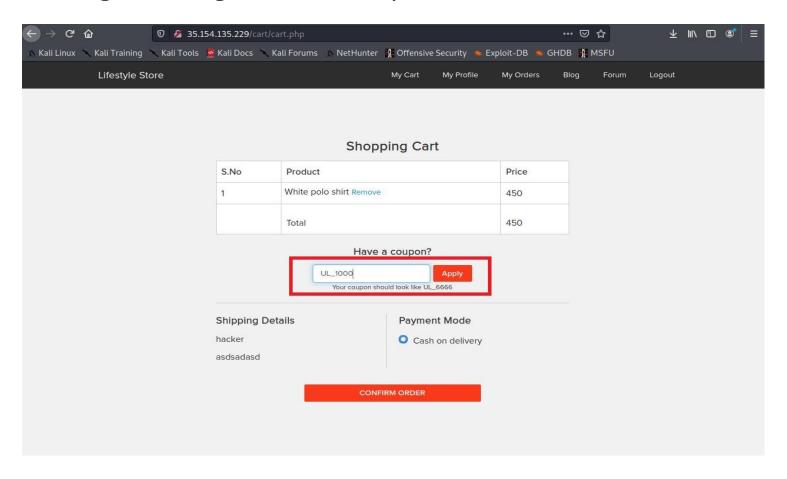
Affected URL: http://35.154.135.229/products.php

(SEVERE) Method Used: POST based

Affected Parameter : Coupon Code

Payload: UL_1056

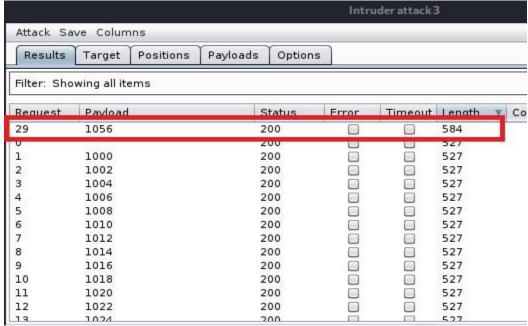
With the help of Burp Suite the hacker can intercept the packet and through brute forcing he can guess the coupon code and can have discount on the products.



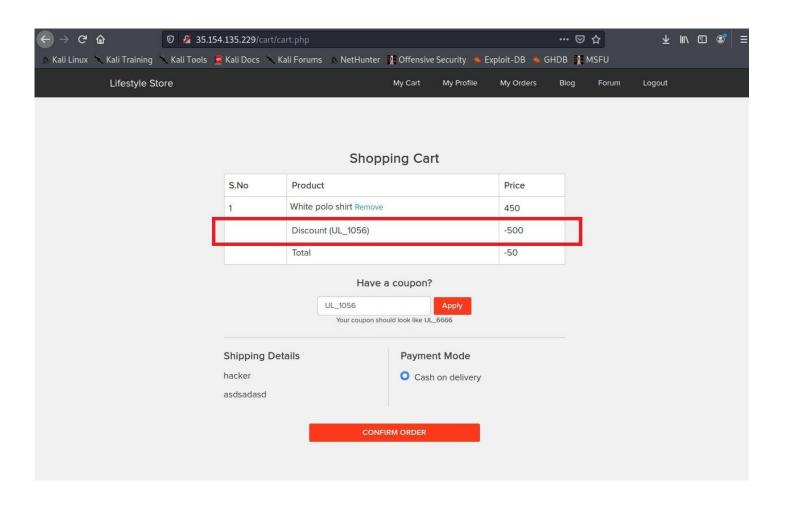
Proof of Concept (PoC):

After intercepting the packet the hacker can brute force various combination to find the correct coupon code by sending it to the intruder. After validating various combinations the valid coupon code found is UL_1056.





By finding the valid code by brute forcing we can get discount for which someone are not eligible.



Business Impact : SEVERE

- The hacker can use n number of coupon codes and obtain discount on every product he purchases.
- The company can sustain loss due to this vulnerability.

Recommendation:

- Use rate-limiting checks on the number of coupon Generation requests and validations.
- The length of the coupon code should be minimum of 8 characters.

References:

• https://owasp.org/www-community/attacks/Brute force attack

• https://owasp.org/www-community/controls/Blocking Brute Force Attacks

13. OTP Bypass:

OTP bypass can be done by brute forcing it by sending a list of all possible numbers and finding the correct OTP code.

