Pentest 2

ROOM

IRON CORP

DASH

Members

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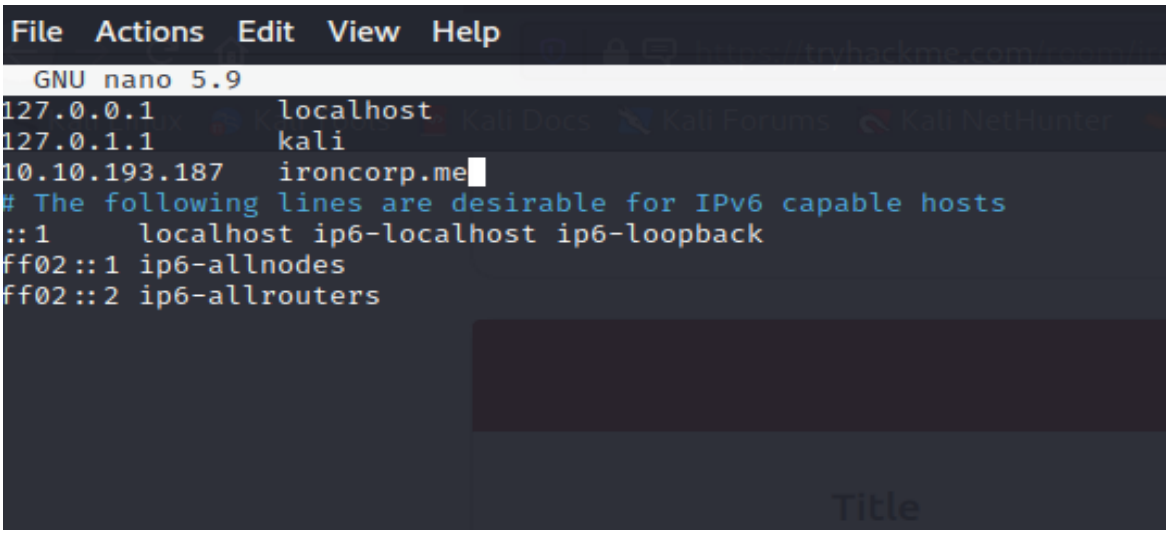
Pentest 2

Solutions/ walkthrough:

Tools used: Kali linux, firefox, thm attackbox, Burp Suite, Python3 , nmap, Hydra, Google search

First we edit the config file in nano /etc/hosts and add ironcorp.me along with our machine ip.



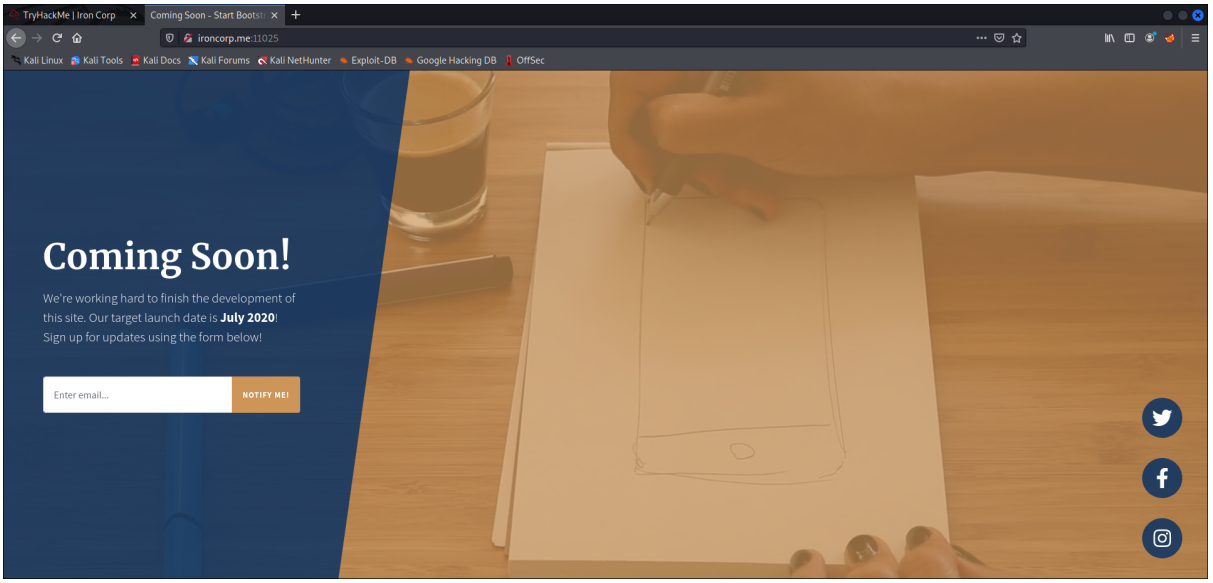
We perform nmap scanning on ironcorp.me. We found two ports, 8080 and 11025 runs on http web service.

```
Starting Nmap 7.60 ( https://nmap.org ) at 2022-08-03 09:34 BST
Nmap scan report for ironcorp.me (10.10.232.194)
Host is up (0.0035s latency).

PORT      STATE    SERVICE       VERSION
53/tcp    open     domain        Microsoft DNS
135/tcp   open     msrpc         Microsoft Windows RPC
3389/tcp  filtered ms-wbt-server
8080/tcp  open     http          Microsoft IIS httpd 10.0
| http-methods:
|_  Potentially risky methods: TRACE
|_http-open-proxy: Proxy might be redirecting requests
|_http-server-header: Microsoft-IIS/10.0
|_http-title: Dashtreme Admin - Free Dashboard for Bootstrap 4 by Codervent
11025/tcp open     http          Apache httpd 2.4.41 ((Win64) OpenSSL/1.1.1c PHP
/7.4.4)
| http-methods:
|_  Potentially risky methods: TRACE
|_http-server-header: Apache/2.4.41 (Win64) OpenSSL/1.1.1c PHP/7.4.4
|_http-title: Coming Soon - Start Bootstrap Theme
```

```
49667/tcp open     msrpc         Microsoft Windows RPC
49670/tcp filtered unknown
MAC Address: 02:A7:CB:CC:DC:8B (Unknown)
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

Service detection performed. Please report any incorrect results at https://nmap
.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 65.02 seconds
```

