PSP0201

Week 2

Writeup

Group Name: Study Group

Members

ID	Name	Role
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1211102017	Siow Yee Ceng	Member
121110	Tan Chi Lim	Member
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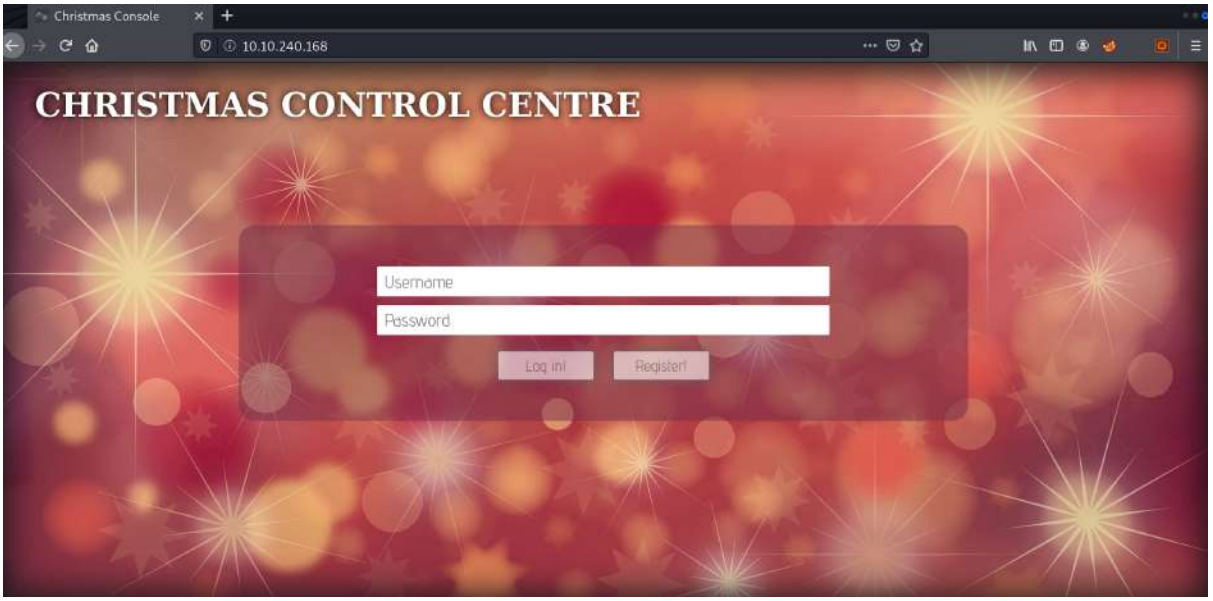
Day 1: Web Exploitation – A Christmas Crisis

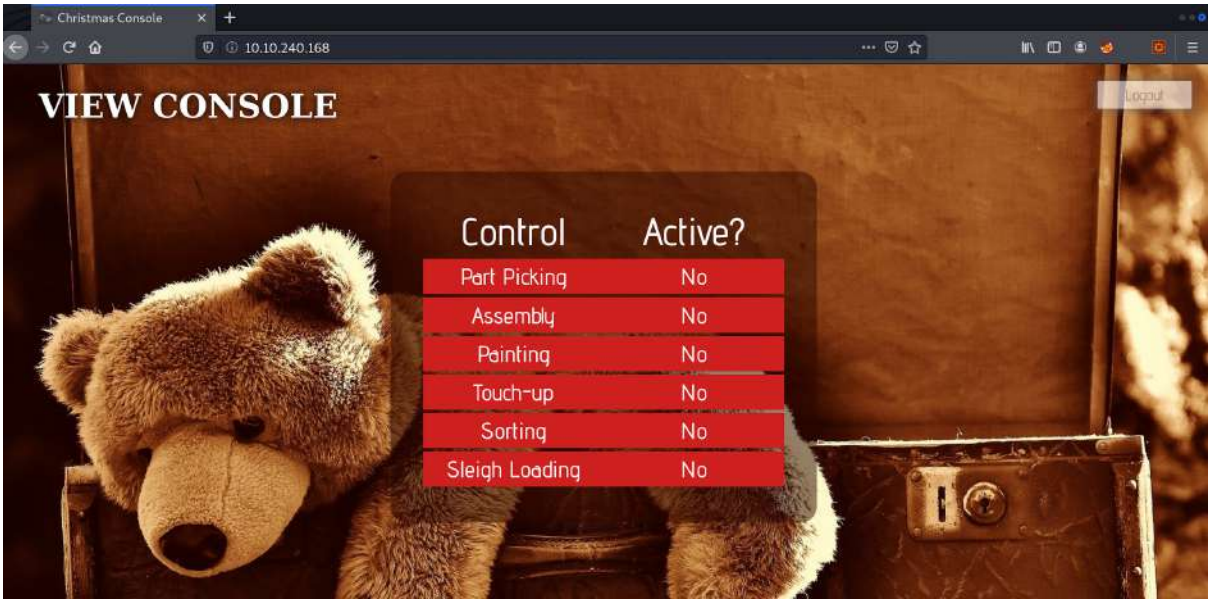
Tools used: Kali Linux, Firefox

Solution/walkthrough:

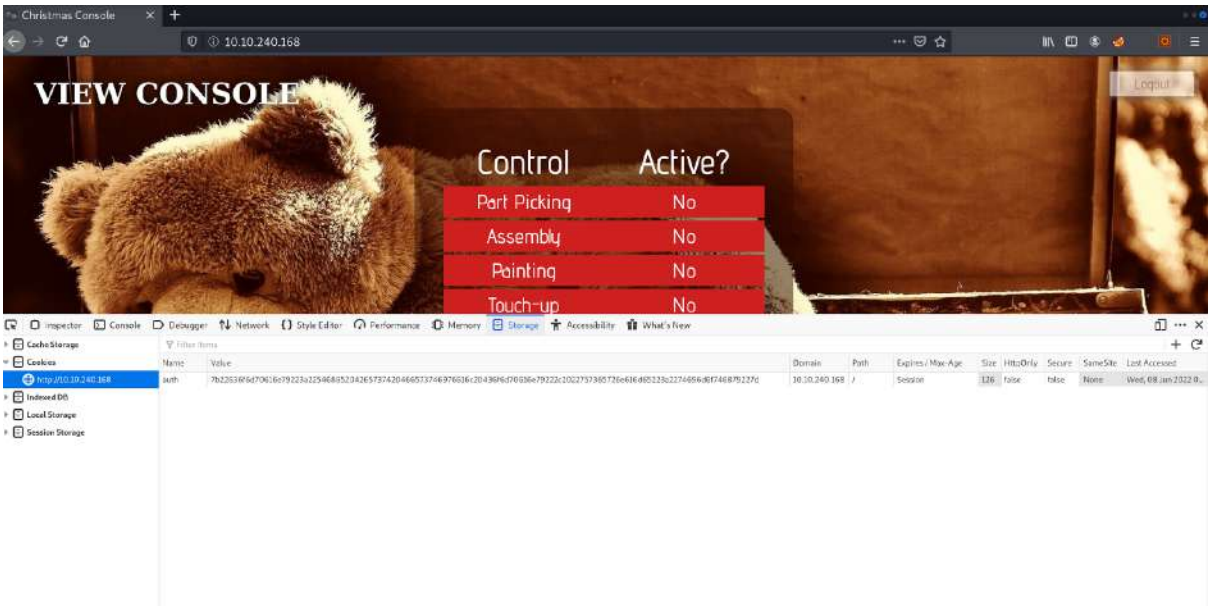
Question 1

Registration and logging in to the Christmas Control Centre. No access to the control console.





Opening up the browser developer tools to check on the cookie.



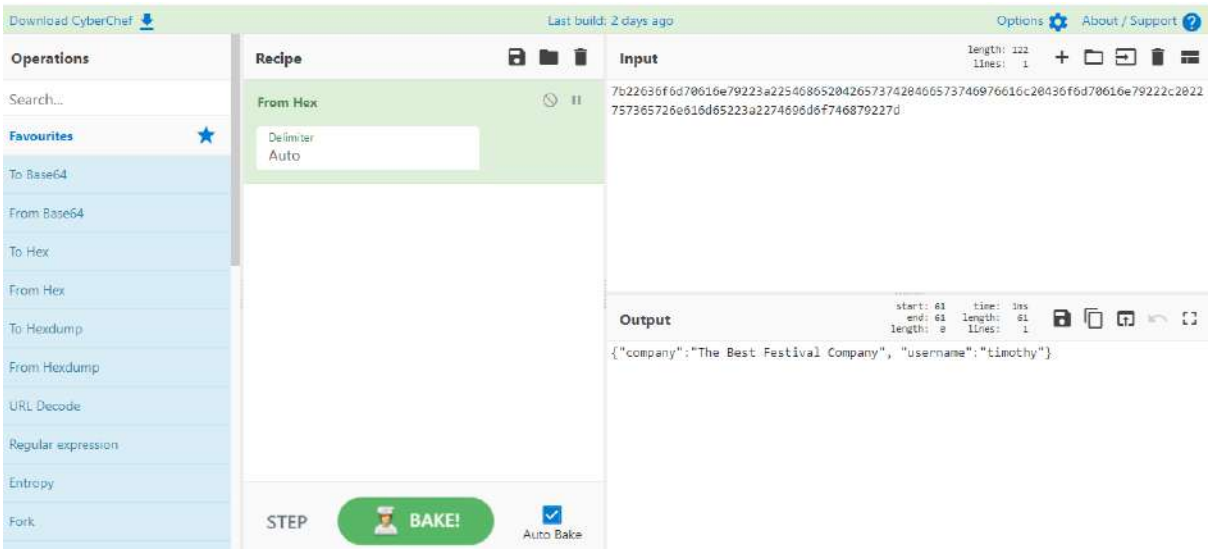
Question 2

Obtain the value of the cookie.

Value
7b22636f6d70616e79223a225468652042657374204665737469766 16c20436f6d70616e79222c2022757365726e616d65223a2274696d6f746879227d

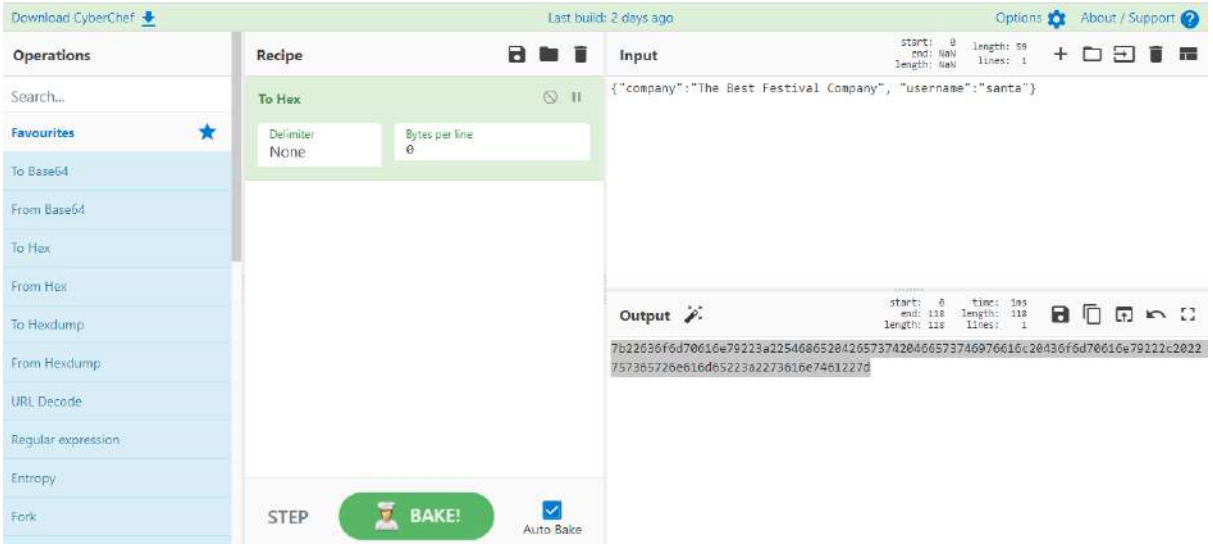
Question 3

Using Cyberchef, convert the cookie value to a string.



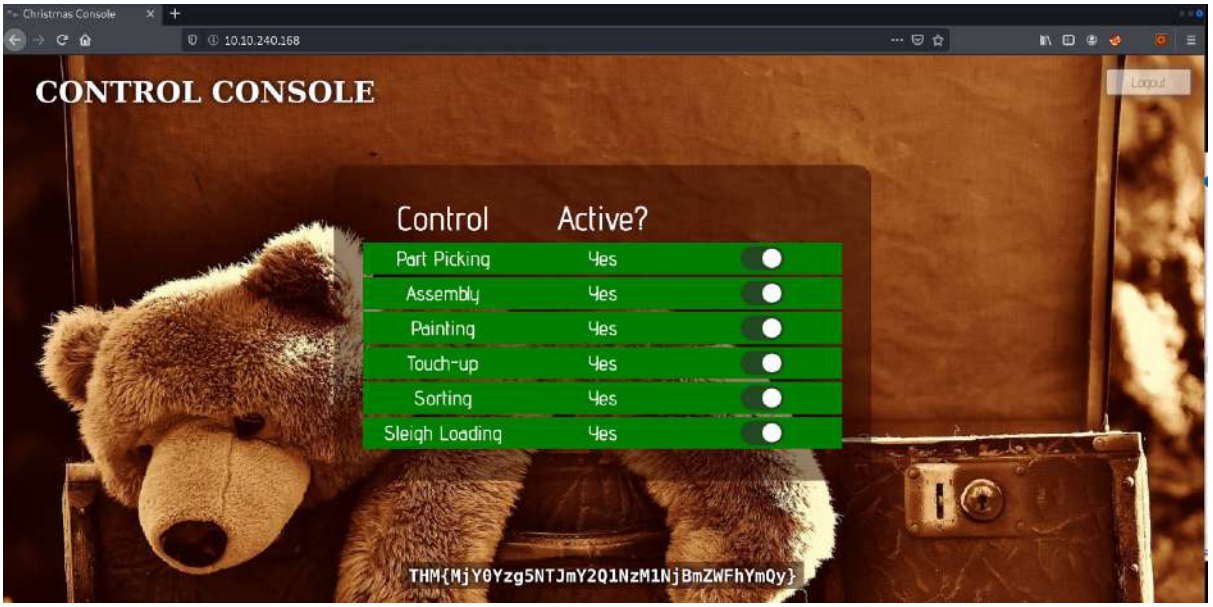
Question 4

Changing the username to ‘santa’, convert the JSON statement to hex.



Question 5

Now having access to the controls, switching on every control shows the flag.