Brute Force (SEVERE)

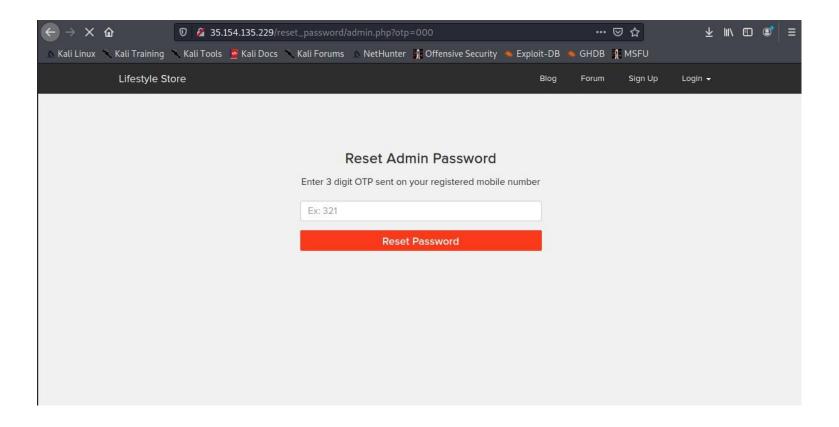
Affected URL: http://35.154.135.229/reset_password/admin.php

Method Used: POST based

Affected Parameter: OTP

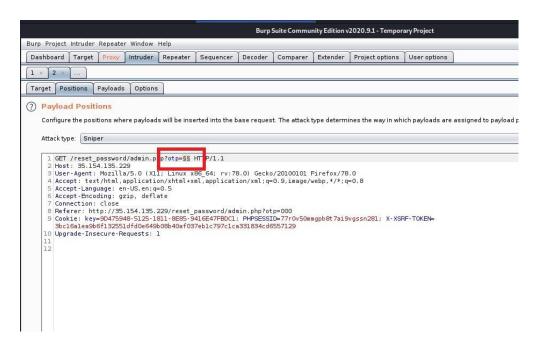
Payload: 283

The admin dashboard at the below mentioned URL has 3 digit OTP which allow us to brute force the OTP and reset the password and gain access.



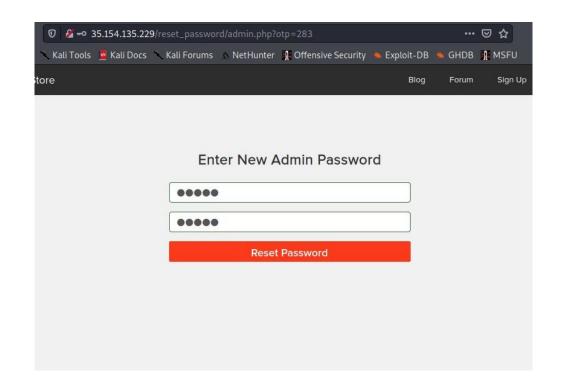
Proof of Concept:

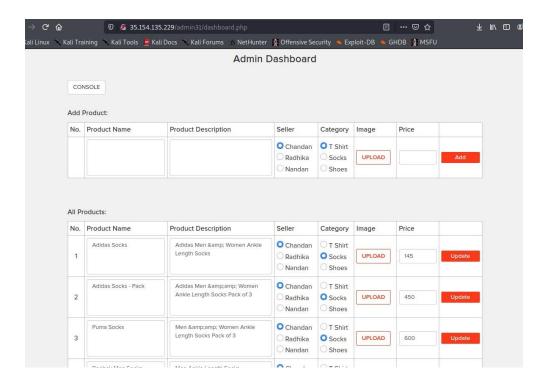
We can intercept the request through Burp suite and send it to the intruder and brute force it by sending multiple OTPs.



	Intruder attack 2					
Attack Save Columns						
Results	Target Positions	Payloads Optio	ns			
Filter: Sh	owing all items					
Daguest	- Daylord	Chahar	Eme	Timeseu	t Length	Commen
184	283	200	0	0	4476	
1	100	200	0		4380	
2	101	200			4380	
3	102	200			4380	
4	103	200			4380	
5	104	200			4380	
6	105	200			4380	
7	106	200			4380	
8	107	200			4380	
9	108	200			4380	
10	109	200			4380	
11	110	200			4380	
12	111	200			4380	
13	112	200			4380	

After Bypassing the OTP a hacker can change the Admin password and access the admin dashboard where he can change the products information and price. The original admin loses his access to the dashboard.





Business Impact: CRITICAL

 Malicious hacker can gain access to any account and change the information about the products.

 This may lead to defamation of the seller and the website which the customer trusts.

 Attacker once logs in can then carry out actions on behalf of the admin which could lead to serious loss to any user.

