

PORTSWIGGER WEB SECURITY **ACADEMY: AUTHENTICATION** **LAB REPORT**

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Ethical Hacking

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TABLE OF CONTENTS

SR. NO	TITLE	PAGE. NO
1.	OBJECTIVE	3
2.	TOOLS USED	3
3.	LAB ENVIRONMENT SETUP	3
4.	AUTHENTICATION LABS	3-15
4.1	Username Enumeration via different responses	3-6
4.2	2FA simple bypass	6-8
4.3	Password reset Broken Logic	8-10
4.4	Username Enumeration via Resopnse Timing	10-13
4.5	Username Enumeration via Account Lock	13-15
5.	CONCLUSION	15
6.	REFERENCES	15

1. Objective

The objective of this lab is to identify, exploit, and understand Authentication vulnerabilities in a web application by using PortSwigger Academy's Authentication labs.

2. Tools used

- Kali Linux : Penetration Testing Operating System.
- Portswigger Academy Labs : Vulnerable Target Web Application.
- Burp Suite : Web Application Security Testing and Vulnerability Assessment Tool.
- Zaproxy : This Tool is also Web Application Security Testing and Vulnerability Assessment Tool.

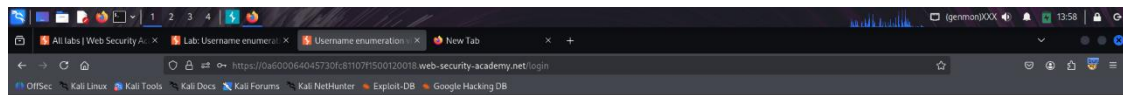
3. Lab Environment Setup

- Just a simple website login on Portswigger Academy and accessing its Vulnerable Labs to practice Web application Ethical Hacking.
- Pre-installed Web application security testing tools that is Burp Suite and Zaproxy which is already present in Kali Linux Operating System.

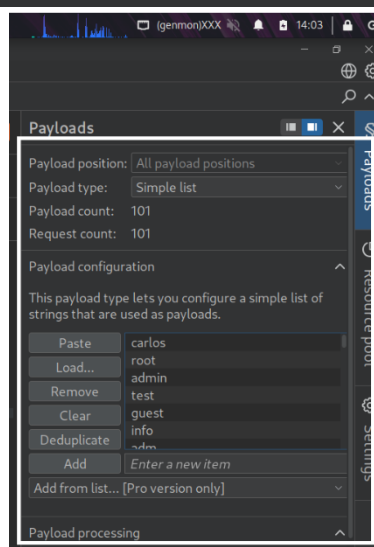
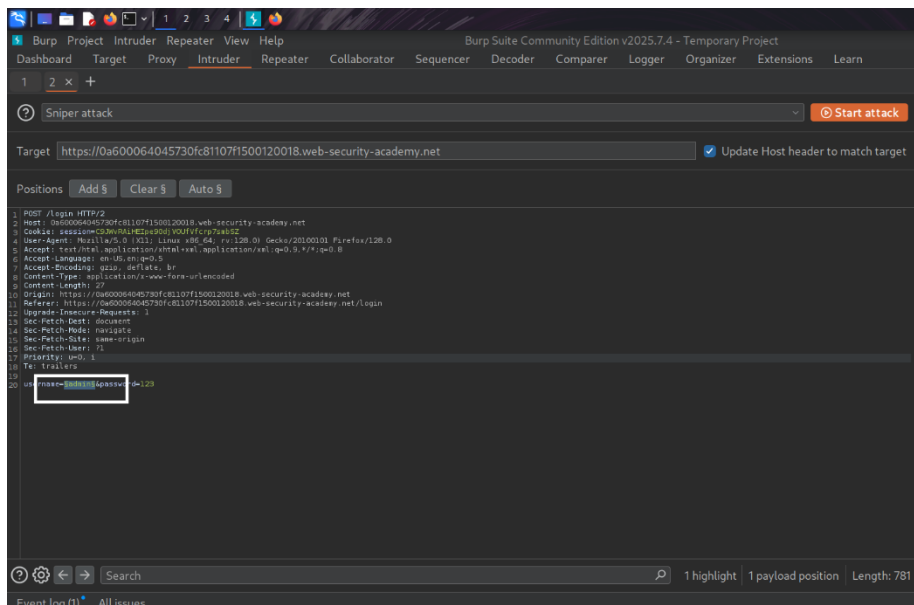
4. Authentication labs

I. **Username Enumeration via different responses**

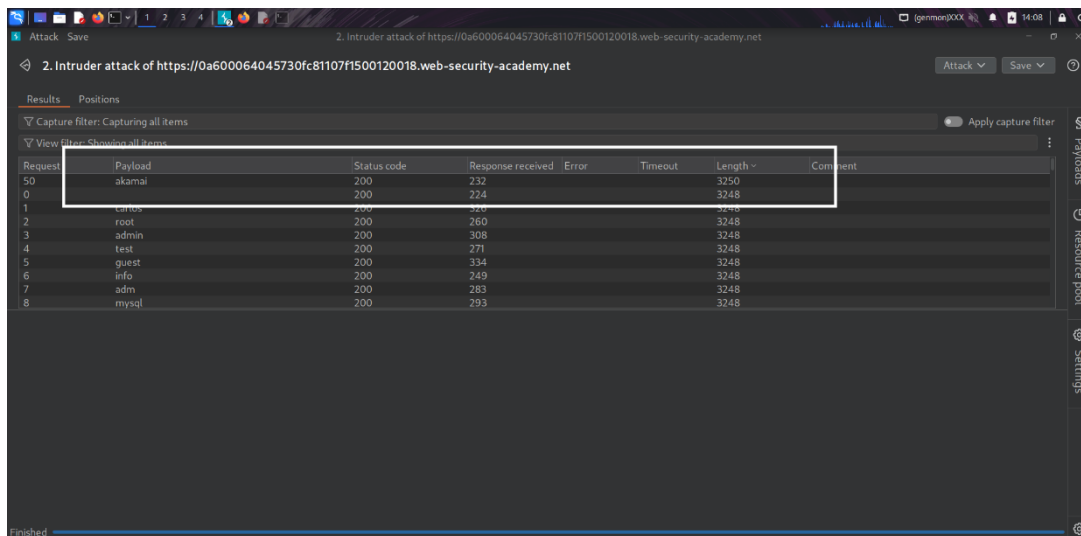
- ⇒ The burp is running and I saw login page and submitted an invalid username and password. And in HTTP history found the Post/login request and sent the request to burp intruder.