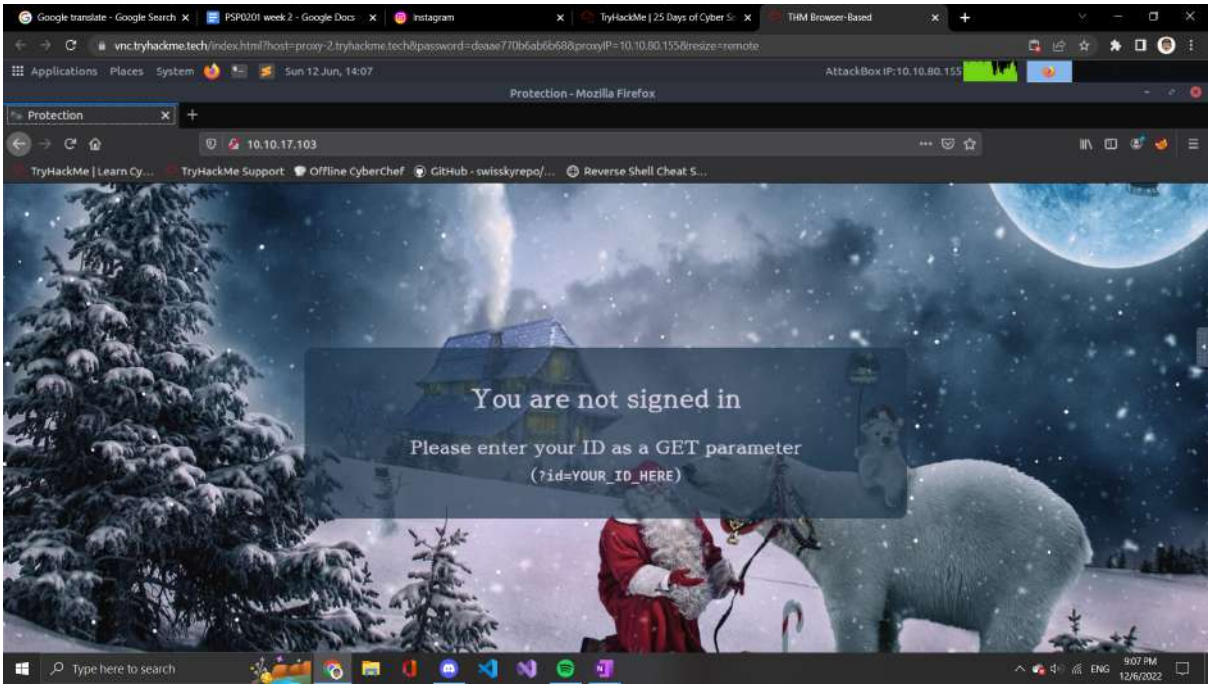


Thought Process/Methodology:

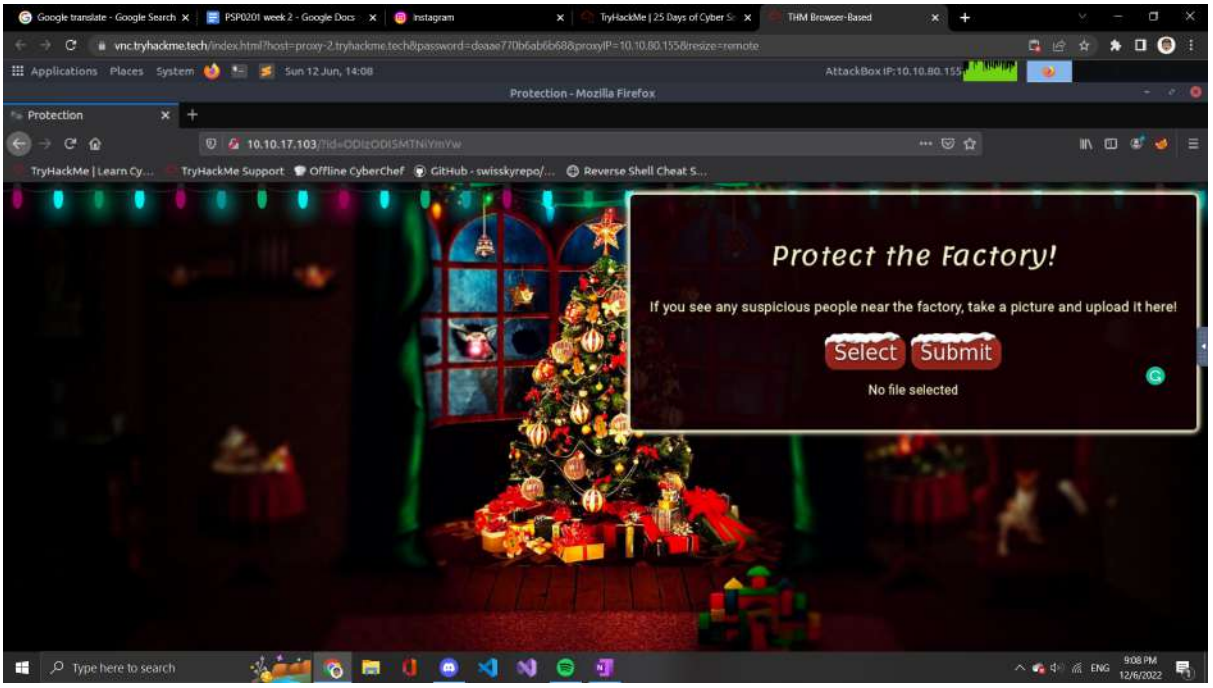
We accessed the target machine and were shown a login/registration page. We proceeded to register an account and login. After logging in, we open the browser's developer tool and chose to view the site cookie from the Storage tab. Looking at the cookie value, we deduced it to be a hexadecimal value and proceeded to convert it to text using Cyberchef. We found a JSON statement with the username element. Using Cyberchef, we altered the username to 'santa', the administrator account, and converted it back to hexadecimal using Cyberchef. We replaced the cookie value with converted one and refreshed the page. We are now show an administrator page (Santa's) and proceeded to enable every control, which in turn showed the flag.

Day2 The Elf Strikes Back!
Tools used: Kali Linux/ Firefox
Solutions:

Question 1
Copy the ip address to the Firefox web browser and open it

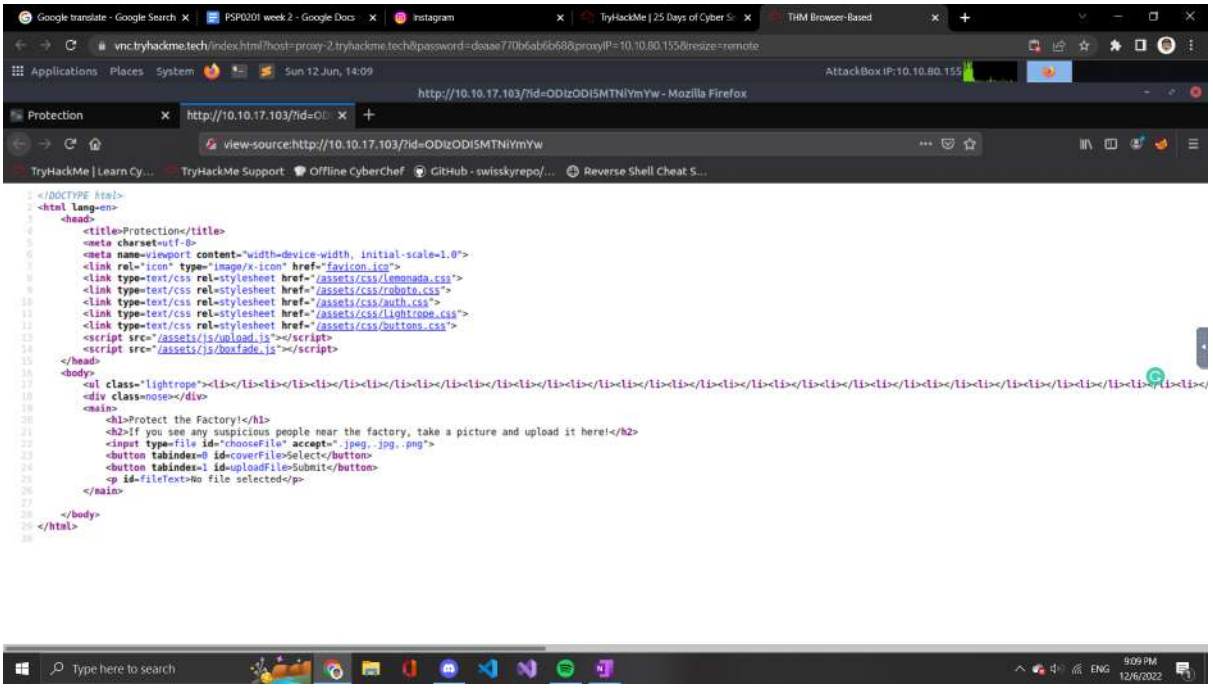


Copy the id given and paste it behind the ip address with the format (?id=ODIzODI5MTNiYmYw)



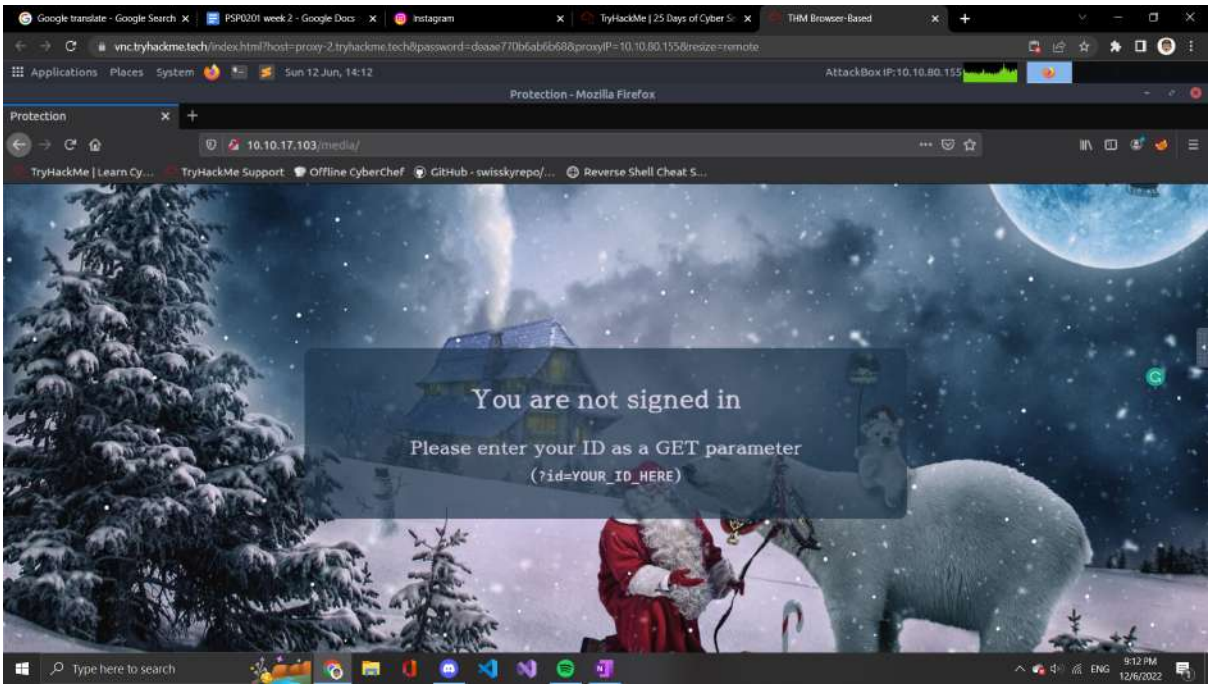
Question 2

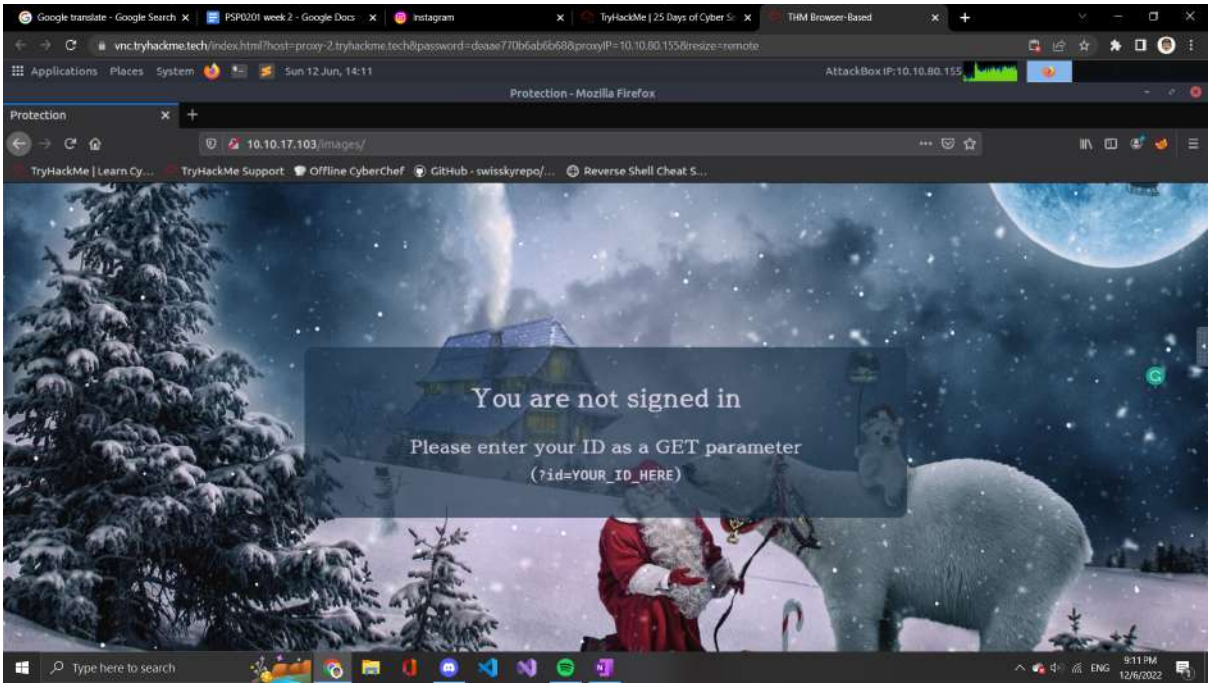
Right-click to open the web source page to see what type of the website can be uploaded