Recommendation:

- OTP should expire after certain amount of time like 2 minutes.
- Introduce ReCAPTCHA to stop bots.
- OTP should be at least 6 digit and alphanumeric for more security.

Reference:

https://www.owasp.org/index.php/Blocking Brute Force Attacks

14. Rate Limiting Flaw:

A rate limiting Flaw is a Vulnerability to send too many requests from the user session (or IP address) within a given time frame.

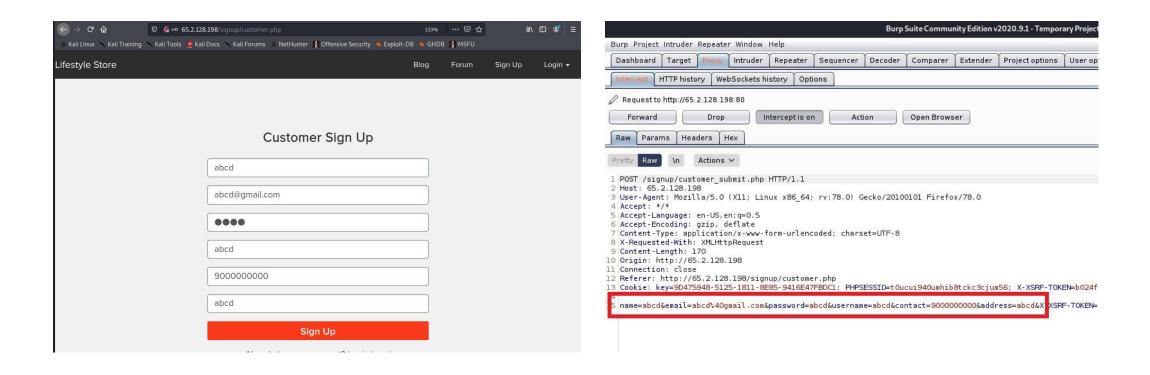
RATE LIMITING FLAW (MODERATE)

Affected URL: http://35.2.128.192/signup/customer.php

Method Used: POST based

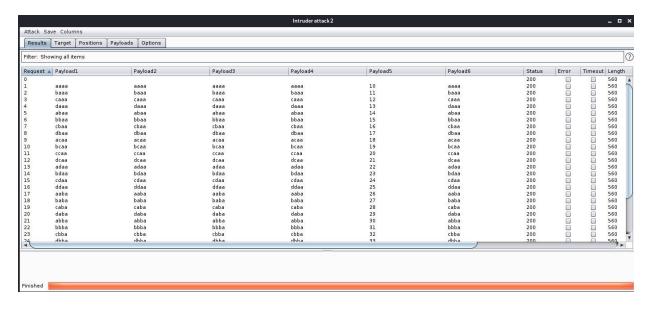
Affected Parameters: Name, Email, Password, Username, Contact no

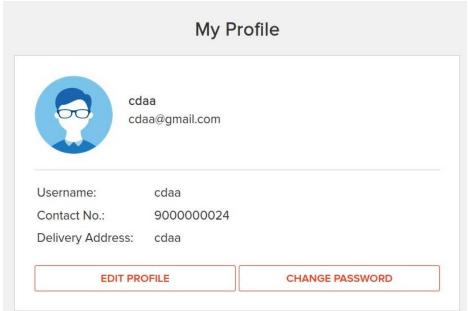
We can see that the information entered can by directly capture through Burpsuite and brute force it.



Proof of Concept:

We can create multiple accounts continuously by using Burpsuite Intruder. Sending these many requests at a time may affect the server.





Business Impact: MODERATE

- Rate limiting will not only stop new visitors from reaching your website, but will also slow down visitors who are already on your website.
- Many Bot accounts are created which doesn't contribute anything to the website.
- The Server may crash if it cannot handle too many requests.

Recommendation:

- Use proper rate-limiting checks on the no of Accounts generation from the same User Session.
- Implement anti-bot measures such as ReCAPTCHA.

References:

https://owasp.org/www-community/attacks/Brute force attack

15. <u>Improper Server Side Validation</u>:

With this vulnerability the hacker can bypass some server side validation filters.

Improper Server side validation (MODERATE)

URL: http://65.0.80.6/profile/profile.php in this site the My Profile module is vulnerable missing server side validation vulnerability. By clicking the edit option we are redirected to a new page.