⇒ In burp intruder , i selected the username and set the payload \$. And selected sinper attack, simple list payload and started the attack.



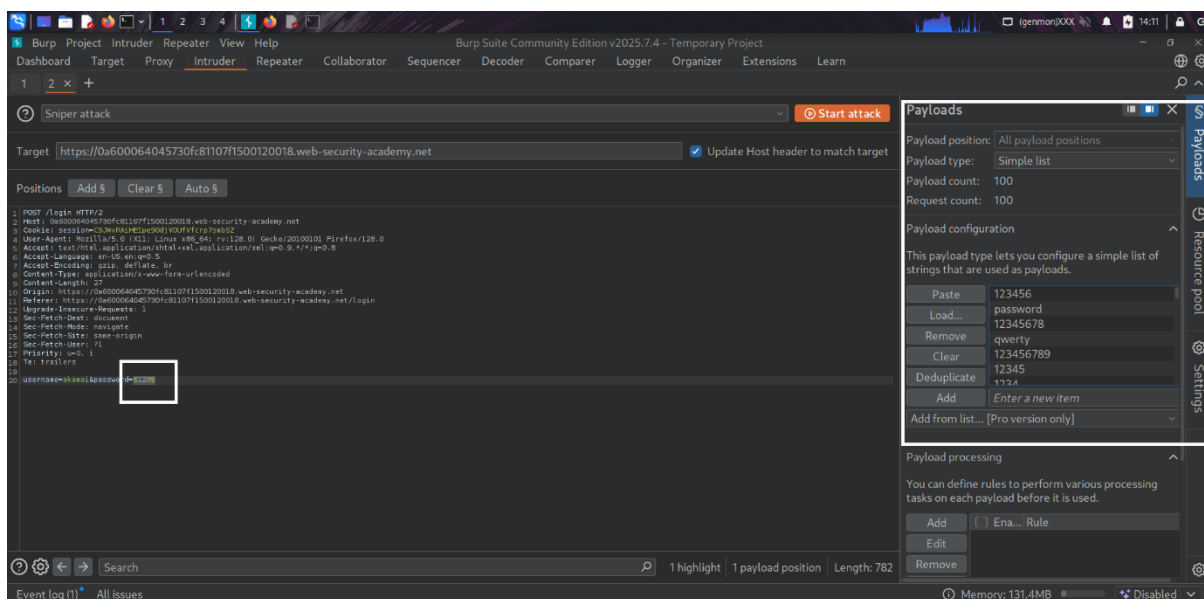
⇒ Found the username by comparing the response that showed Incorrect password for the user and all other usernames got Invalid username.



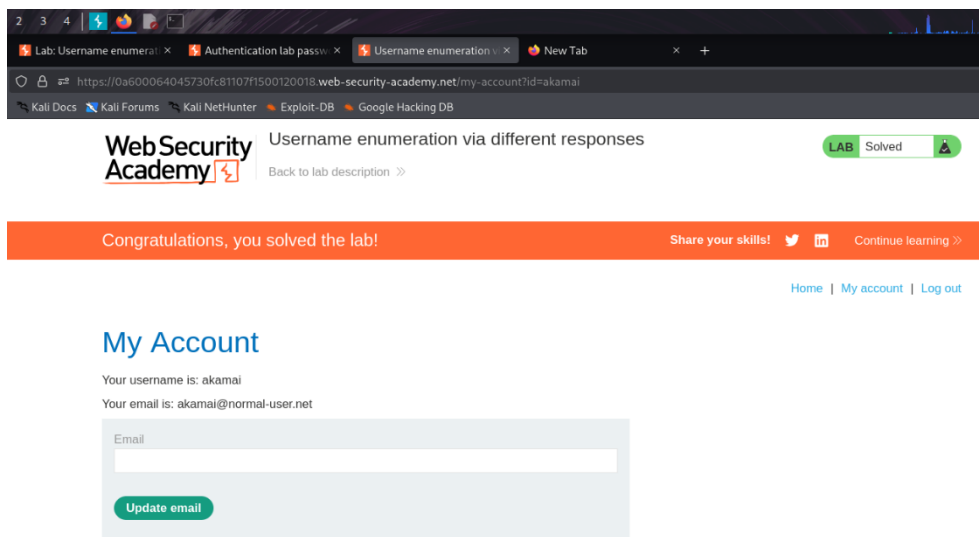
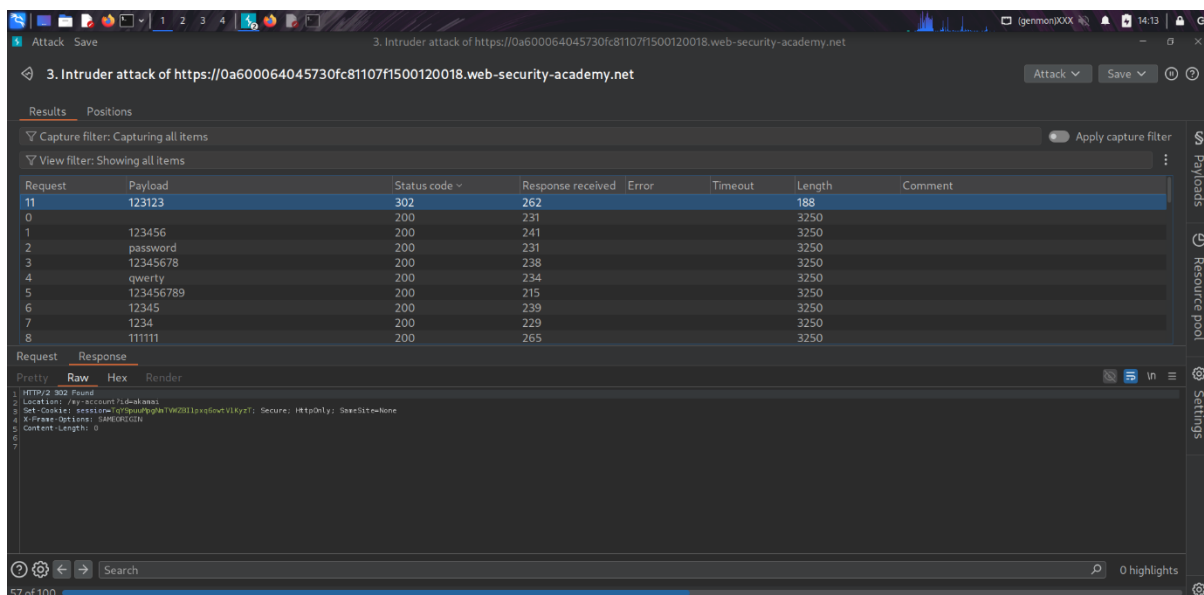
The screenshot shows the 'Results' tab of a Burp Suite Intruder attack. The table lists 9 requests with their respective payloads, status codes, and response lengths. A red box highlights the first two rows, which show a 200 status code for the 'akamal' payload and a 224 status code for the 'root' payload.