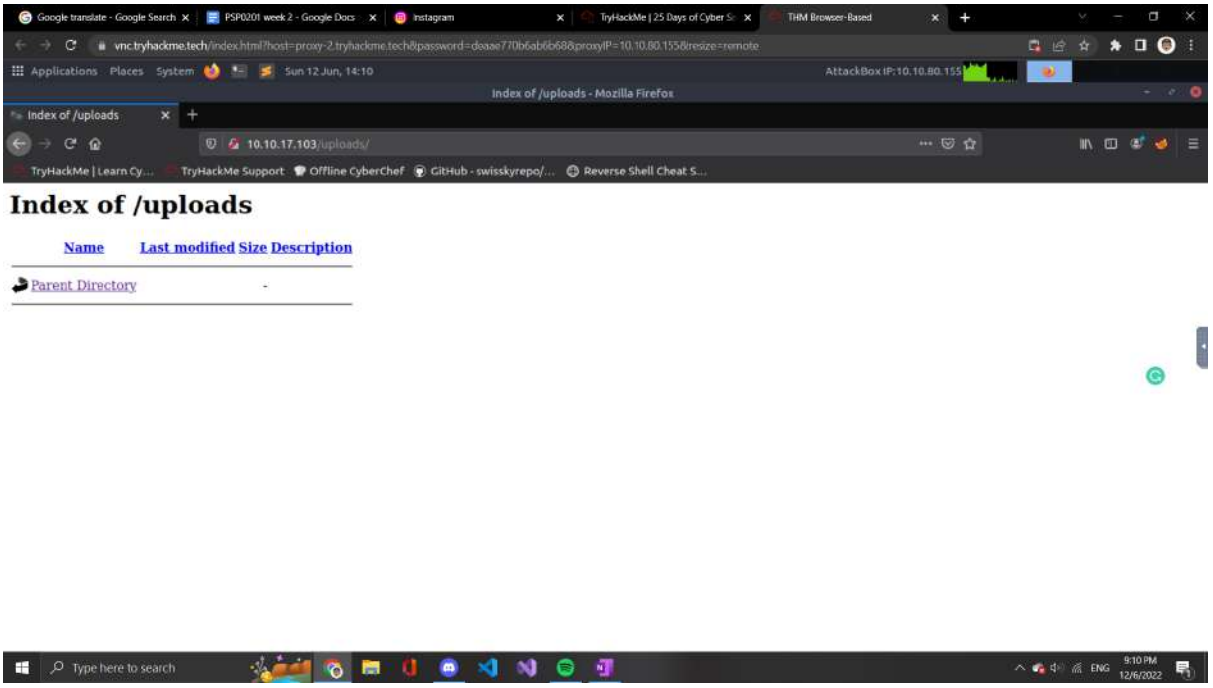
Question 3

Try few directories given and paste it into the website



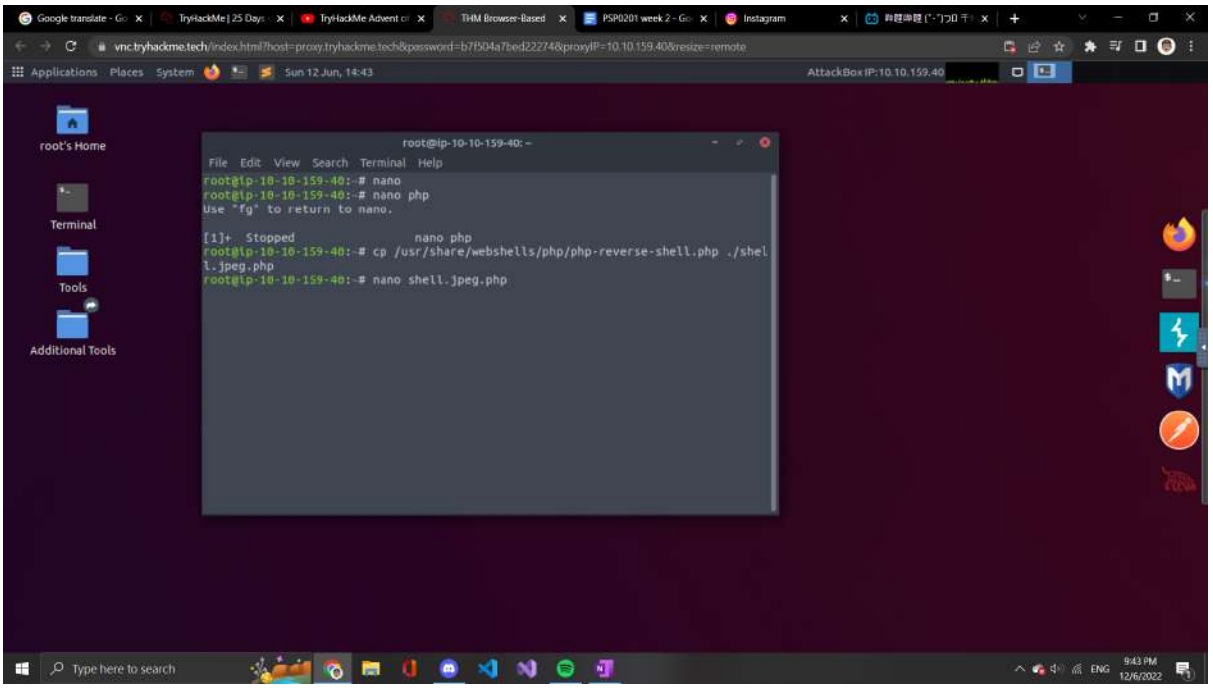


Check each directory and look for which directory are the uploaded files stored

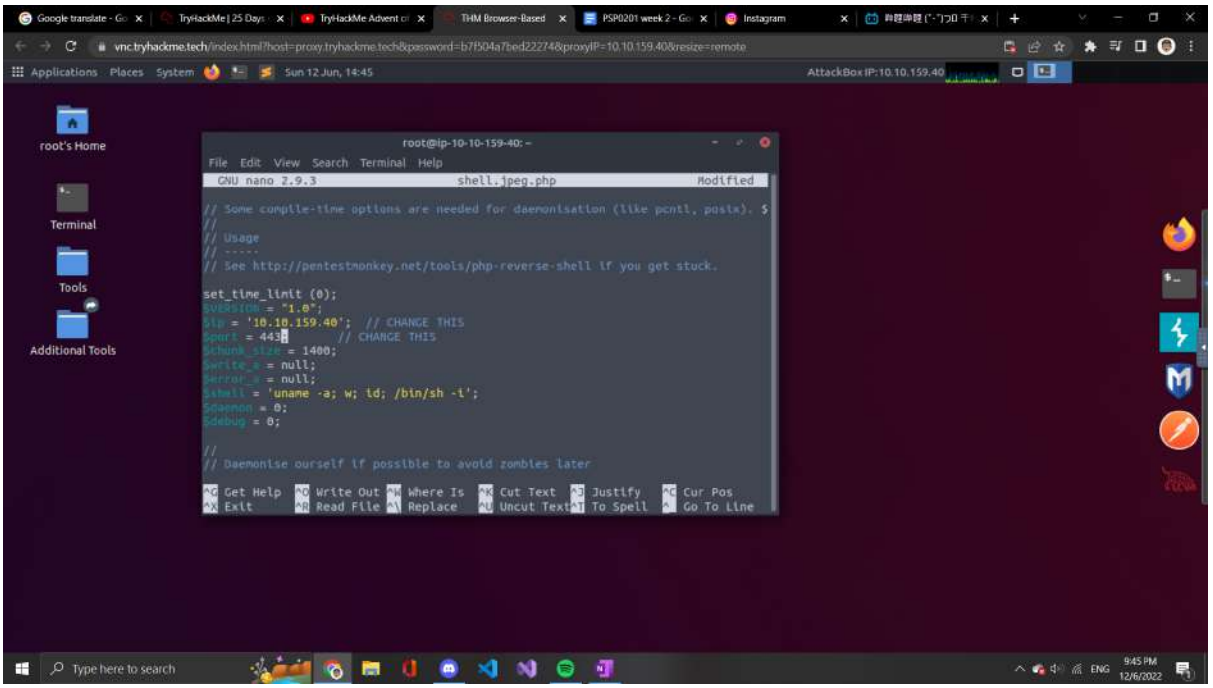


Question 4

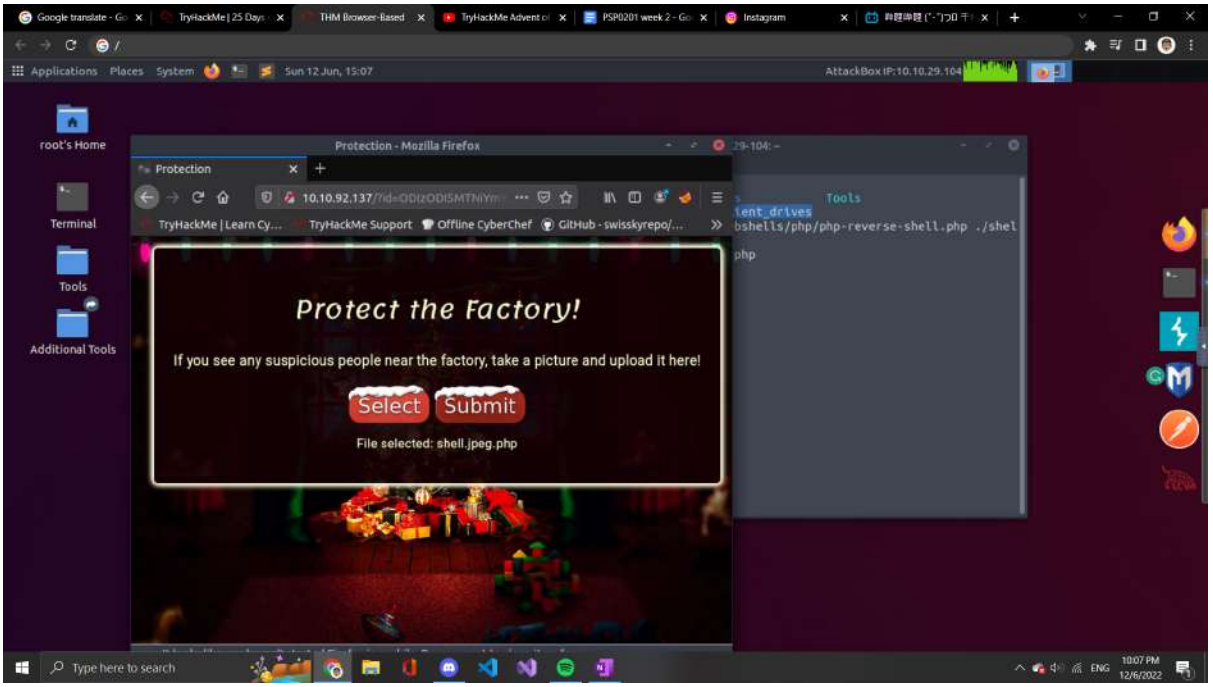
Use the terminal type in nano shell.jpeg.php to open the PHP reverse shell script

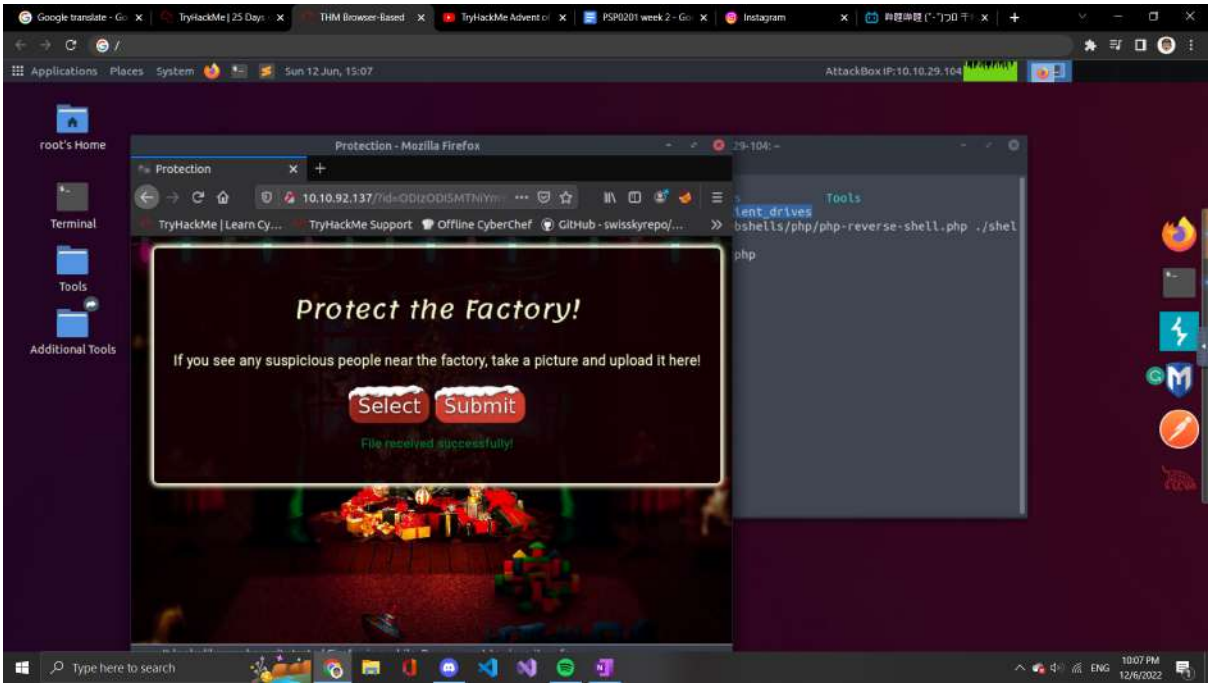


Scroll down and find the &ip and &port and change it to your attack box ip and the given port which is 443