We access the web service of port 8080 and 11025, a page is shown but no important information was found.

We access the web service of port 11025, still, there's no information to help us climb in the system.



Since no much info was found, enter the dig command to see dns records.

```
:~# dig @10.10.193.187 ironcorp.me axfr
```

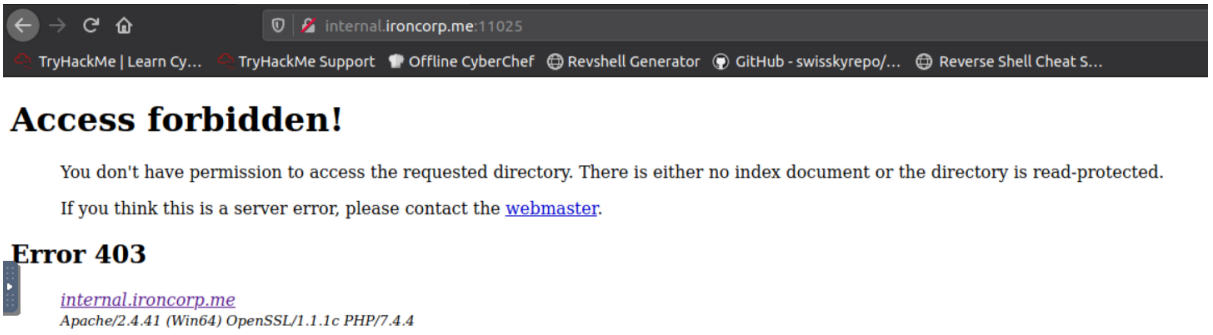
And we found Two subdomains, admin.ironcorp.me and internal.ironcorp.me are found running internally.

```
ironcorp.me.            3600    IN      SOA     win-8vmbkf3g815. hostmaster. 3 9
00 600 86400 3600
ironcorp.me.            3600    IN      NS      win-8vmbkf3g815.
admin.ironcorp.me.      3600    IN      A       127.0.0.1
internal.ironcorp.me.   3600    IN      A       127.0.0.1
ironcorp.me.            3600    IN      SOA     win-8vmbkf3g815. hostmaster. 3 9
```