Request	Payload	Status code	Response received	Error	Timeout	Length	Comment
0	akamal	200	232			3250	
1	root	200	224			3248	
2	root	200	260			3248	
3	admin	200	308			3248	
4	test	200	271			3248	
5	guest	200	334			3248	
6	info	200	249			3248	
7	adm	200	283			3248	
8	mysql	200	293			3248	

⇒ And again opened burp intruder to add username and added the payload \$ to password . gave password list in payloads section and started the attack.

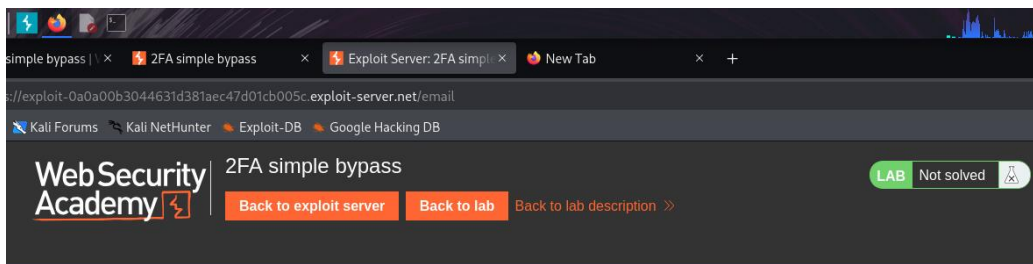


⇒ And found the correct password by 302 status in status column and logged in as the user I acquired.



II. 2FA Simple Bypass

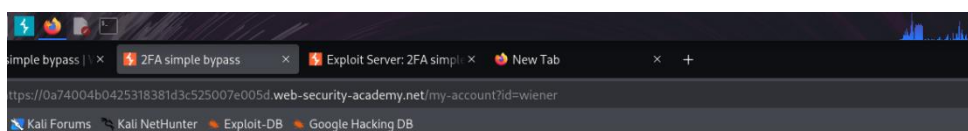
- ⇒ Logged in to the own account by the portswigger academy given credentials. And got 2FA code to the email client.
- ⇒ After 2FA code login, I copied my account page URL and logged out of my account.
- ⇒ I got victim credentials too by the portswigger academy folks , and logged in using that credentials ,and used the URL of my account page and navigated to my account and got in.



Your email address is `wiener@exploit-0a0a00b3044631d381aec47d01cb005c.exploit-server.net`

Displaying all emails @exploit-0a0a00b3044631d381aec47d01cb005c.exploit-server.net and all subdomains

Sent	To	From	Subject	Body
				Hello!
				Your security code is 0254.
2026-01-27 19:16:40 +0000	wiener@exploit-0a0a00b3044631d381aec47d01cb005c.exploit-server.net	no-reply@0a74004b0425318381d3c525007e005d.web-security-academy.net	Security code	Please enter this in the app to continue. View raw
				Thanks, Support team



[Home](#) | [My account](#) | [Log out](#)

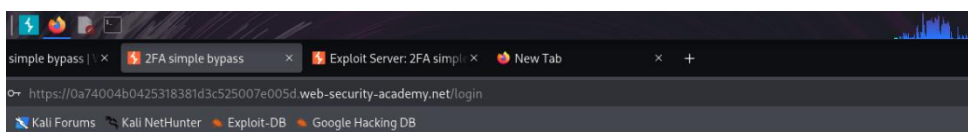
My Account

Your username is: wiener

Your email is: `wiener@exploit-0a0a00b3044631d381aec47d01cb005c.exploit-server.net`

Email

[Update email](#)



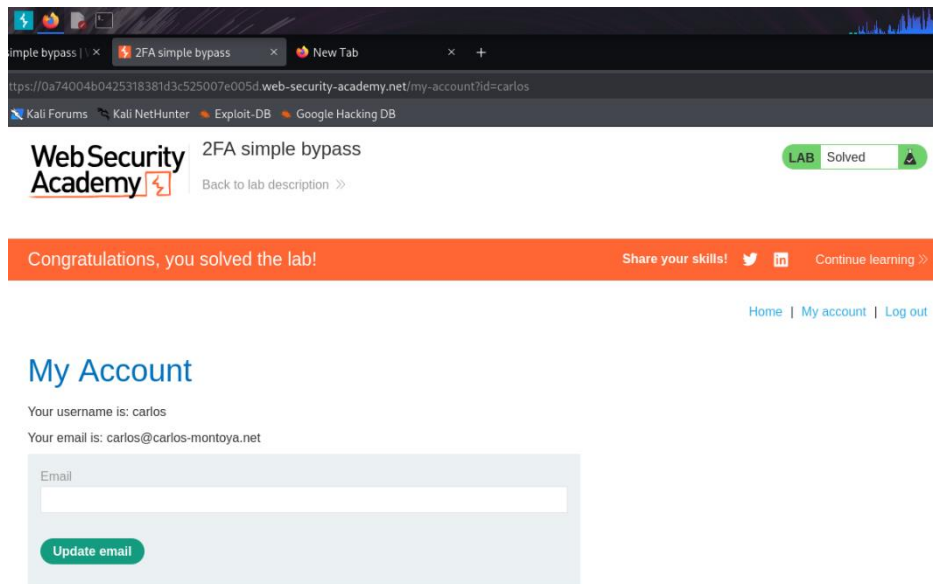
[Email client](#) [Back to lab description](#)