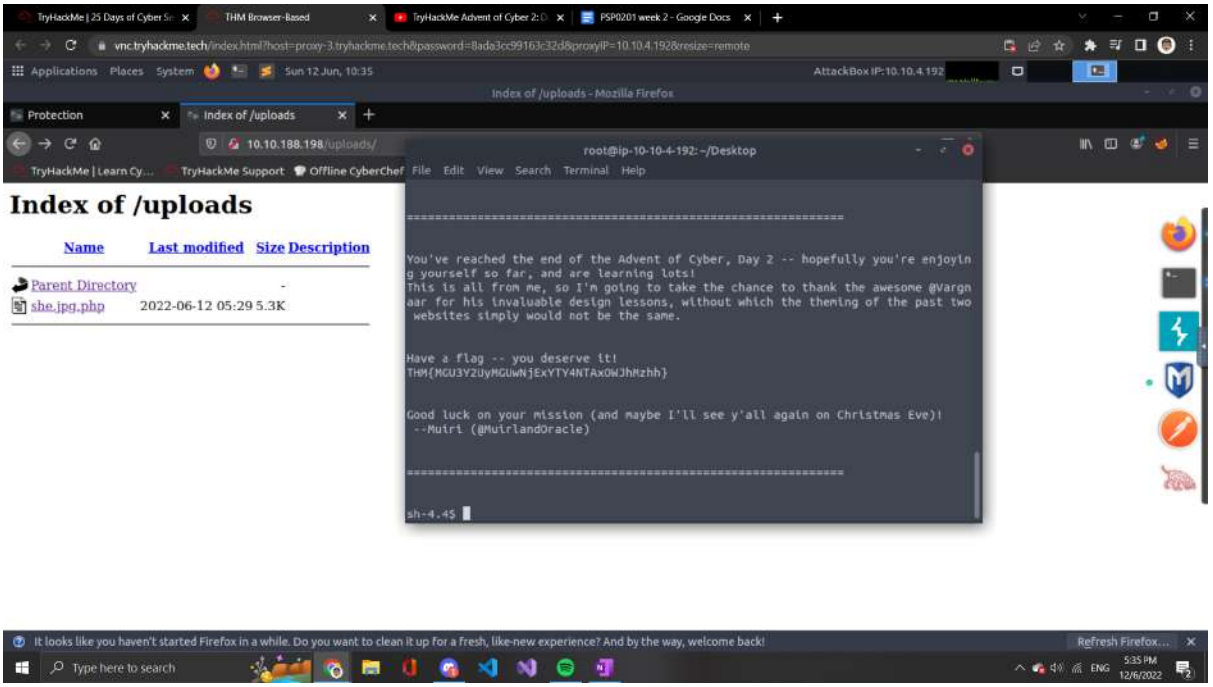


Try to upload the supported type file into the website





Run the command cat /var/www/flag.txt and get the flag from here



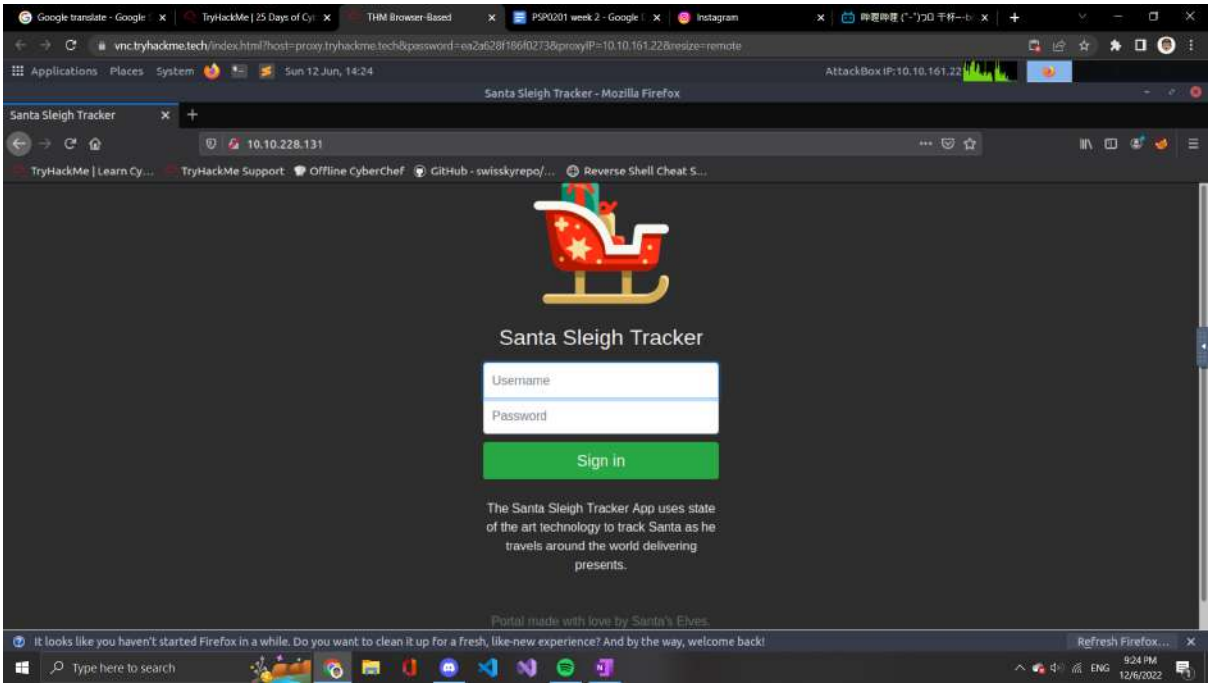
Through process/Methodology:

We copy the IP address given and paste it into the web browser. It shows a webpage and it requires our id. After that, we copy our id and paste it into the search bar with the format ?id=ODIzODI5MTNiYmYw. To determine the sources of the website that can be uploaded, we open up the web sources page to find out what kind of files can be uploaded here. We found that the files that can be uploaded for this website are jpeg, jpg, and png, so the answer should be images. The uploaded files can be found by using the directories given by Tryhackme. We found that all the uploaded files are stored in /uploads/. To capture the flag for this day we used the terminal and open up the PHP reverse script to reverse the shell. Then we scroll down to &ip and &port and change it to the attack box IP and the given port which is 443. After that, we uploaded the supported type file to the website. Lastly, we run the command cat /var/www/flag.txt to capture the flag of this day.

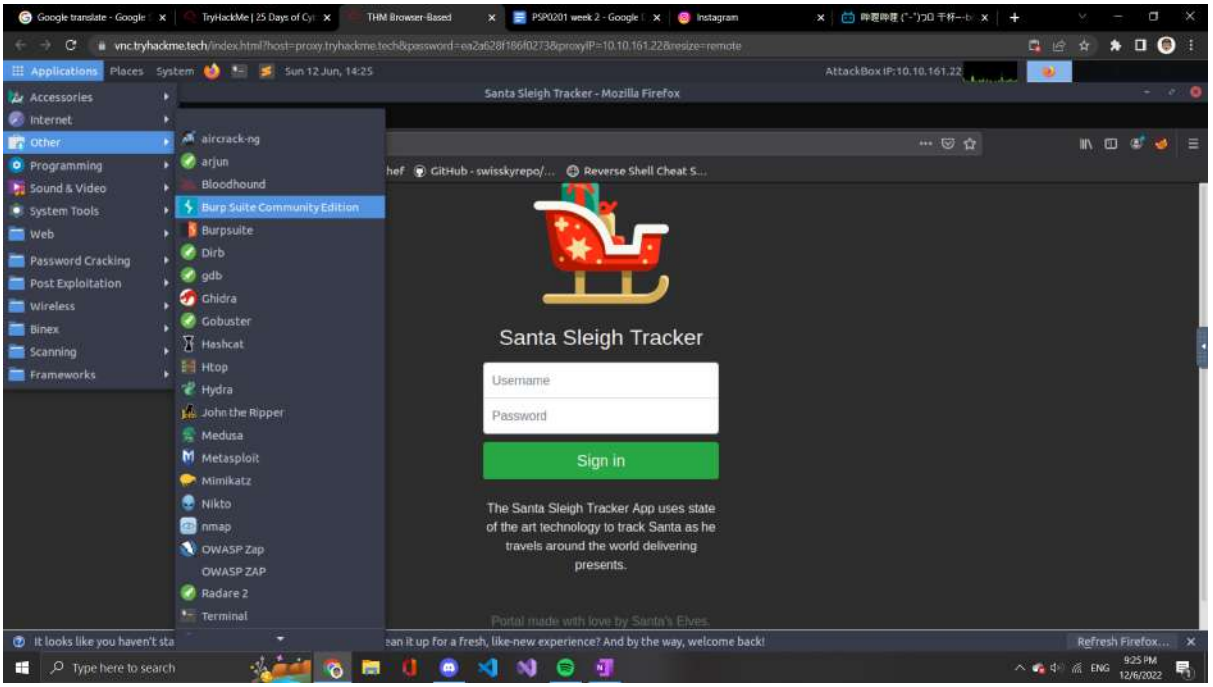
Day 3 Chrismas Chaos

Question 1

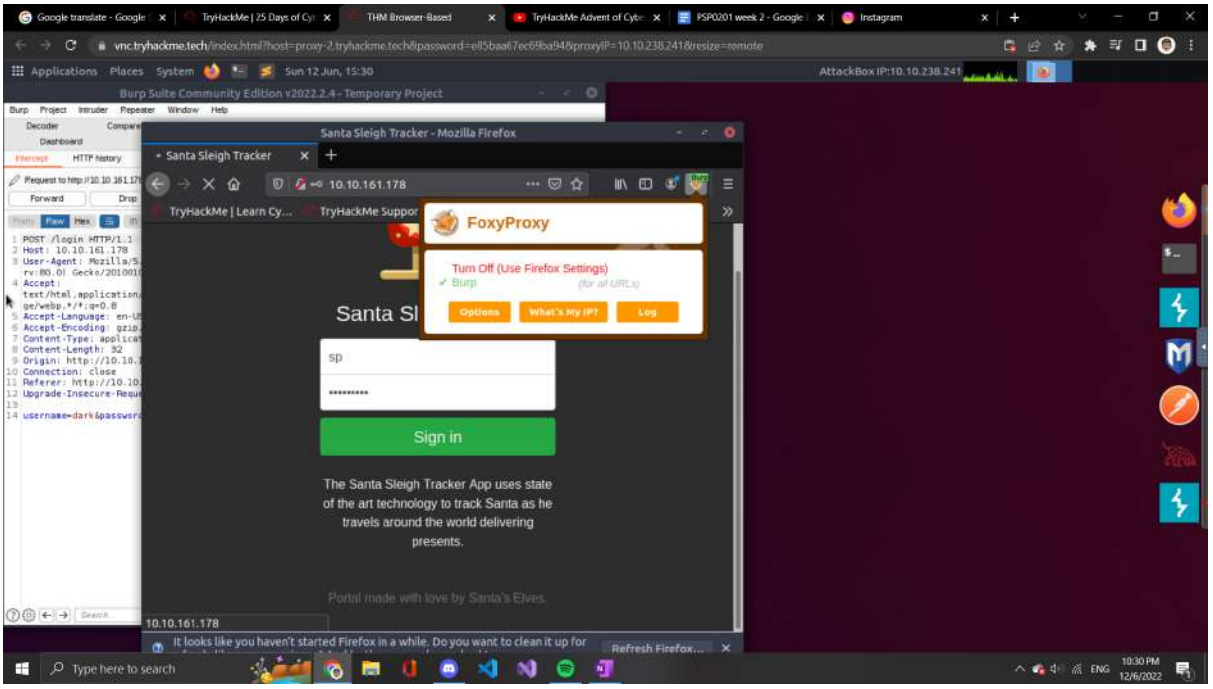
Open up the webpage by using the given IP address



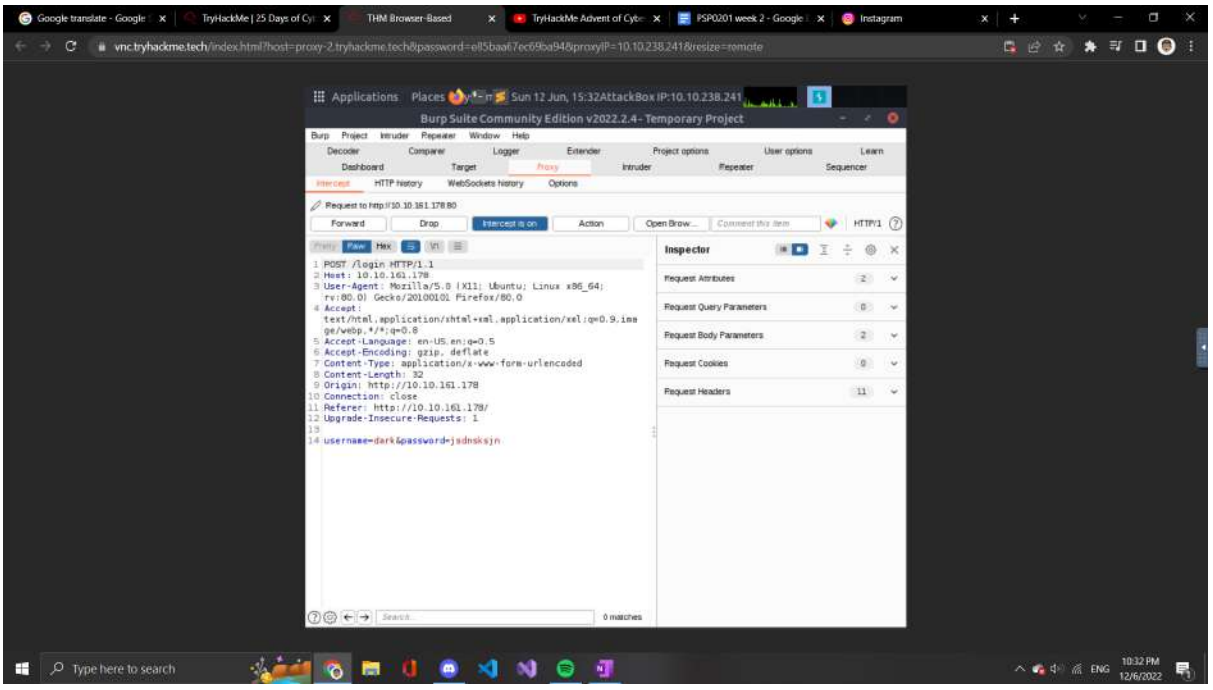
Open the BurpSuite application



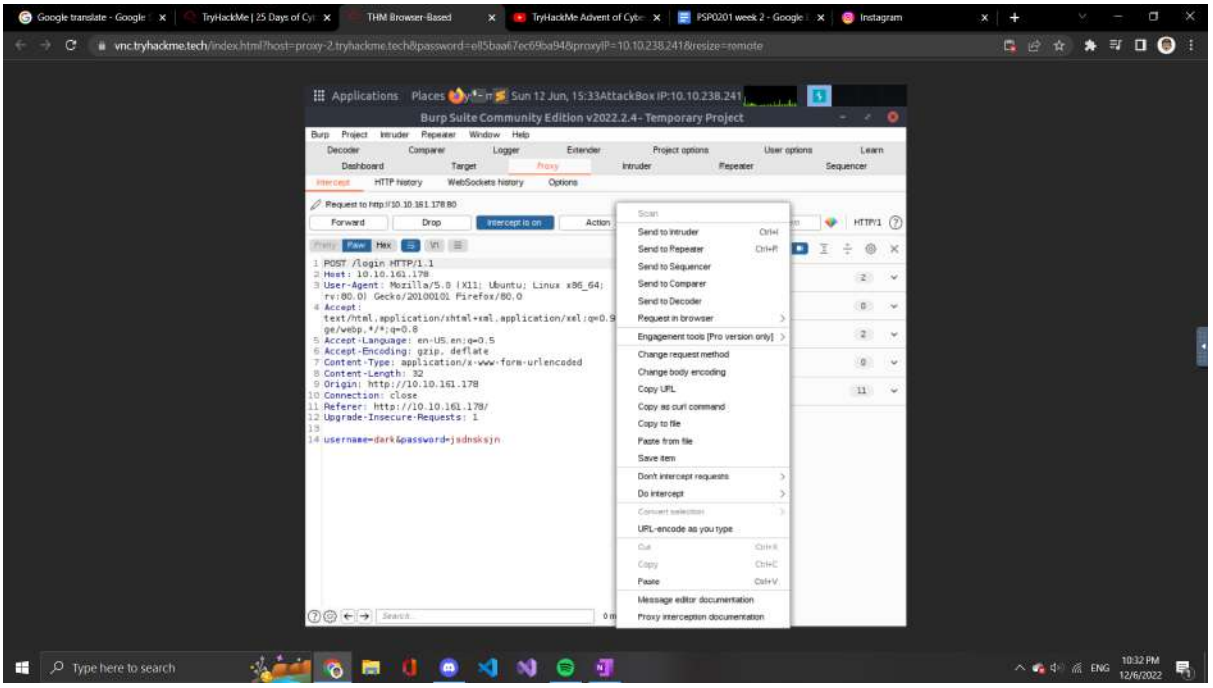
Turn on the BurpSuite control on the web browser