Affected URL: http://65.0.80.6/profile/16/edit/

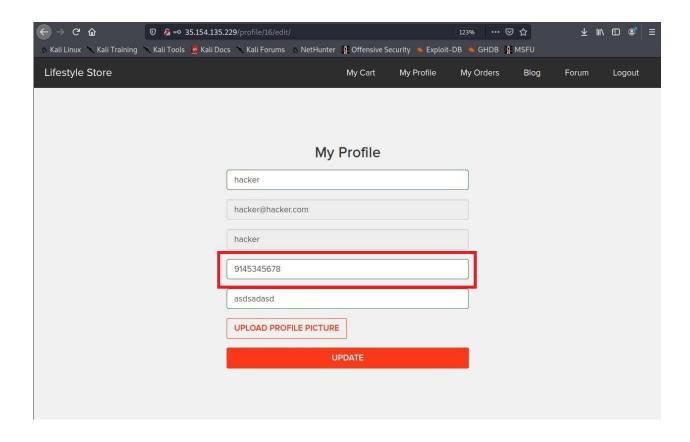
Method used: POST based

Affected Parameter: contact number

Payload: 6969696969

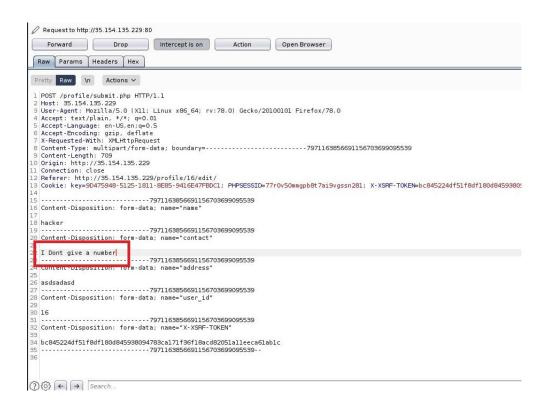
Observation:

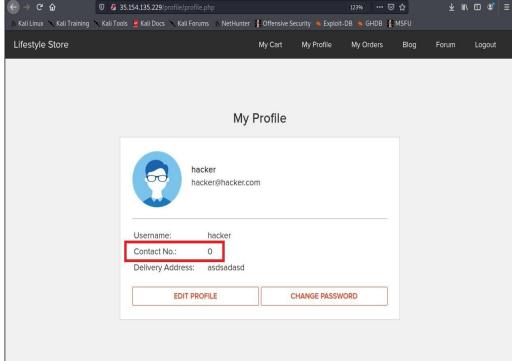
The vulnerability allows the hacker to change the data by intercepting the packet using Burp Suite and tamper the data without validating the data.



Proof of Concept:

The hacker can now create fake accounts and change the data of the other customers with improper data by bypassing the filters.





Business Impact: MODERATE

- By changing the data the database will be inconsistent.
- There will be no proper record of the genuine users.

Recommendation:

- Implement all critical checks on server side code only.
- Proper filets must be used to validate the information.

References:

https://owasp.org/www-community/vulnerabilities/Improper Data Validation

16. Network Protocol Vulnerability:

HTTPS is far more secure than HTTP. The websites which use HTTP are more likely to be vulnerable than HTTPS.

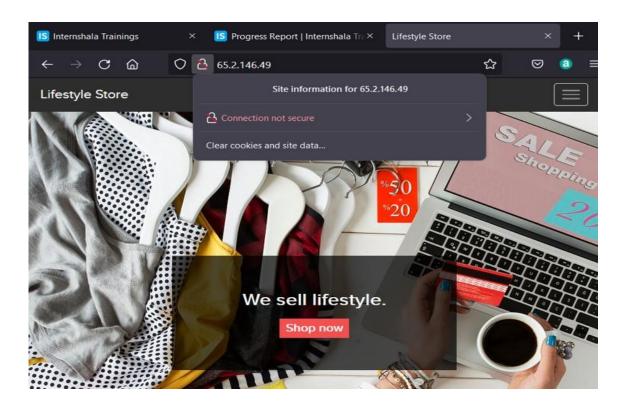
Network Protocol
Vulnerability
(MODERATE)

Clearly the website is not secure as it uses **HTTP** over **HTTPS** and **GET** based method is adopted in most cases of this website