Login

Username

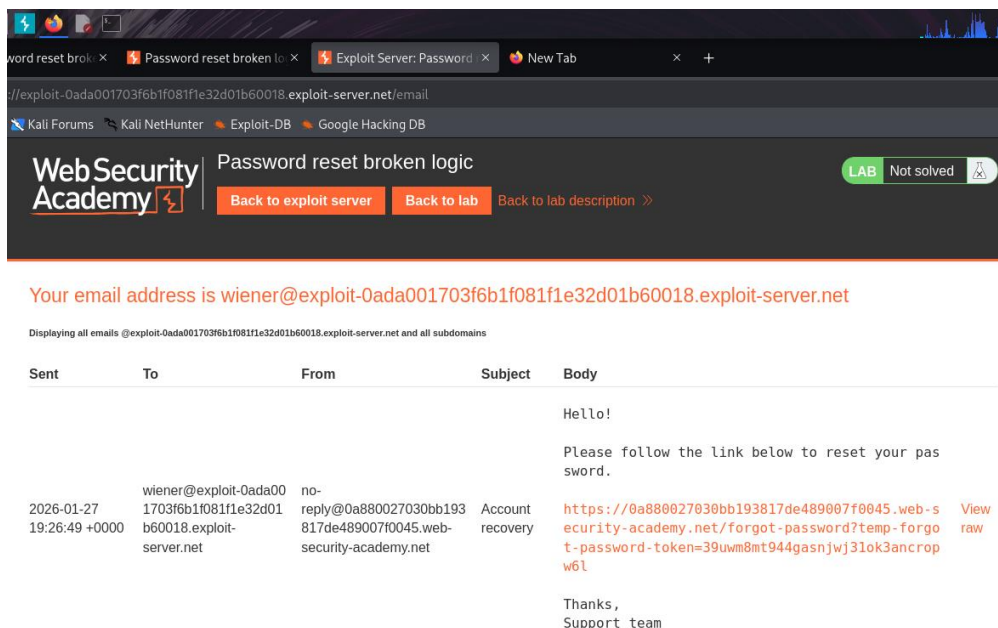
Password

[Log in](#)

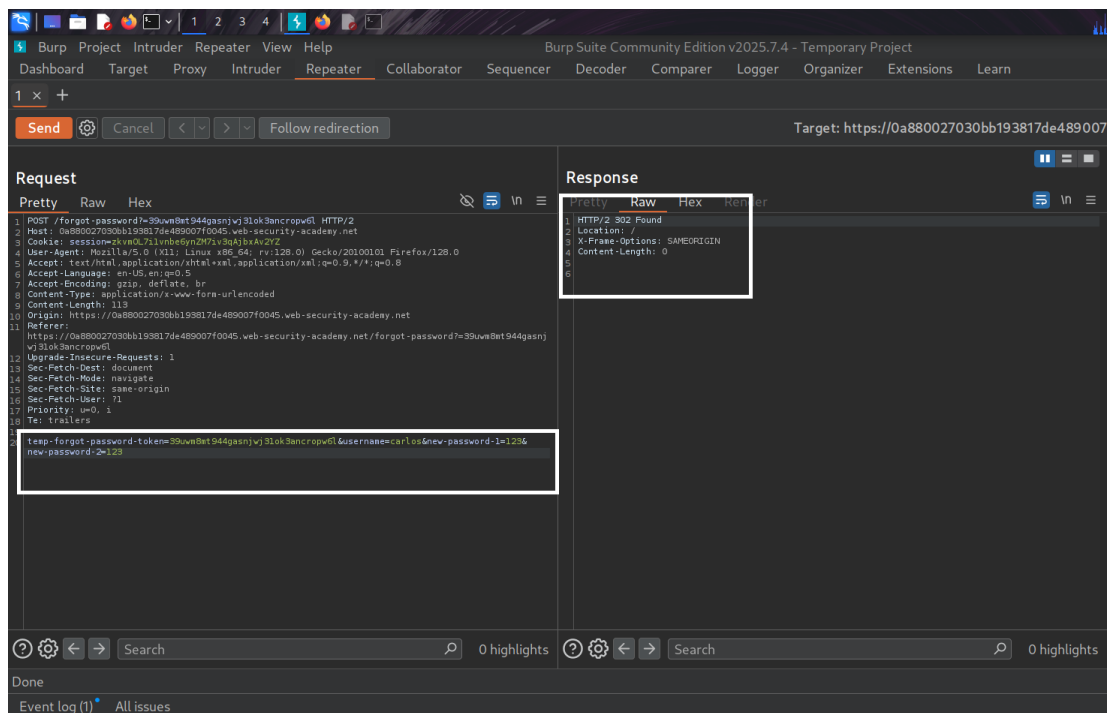
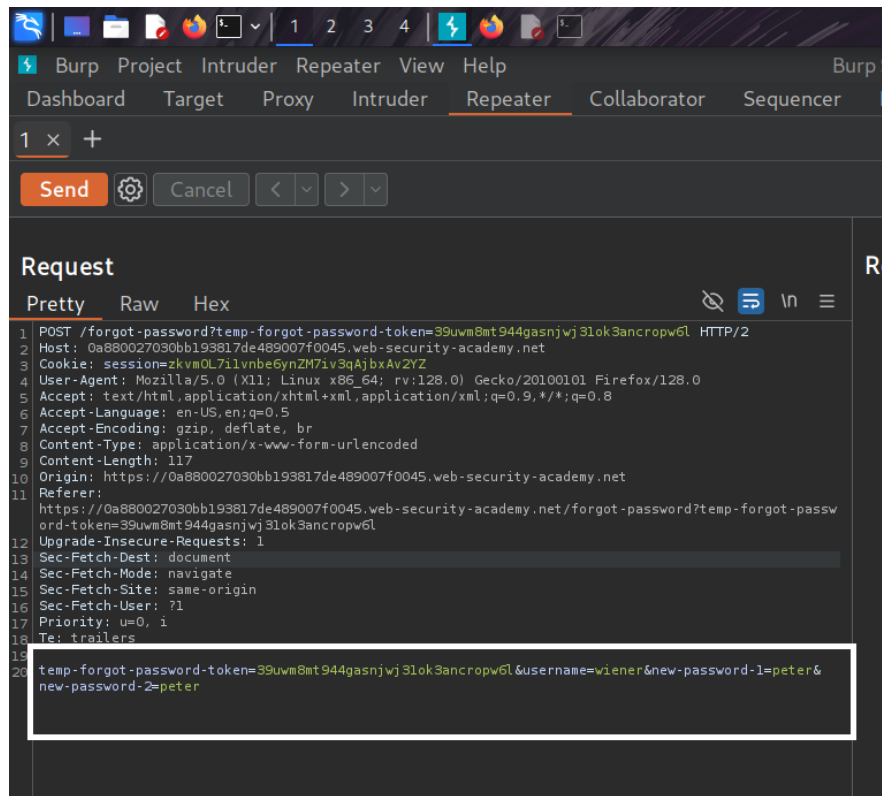