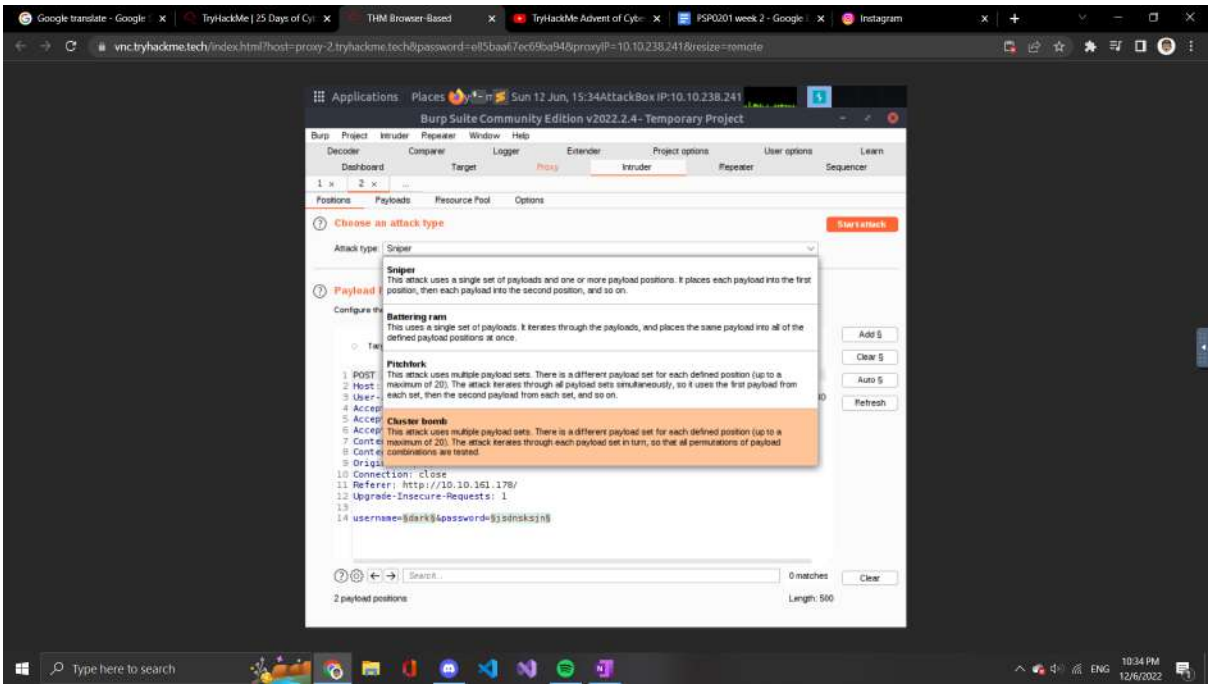
Open BurpSuite and then open the proxy page to check whether the page going on smoothly or not



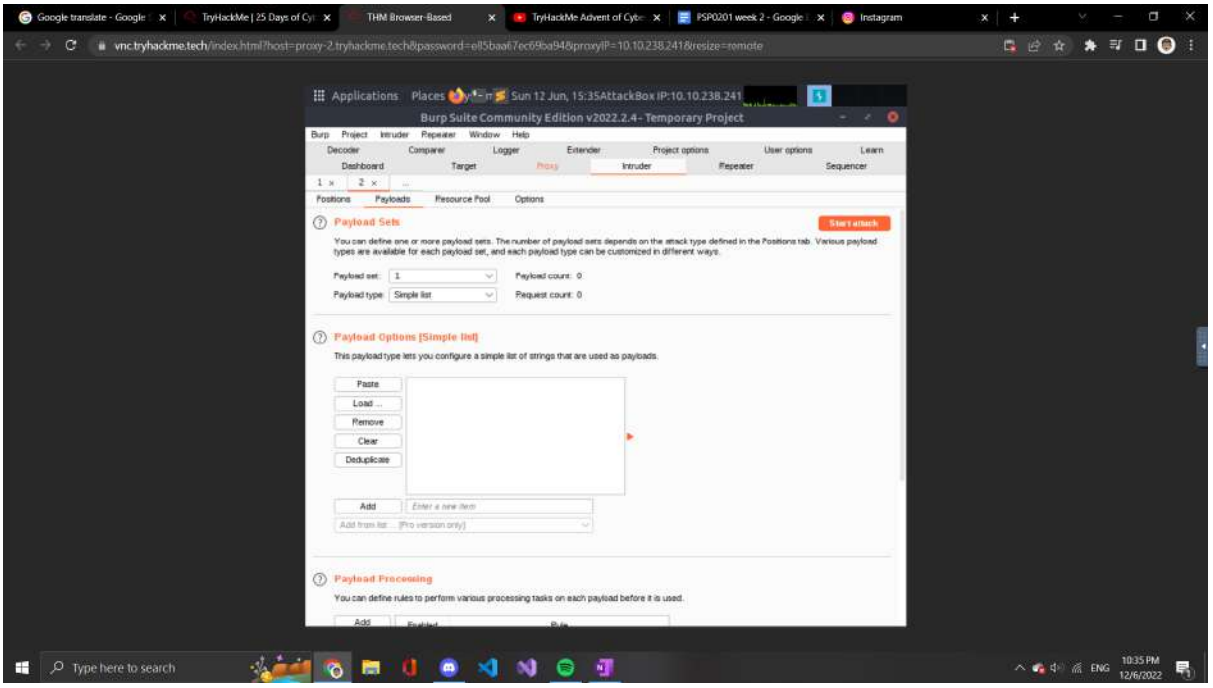
Go to the proxy page and right-click it and then click send to the intruder



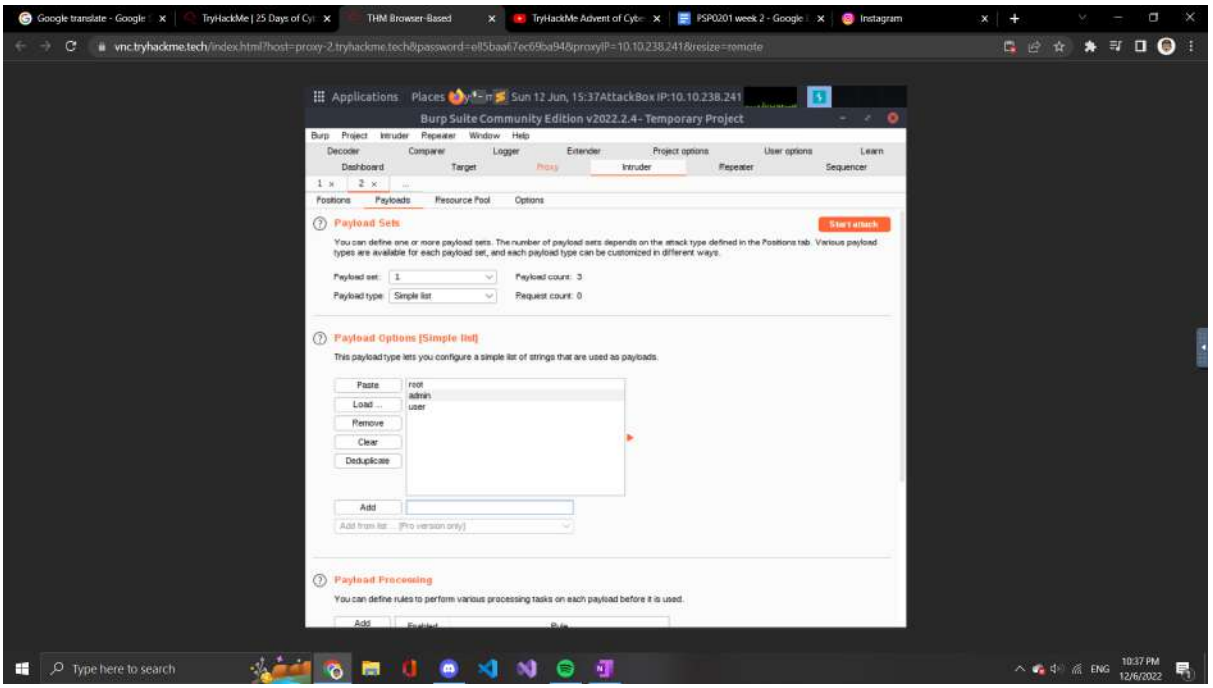
On the intruder page select cluster bomb



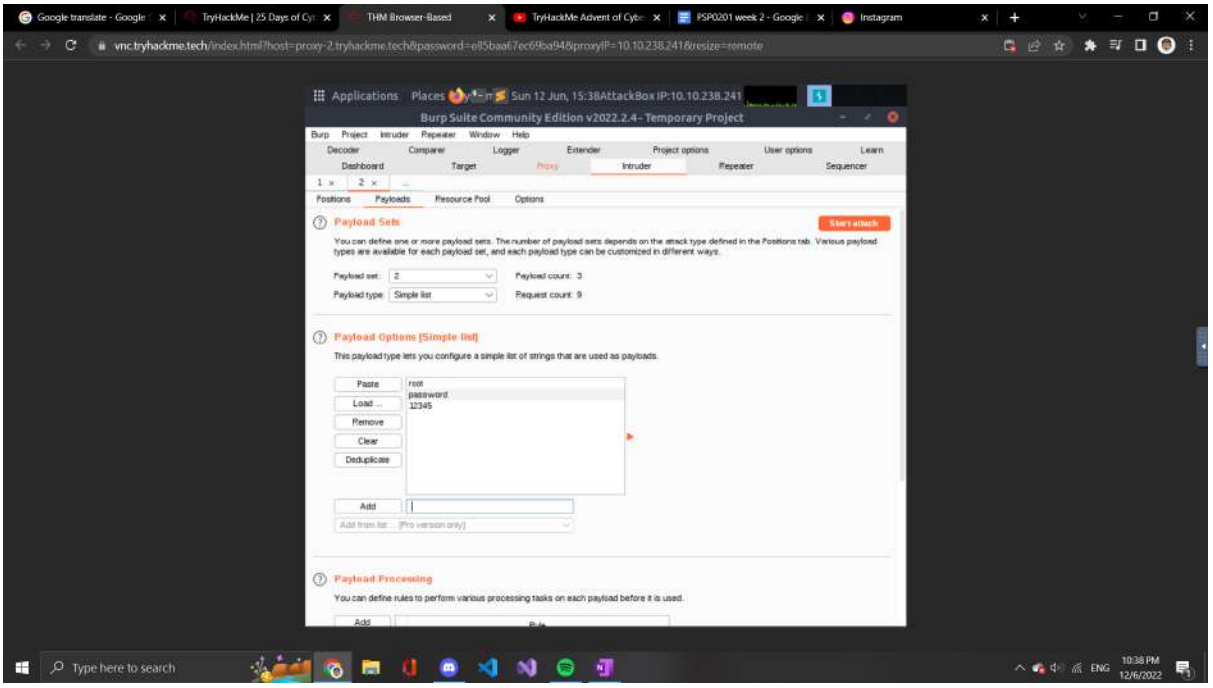
Select the payloads option on the top



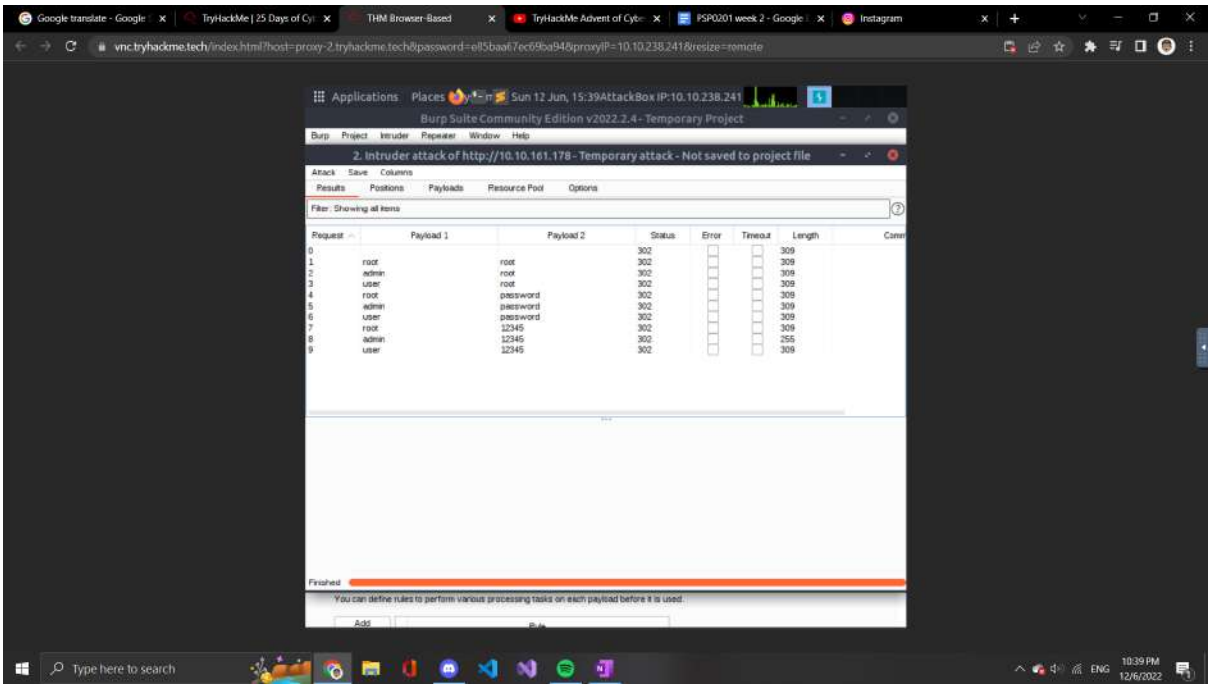
For the username type in payload one and add into it