Affected URL : http://65.2.146.49/

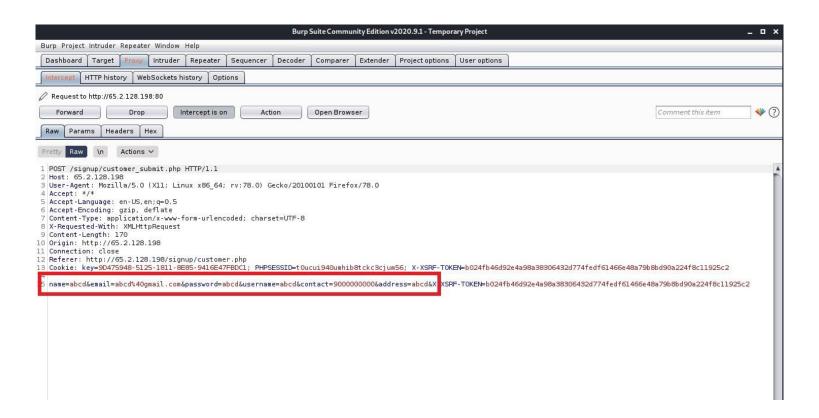
Observation:

We can observe this site uses HTTP but HTTPS is more secured than HTTP. HTTPS also provides encryption of the data.



Proof of Concept:

Since there is no great encryption of data, we intercept the packets through Burpsuite and can read or change the data.



Business Impact: MODERATE

Although this does not affect the business directly but the website is at great risk when the hacker steals the data it will not be in cipher text but it will be in plain text form.

Recommendation:

Use HTTPS instead of HTTP for more security.

Reference:

https://portswigger.net/web-security/request-smuggling/exploiting

17. Access to Admin Panel:

With this vulnerability the hacker can access the admin panel and change the data of the blog and delete the data and cause harm to the website.

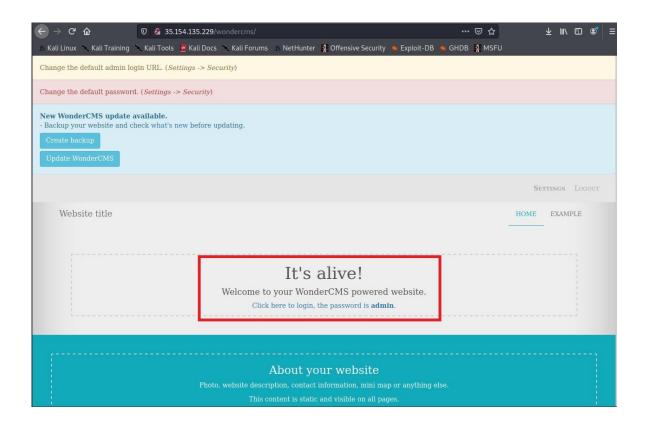
URL: http://65.0.80.6/wondercms/ and click on the login

Access to Admin page

Affected URL: http://65.0.80.6/wondercms/loginURL

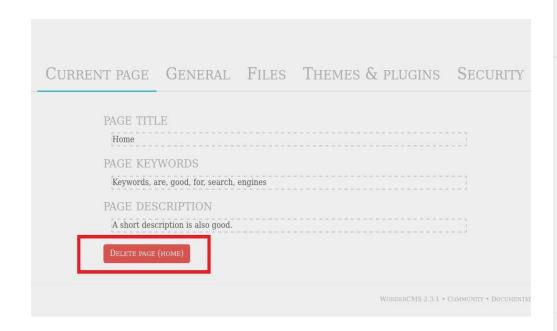
Observation:

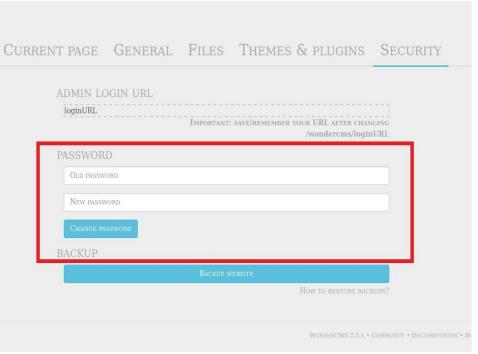
We can see that the website itself revealing its password as Admin. A hacker can login as an Admin and can tamper with the data.



Proof Of Concept:

The hacker can now delete Web pages in the current page panel and also change the password of the admin in the security panel.





Business Impact: CRITICAL

 Using this vulnerability ,the attacker can get complete access to the blog of the website.

 Files can be deleted and can be very dangerous to the website, as the entire website is in the hands of the hacker.

• The hacker can change the password of the admin log in credentials and not allow the actual admin to access the page.

Recommendation:

The default password should be changed and a strong password must be setup.

 The password must not published on the website and the password should be very strong and minimum of 8 characters long.

References:

https://www.owasp.org/index.php/Default Passwords

THANK YOU

For further Clarifications/ Patch Assistance, Please contact 9123456789, E_Hacker@gmail.com