III. Password Reset Broken Logic

⇒ Clicked the forgot your password? Link and entered my username and in email client changed my password.



- ⇒ In burp searched the request POST and sent it to repeater, and saw that password reset functionality still works even if the value of temp forgot password token is deleted.
- ⇒ So I changed the username to victim username and let the temp forgot password token value deleted as it is and set the password randomly and sent the request.



⇒ In the browser , magically I could log in to victims account using the credentials I set in burp and solved the lab.

Web Security Academy Password reset broken logic LAB Solved

Back to lab description >>

Congratulations, you solved the lab!

Share your skills! Continue learning >>

Home | My account | Log out

My Account

Your username is: carlos

Your email is: carlos@carlos-montoya.net

Email

Update email

IV. Username Enumeration via response Timing

⇒ After submitting invalid username and password, sent the POST request to burp intruder. And got IP blocked after making too many invalid login attempts.

Web Security Academy Username enumeration via response timing LAB Not solved

Back to lab description >>

Home | My account

Login

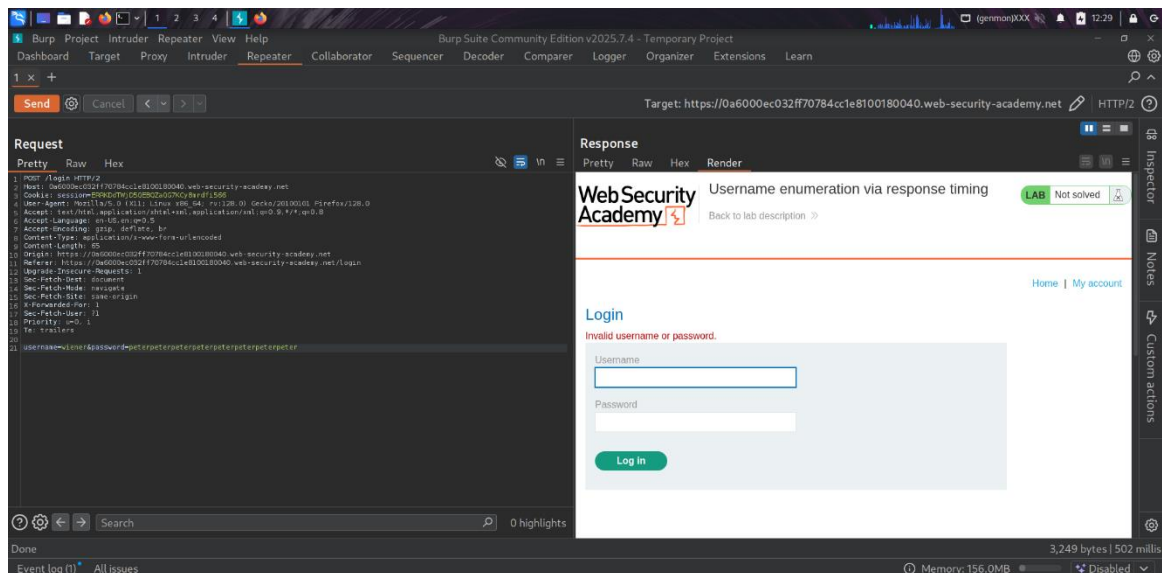
Username

123

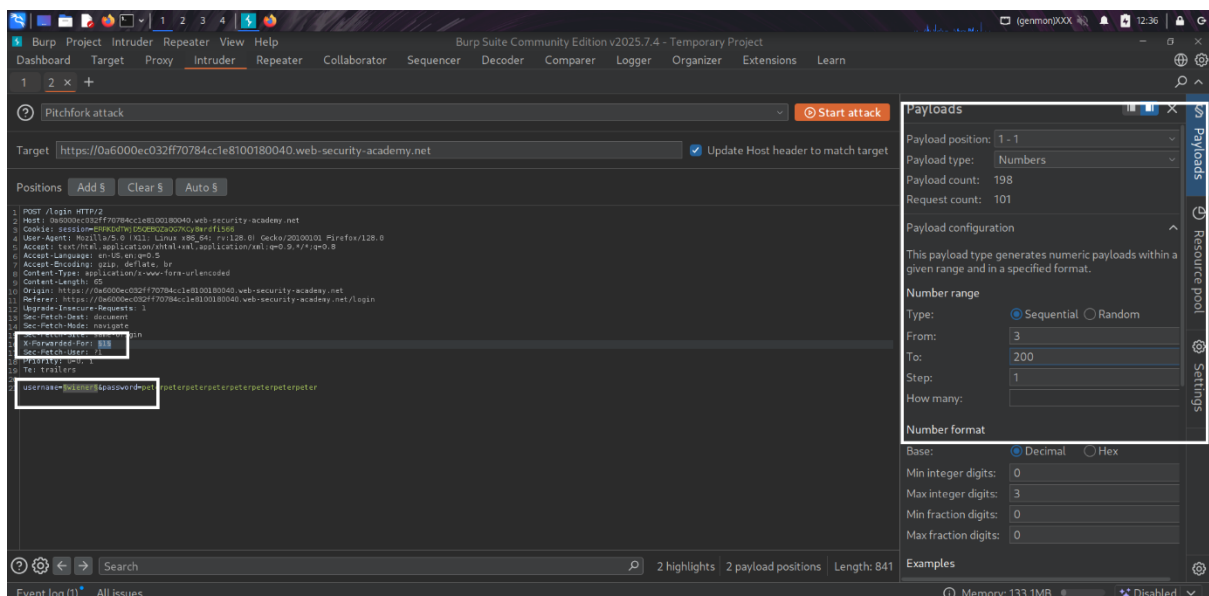
Password

...