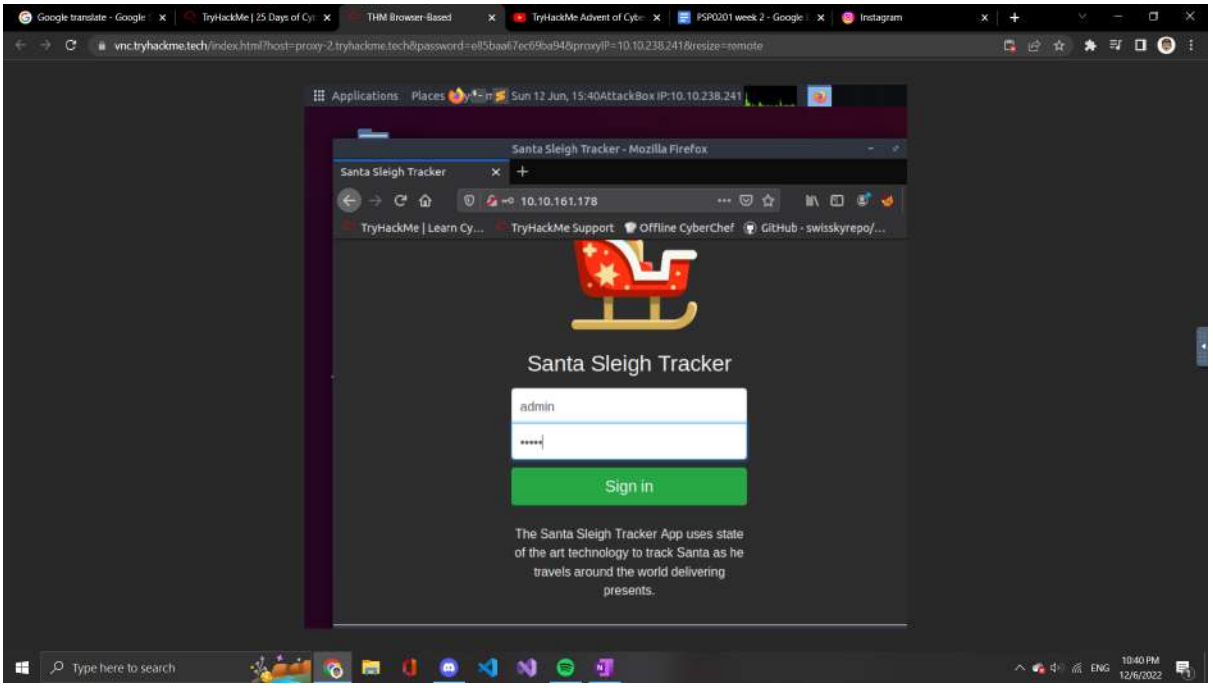
For the password add into payload 2



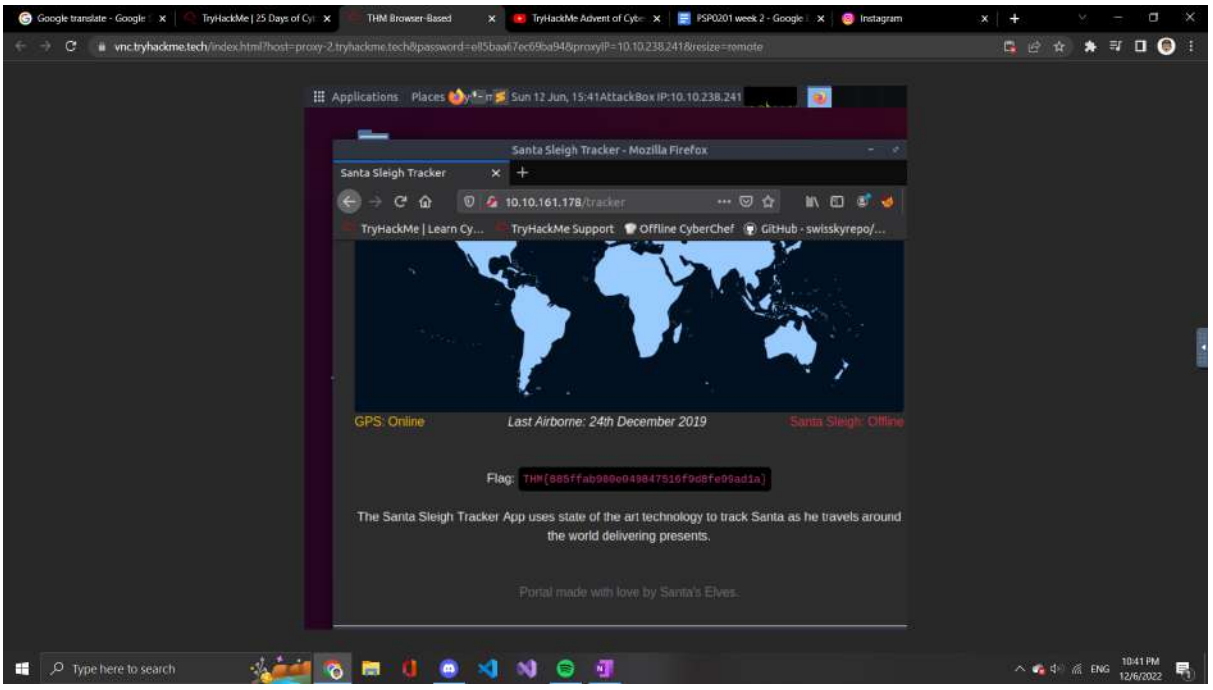
Click the start attack button on the top right corner and look at which part of the username and password have different lengths



Type in the correct pair of username and password



Lastly the flag is captured

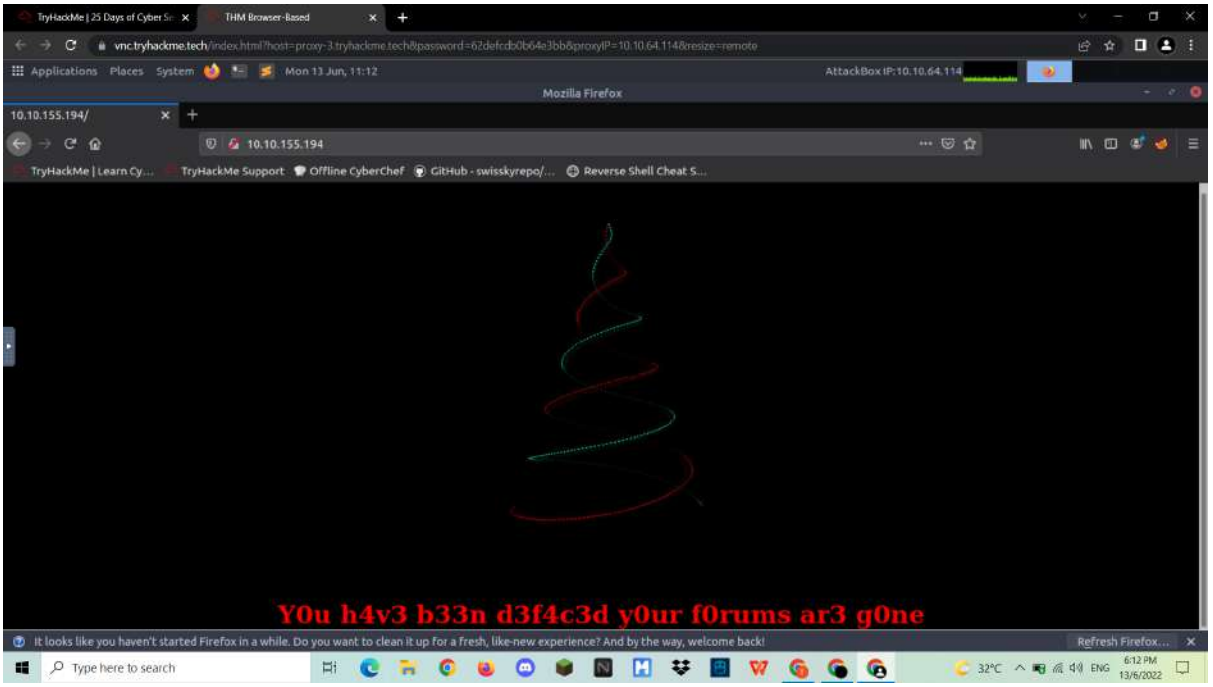


<u>Thought process/Methodology:</u>

We entered the website by using the given ip address. Then we saw a login web page but we doesn't have the username and password for it. After that, we open up BurpSuite and turn on the BurpSuite extension on the web browser. After type in a random username and password we try to refresh it but the BurpSuite had blocked the terminal and stop it from refreshing it. We click on the proxy page and send the whole code to the intruder page. We click on the cluster bomb attack type selection. After that, we click on payloads options and

type in the possible username into payload 1 and the possible password given into payload 2. After calculating by the BurpSuite, we found that the pair admin and password 12345 had different lengths compared to the other username and password pair. Lastly, we close all the BurpSuite pages and log in to the website by using the username and password found from the BurpSuite to capture the flag for this day.

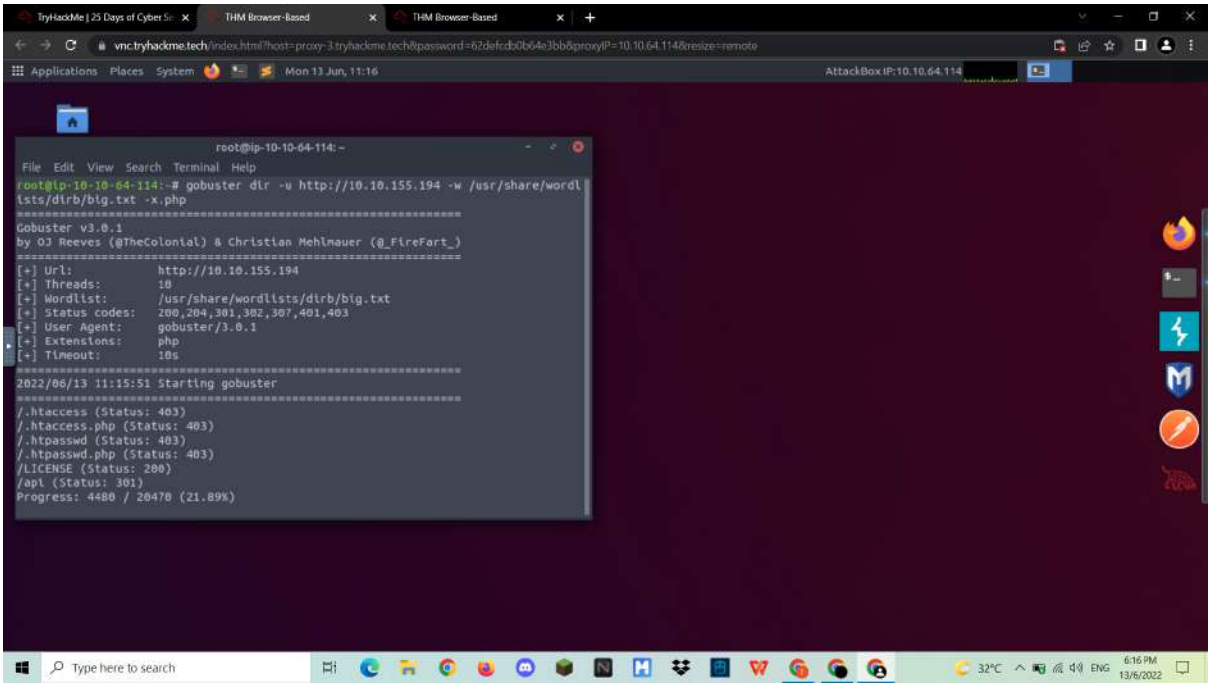
Day4:Santa's Watching
Question1
We copy and paste the ip address given to the Firefox



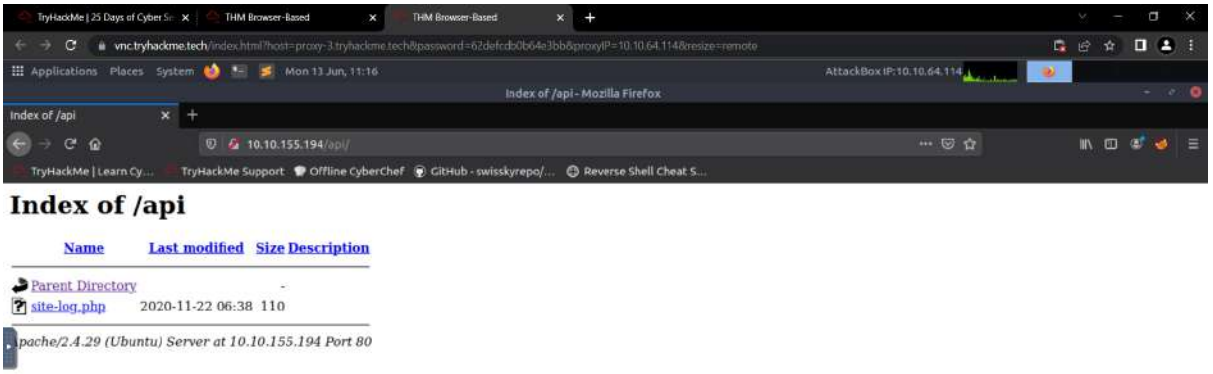
Question 2

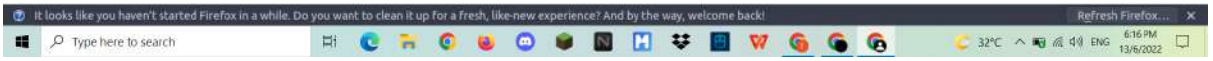
Question 3

We open the terminal and key in the gobuster to find the API



We fill in the ip address with /api to get the name of the file

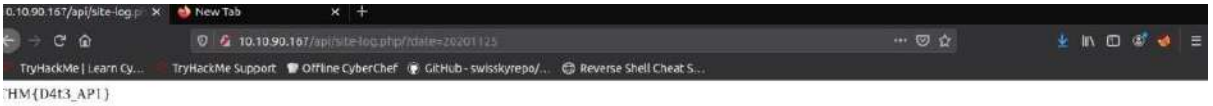




Question 4

We use the wfuzz to get the date of the flag from the API directory

After changing the url at the tab of the Firefox, we got the flag



THM{D4t3_AP1}

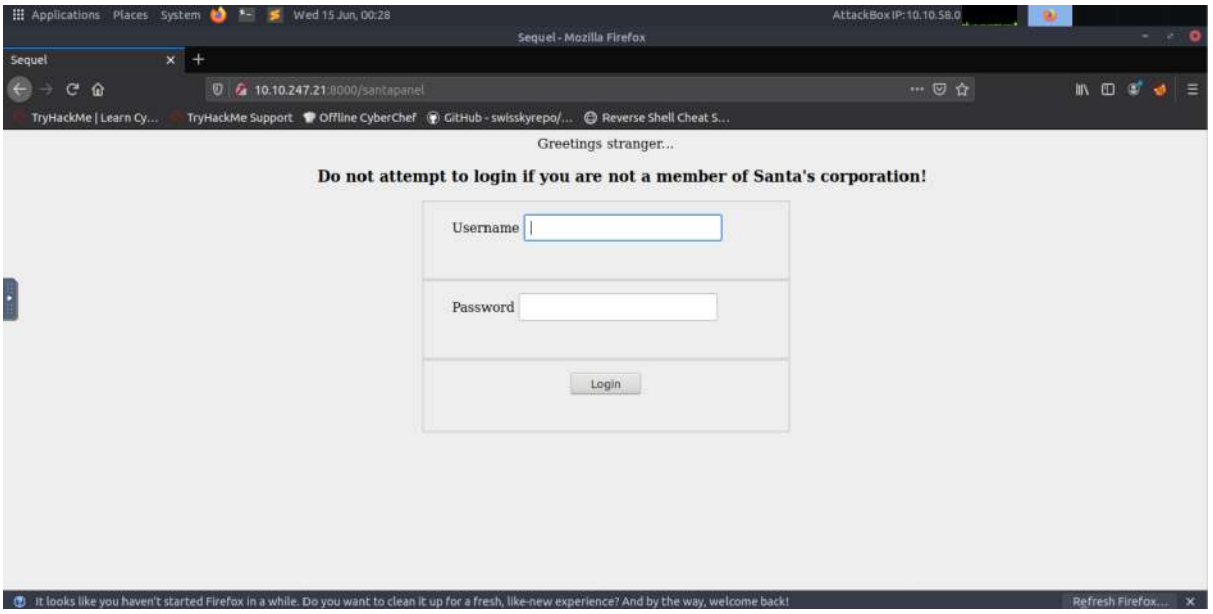
Thought process/Methodology:

We typed in the Ip address to log in to the website given using Firefox. We referred back to see the format of the Wfuzz to get the answer of question 2. We search for the api file from the directory using gobuster tools.After got the url, we get the file name to answer question 3. FInally, we use WFUZZ to get to know the date of the flag, Then, we changed the url of the website to get the flag.