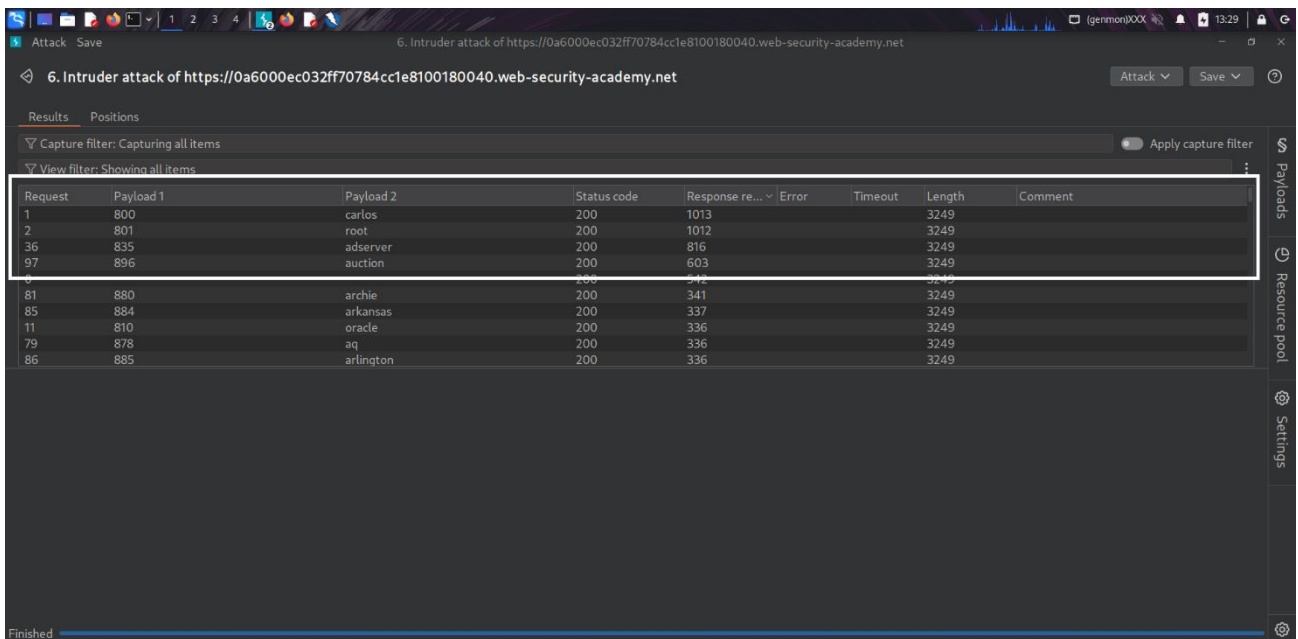
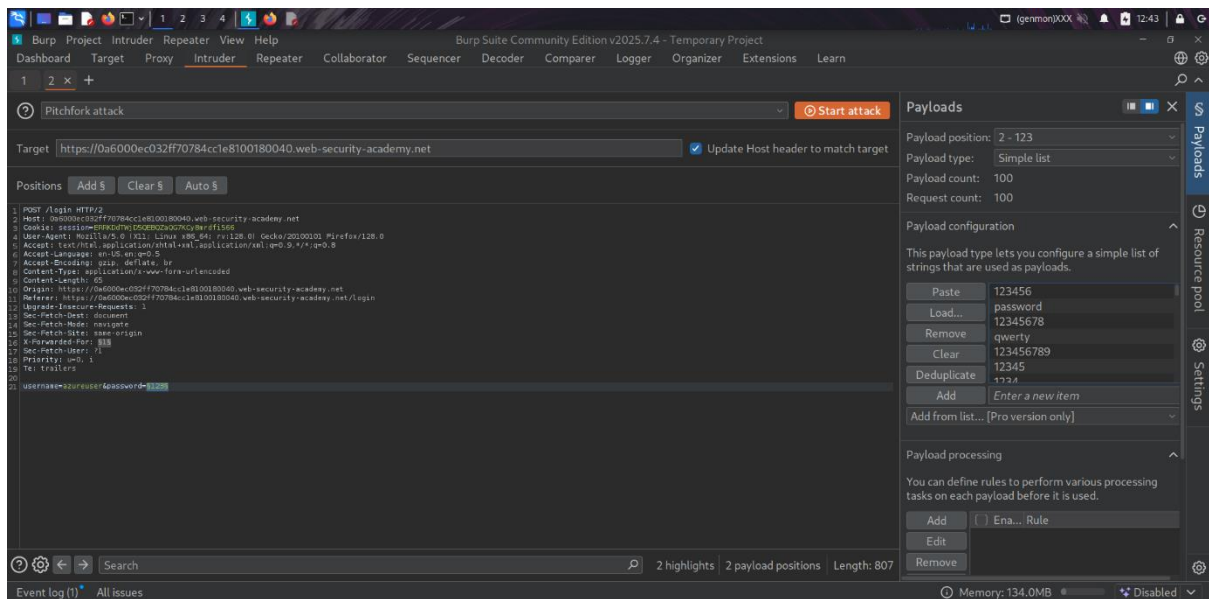
Log in