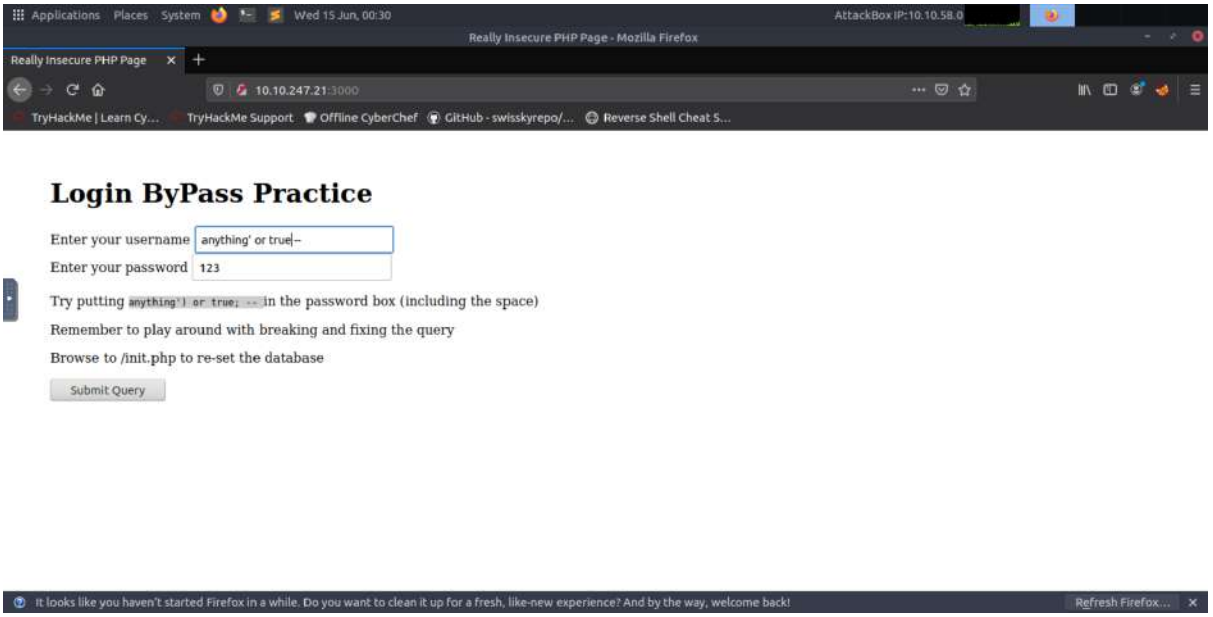
Day 5 Someone stole Santa's gift list!

Copy ip address:8000 into Firefox.
Open the next browser and type ip address:3000, enter anything' or true- - for username and ads(can be anything) for password. Submit it and close the browser.
Open Burp Suite → next → start burp. (you can find it at application → web → Burp Suite).
Enable FoxyProxy in Firefox.

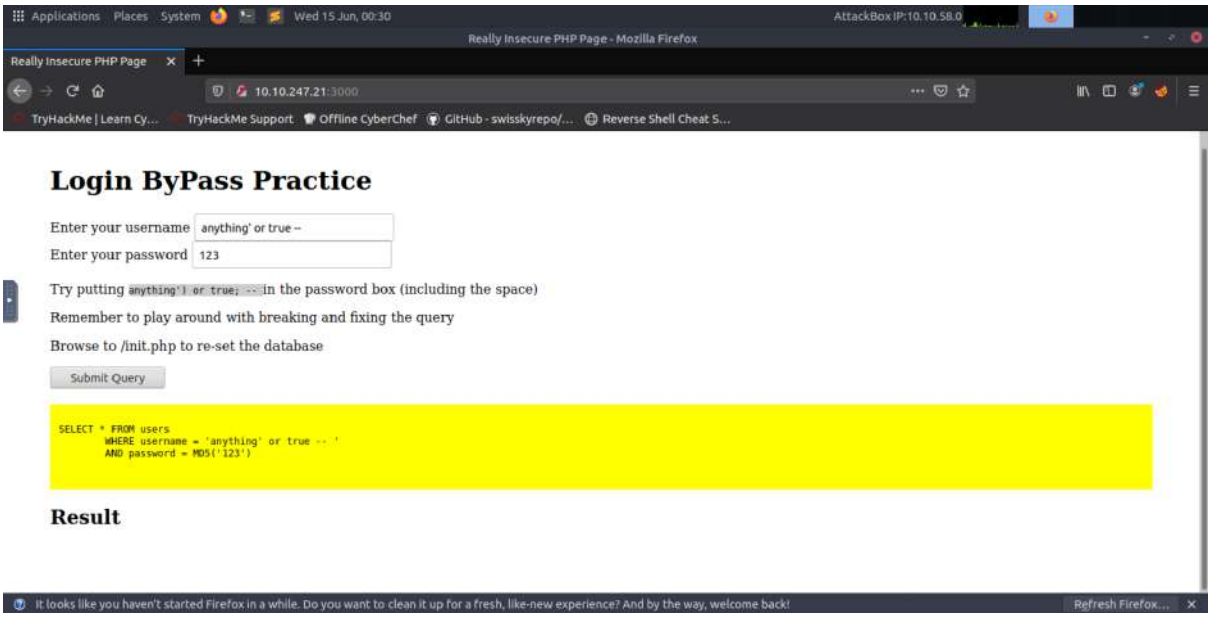
Question 1
We keep on guessing the login panel and finally we got it as/santapanel
Quettion2
We logged in to the website(10.10.274.15:8000/santapanel)



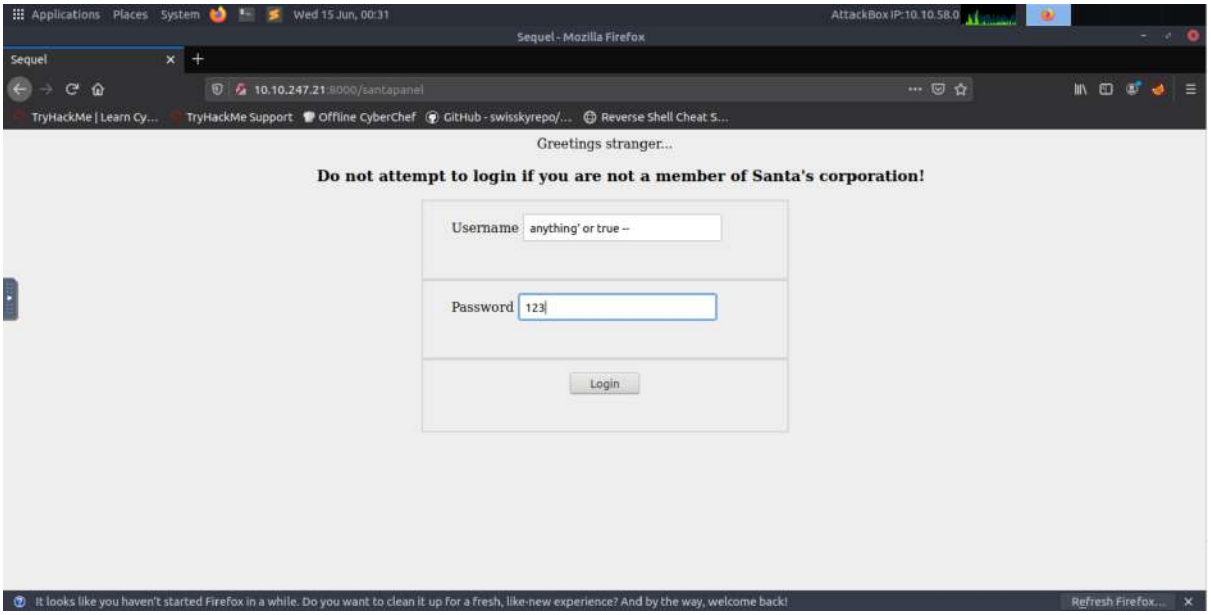
Question 3
We log in to the website(10.10.274.15:3000)
We have tested a few usernames and passwords that is fit to the sql requirement.



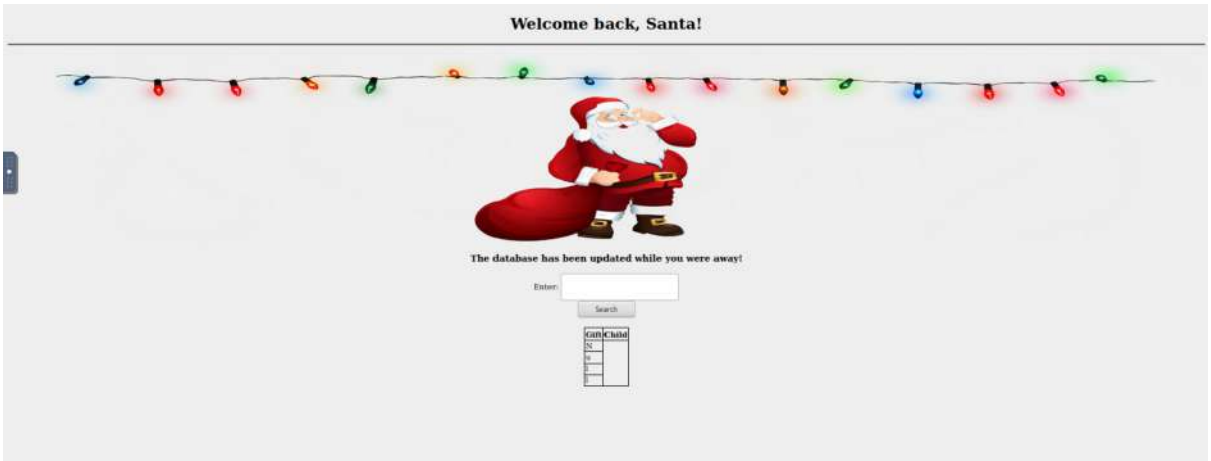
We have got the correct username and password,



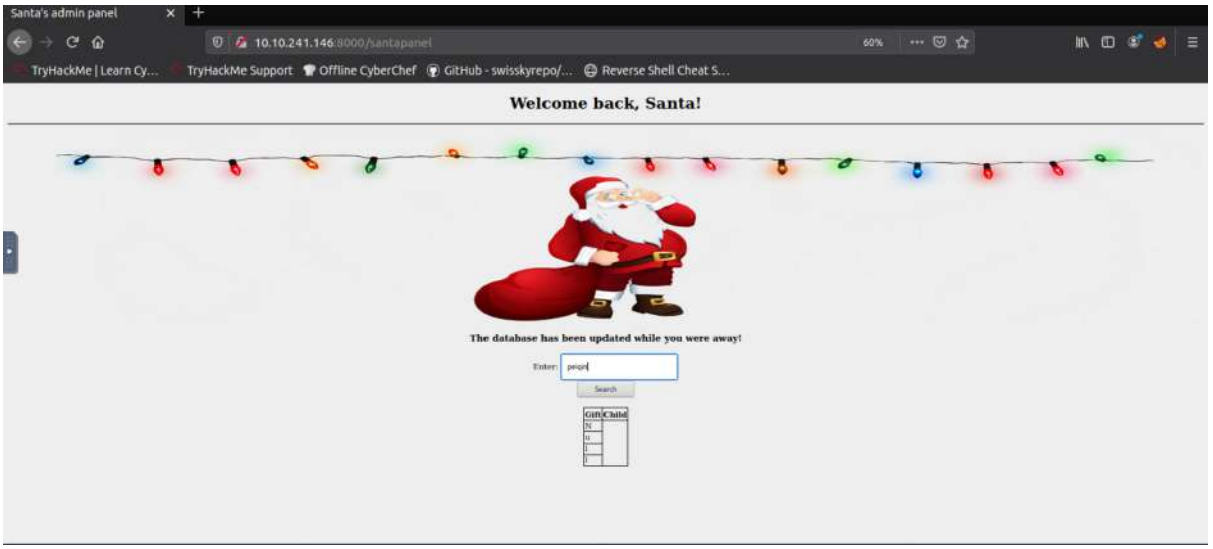
we return to the secret login panel to enter it



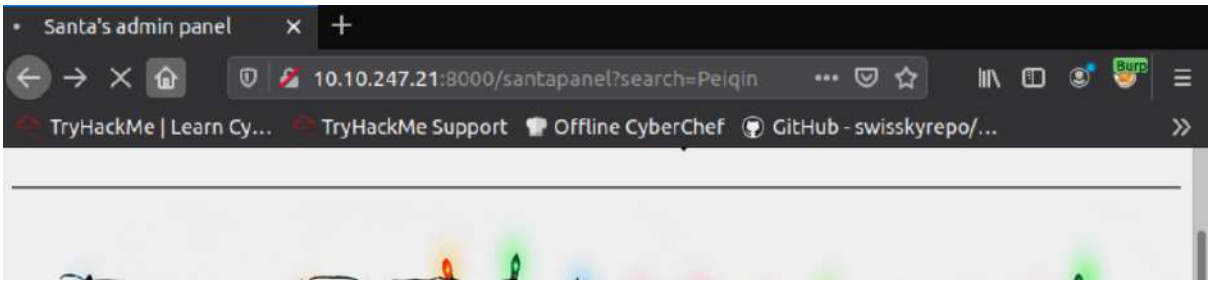
We have entered this pages



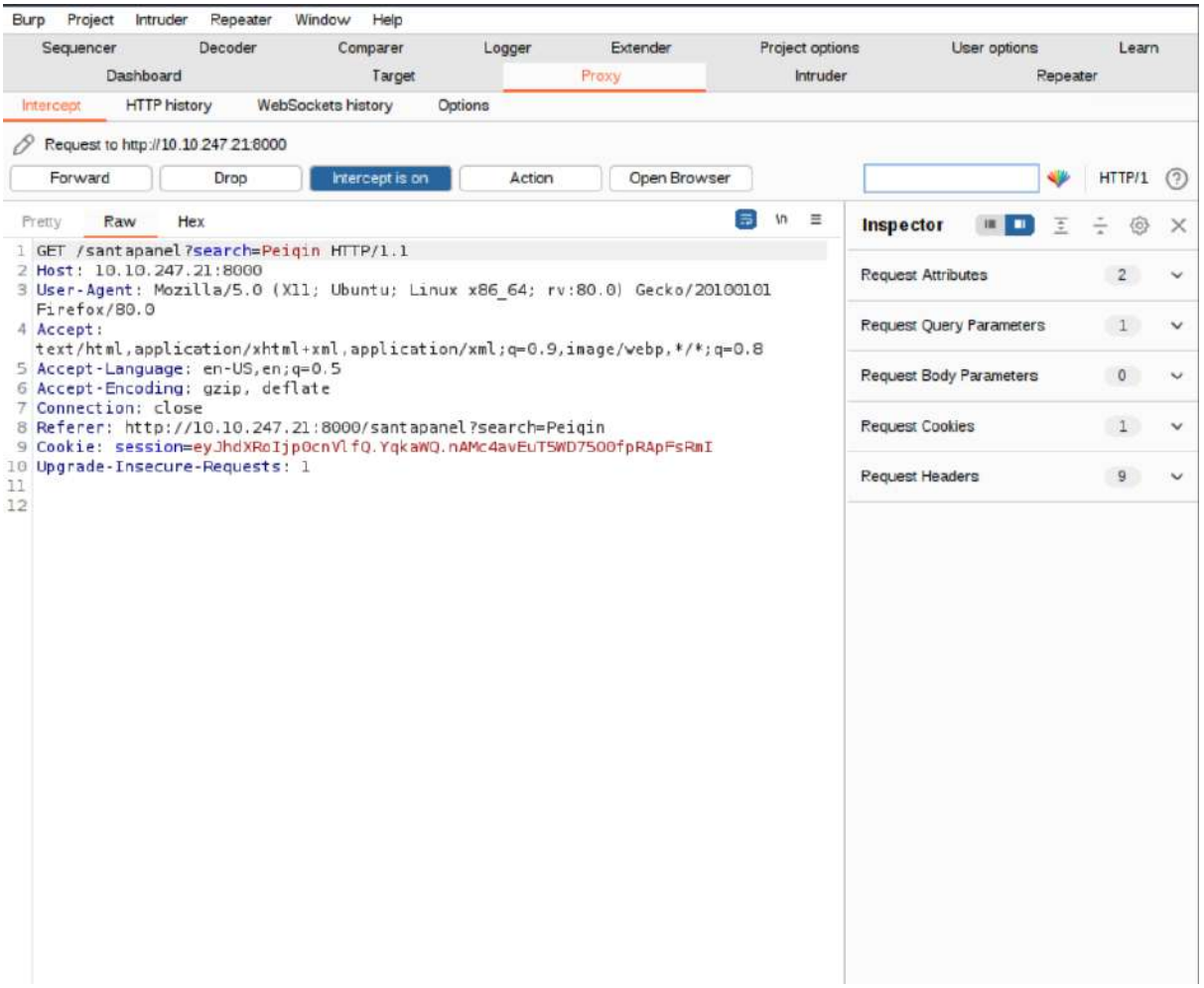
We key in something at the text bar



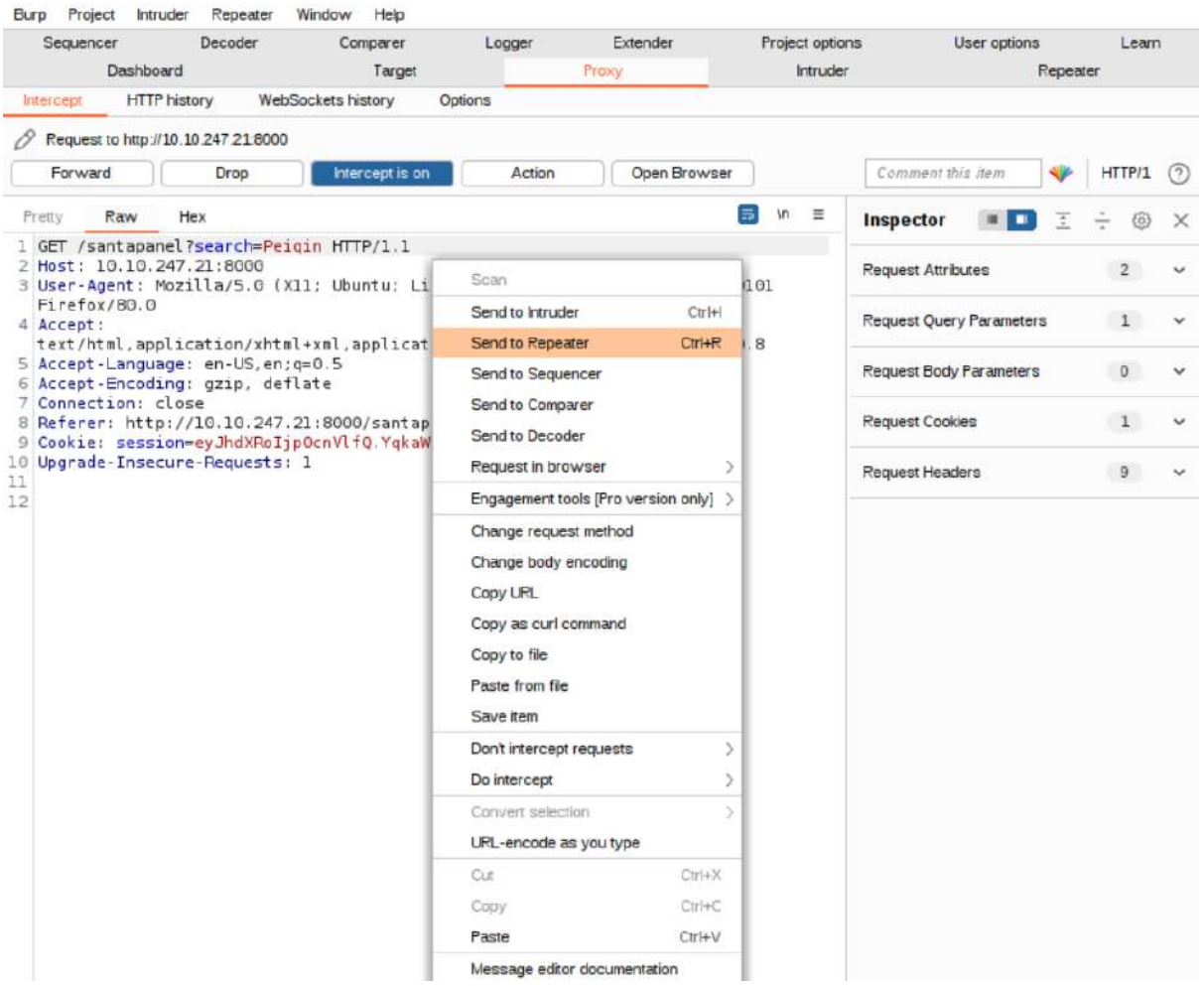
Then, we turn on the burp and open the burp suite application to get our database



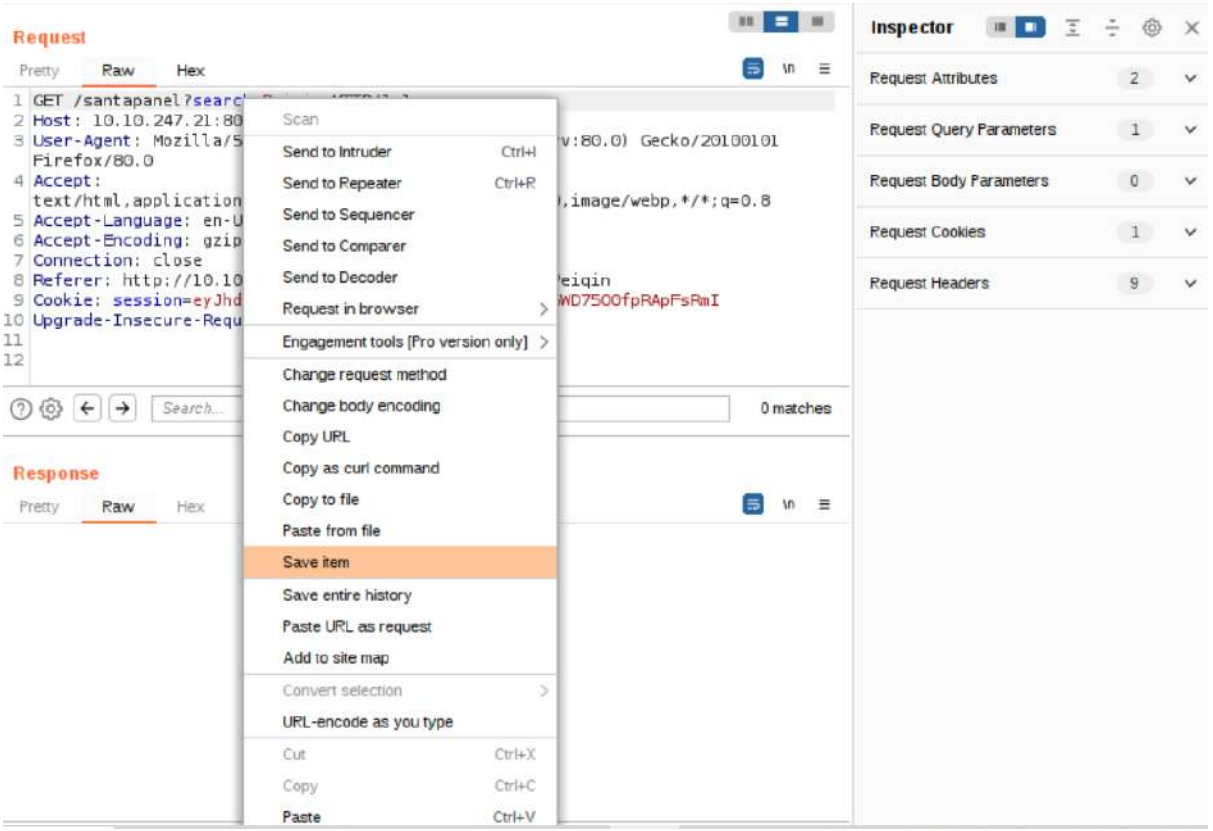
Turn on the intercept and you will get the sql database



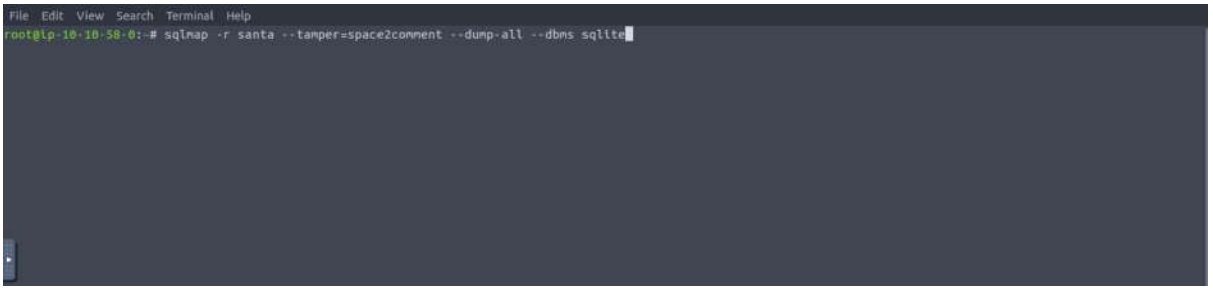
Send it to the repeater


Burp Project Intruder Repeater Window Help
Sequencer Decoder Comparer Logger Extender Project options User options Learn
Dashboard Target Proxy Intruder Repeater
Intercept HTTP history WebSockets history Options
Request to http://10.10.247.21:8000
Forward Drop Intercept is on Action Open Browser
Comment this item HTTP/1
Pretty Raw Hex
1 GET /santapanel?search=Peiqin HTTP/1.1
2 Host: 10.10.247.21:8000
3 User-Agent: Mozilla/5.0 (X11; Ubuntu; Li
Firefox/80.0
4 Accept:
text/html,application/xhtml+xml,applicat
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 Connection: close
8 Referer: http://10.10.247.21:8000/santap
9 Cookie: session=eyJhdXRoIjpOcnVlfQ.YqkaW
10 Upgrade-Insecure-Requests: 1
11
12
Scan
Send to Intruder Ctrl+I
Send to Repeater Ctrl+R
Send to Sequencer
Send to Comparer
Send to Decoder
Request in browser
Engagement tools [Pro version only]
Change request method
Change body encoding
Copy URL
Copy as curl command
Copy to file
Paste from file
Save item
Don't intercept requests
Do intercept
Convert selection
URL-encode as you type
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Message editor documentation
Inspector
Request Attributes 2
Request Query Parameters 1
Request Body Parameters 0
Request Cookies 1
Request Headers 9

Save the item



We open the terminal and type insql map - r santa – tamper=space2connect – dump-all –dbms sqlite to see our database



The database has shown

```
Database: SQLite_masterdb
Table: sequels
[22 entries]
+-------------+-----+---------------------------+
| kid         | age | title                     |
+-------------+-----+---------------------------+
| James       | 8   | shoes                     |
| John        | 4   | skateboard                |
| Robert      | 17  | iphone                    |
| Michael     | 5   | playstation               |
| William     | 6   | xbox                      |
| David       | 6   | candy                     |
| Richard     | 9   | books                     |
| Joseph      | 7   | socks                     |
| Thomas      | 10  | 10 McDonalds meals        |
| Charles     | 3   | toy car                   |
| Christopher | 8   | air hockey table          |
| Daniel      | 12  | lego star wars            |
| Matthew     | 15  | bike                      |
| Anthony     | 3   | table tennis              |
| Donald      | 4   | fazer chocolate           |
| Mark        | 17  | wii                       |
| Paul        | 9   | github ownership          |
| James       | 8   | finnish-english dictionary |
| Steven      | 11  | laptop                    |
| Andrew      | 16  | rasberry pie              |
| Kenneth     | 19  | TryHackMe Sub             |
| Joshua      | 12  | chair                     |
+-------------+-----+---------------------------+

[01:14:08] [INFO] table 'SQLite_masterdb.sequels' dumped to CSV file '/root/.sqlmap/output/10
.10.247.21/dump/SQLite_masterdb/sequels.csv'
```

We finally get the answer for the number of gift

```
Database: SQLite_masterdb
Table: sequels
[22 entries]
```

Question 4

We also get to know what is needed by Paul from the database

```
| Paul        | 9   | github ownership          |
```

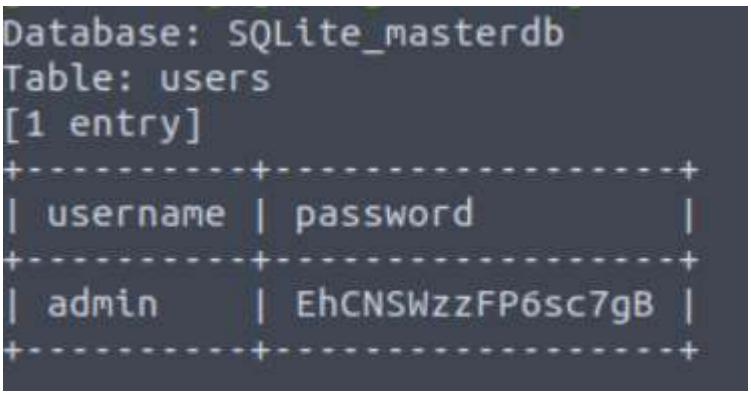
Question 5

The flag of this question also shown in the database

```
Database: SQLite_masterdb
Table: hidden_table
[1 entry]
+-----------------------------------------+
| flag                                    |
+-----------------------------------------+
| thmfox{All_I_Want_for_Christmas_Is_You} |
+-----------------------------------------+
```

Question6

We get to know the admin password from the database



Thought Process/Methodology:

We entered the website by using the given ip address. Then we saw a login web page but we doesn't have the username and password for it. So, we try a few username and password that is suit to the requirement of the sql. Then, we entered the username and password. We have enter something to update and get the database in the burp suite. After that, we open up BurpSuite and turn on the BurpSuite extension on the web browser. We open the intercept and then we get the database. We send the database to the repeater and save it. Then, we get into the terminal ta look for the database. Then we finally get the answer for each question from the database.