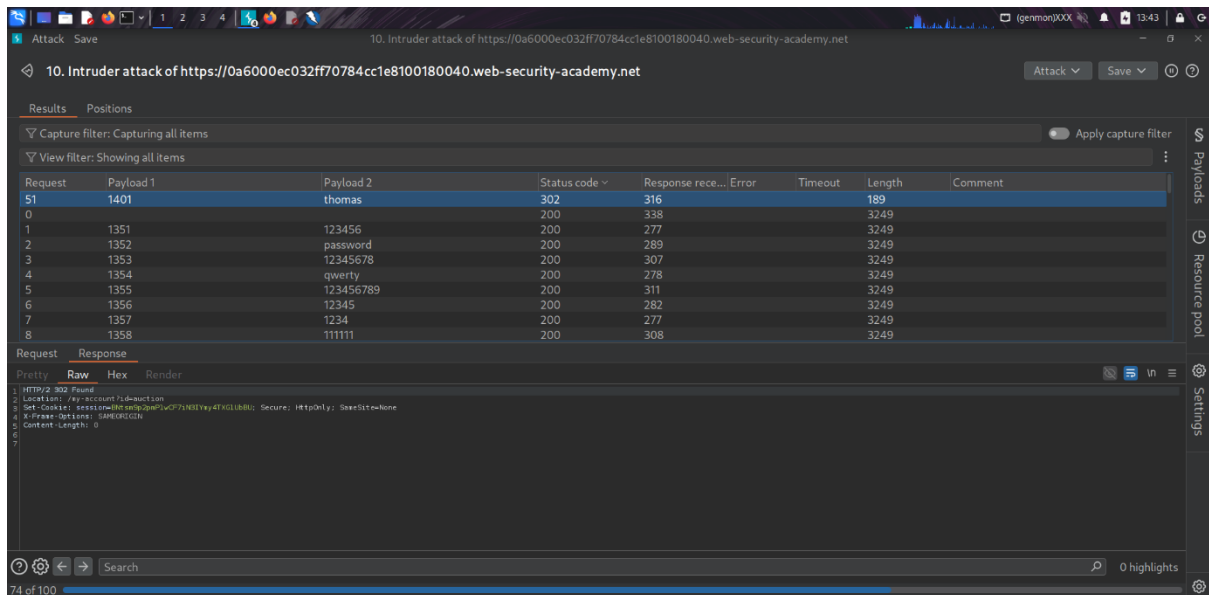
⇒ Used X-Forwarded-For header and it was supported . it allows us to bypass the brute force protection. And noticed that when the username is invalid the response time is similar ,but when I enter my username which is valid the response time increases based on the length of the password I enter.



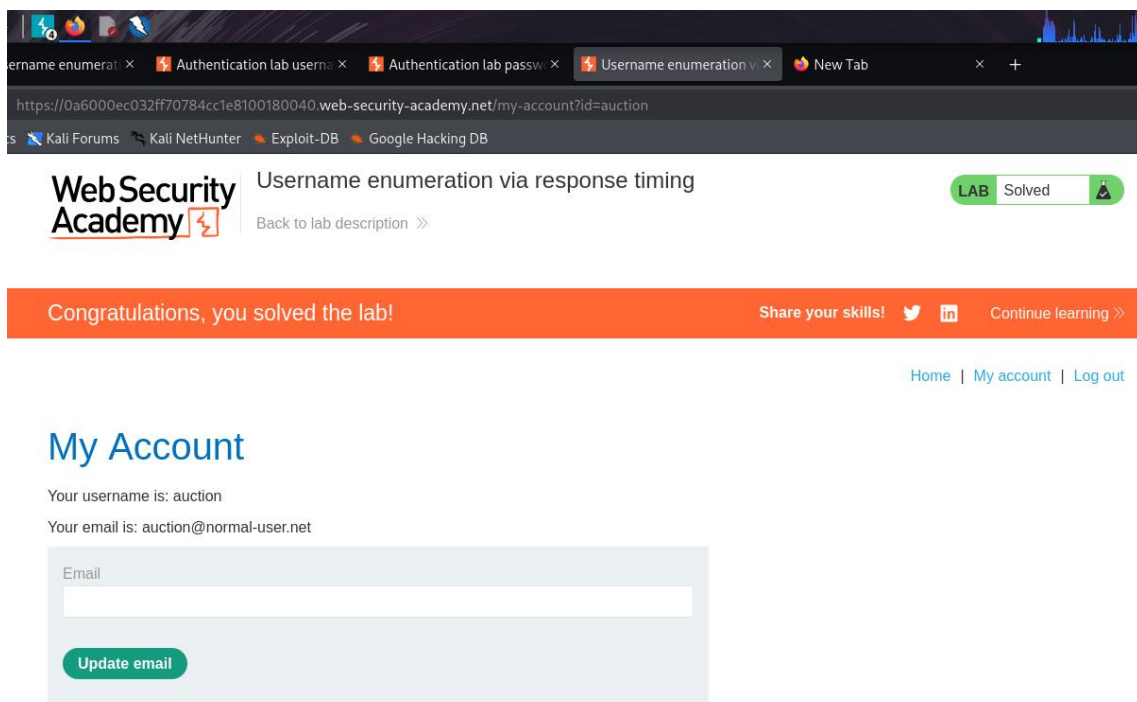
⇒ Sent the request to burp intruder and selected two payloads one for X-Forwarded-For header and other for username. In payload selected numbers ,entered the range 1-100 and step to 1 , to bypass my IP.



⇒ And also set the username paload and gave the list of usernames and started the attack. After getting results the response time of the username which is longer is the username that I was finding and found.



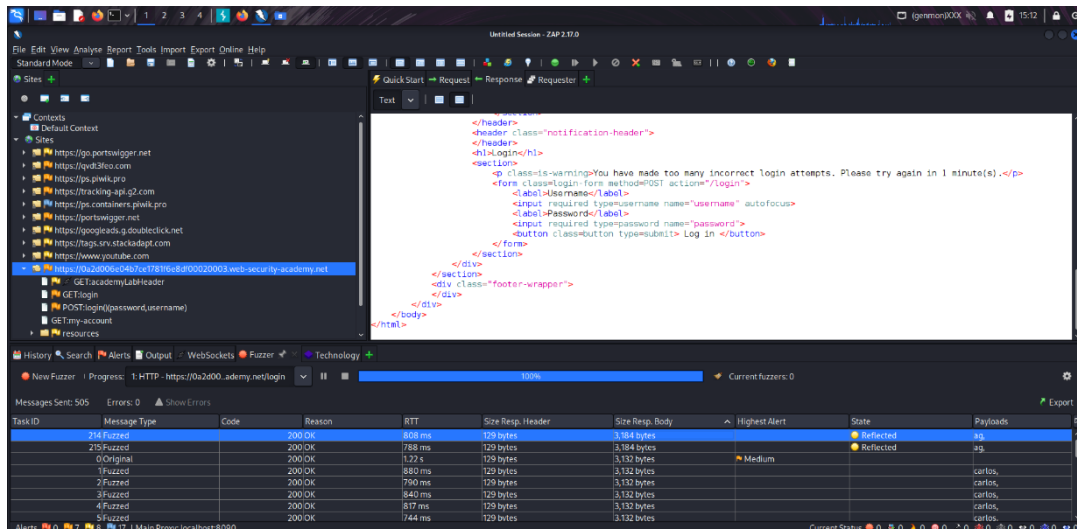
⇒ And repeated the same steps in burp intruder but changed the username payload to password parameter and got 302 status in response and logged in.



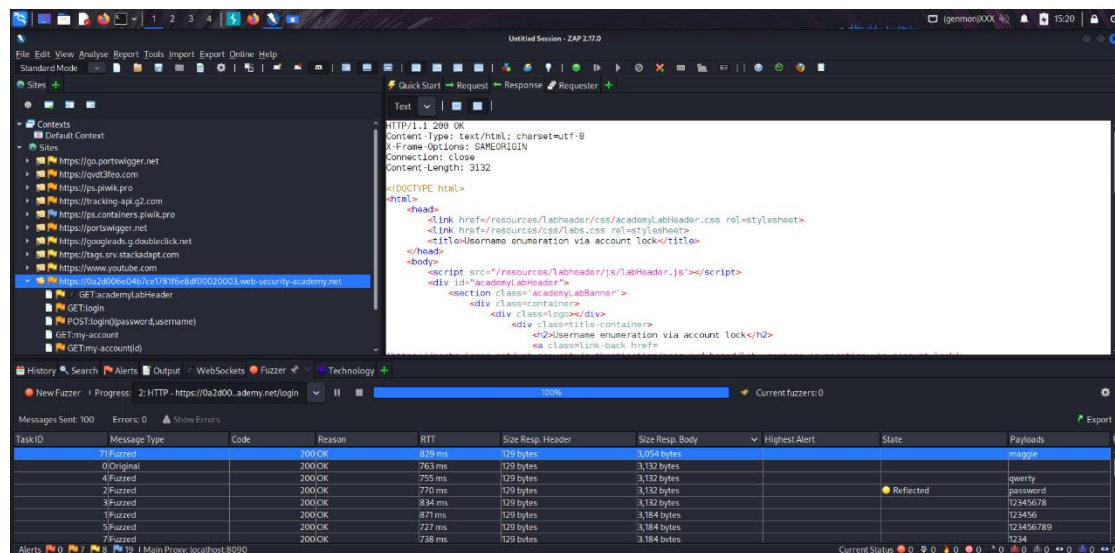
V. Username enumeration via Account Lock

⇒ Submitted the invalid username and password to see what happens and viewed the responses in burp repeater some time, but I will use zaproxy for this lab because it takes less time to complete than burp community edition.

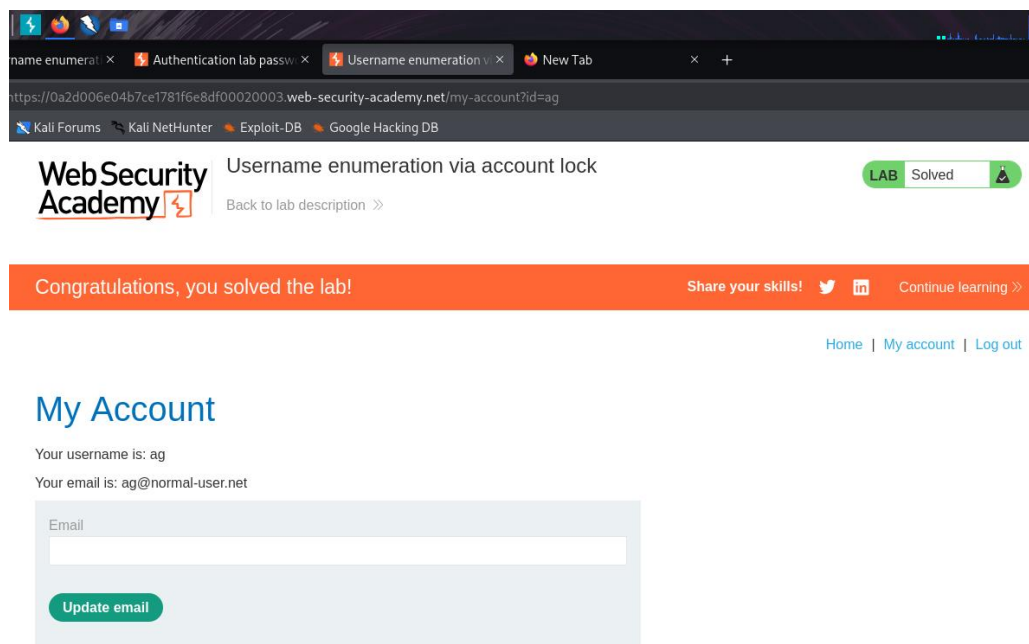
⇒ In Zaproxy, right clicked the POST login request to fuzz and added payload position to username and blank payload at the end of the request. And gave list of usernames and selected null payload for second payload and started the attack.



⇒ After getting results, saw responses for one username longer and contains different error message You have made too many incorrect login attempts . and that is our username.



⇒ And again used simple fuzz for password and started the attack and got the password. And logged in with victim credentials.



5. Conclusion

Successfully identified and bypassed authentication flaws like password based attacks, broken 2FA bypass and more by brute force attacks, authentication bypass methods and token manipulation. And got to know the mitigation strategies like strong password policies, secure MFA, account lockout mechanisms and proper session handling. These labs showed the importance of secure coding practices and importance of security testing in protecting user authentication systems from real world threats.--

6. References

- Burp Suite → <https://portswigger.net/burp>
- Kali Linux → <https://www.kali.org/>
- Zaproxy → <https://www.zaproxy.org/>