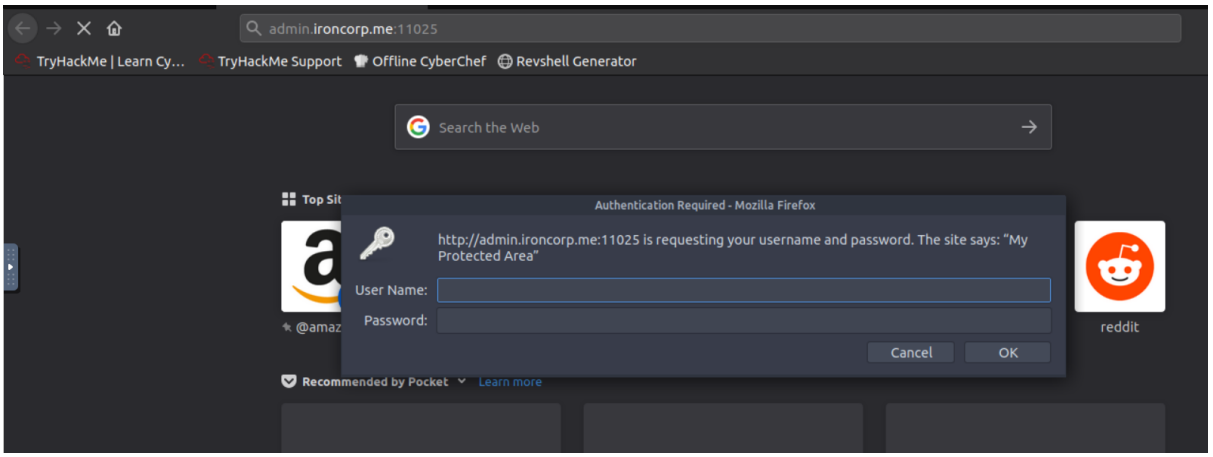
To access the site, we first add the addresses in our hosts file, then access the site using firefox.

```
  GNU nano 2.9.3                        /etc/hosts

127.0.0.1       localhost
127.0.1.1       tryhackme.lan   tryhackme
10.10.193.187    ironcorp.me
10.10.193.187   admin.ironcorp.me
10.10.193.187   internal.ironcorp.me

# The following lines are desirable for IPv6 capable hosts
::1     localhost ip6-localhost ip6-loopback
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

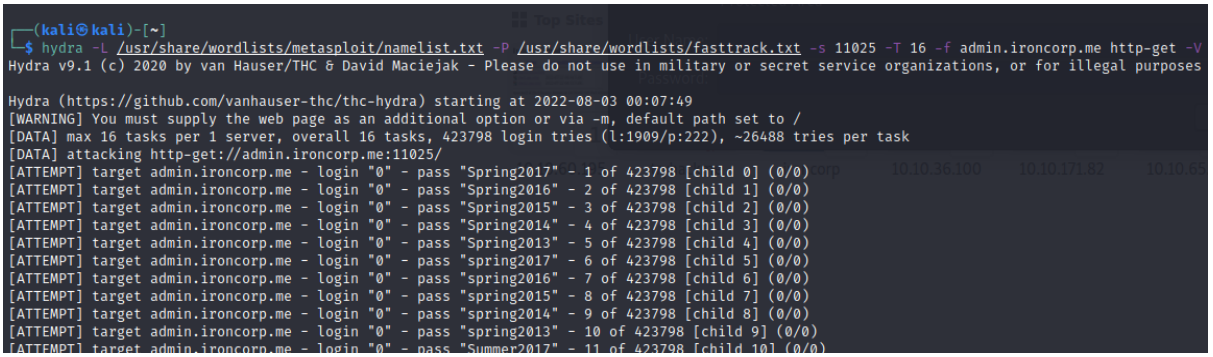
However, internal.ironcorp.me is forbidden. While for admin.ironcorp.me, the second subdomain requires authentication.



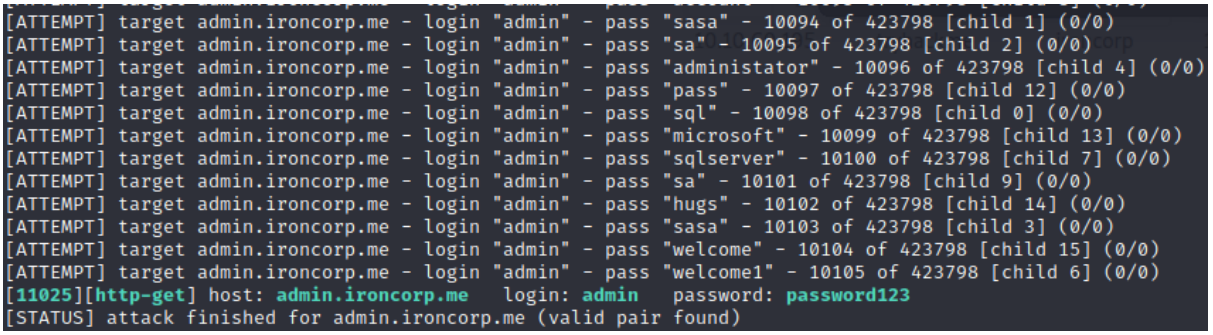
In the subdomain admin.ironcorp.me is a basic authentication.
We can still access admin.ironcorp.me. But it requires the credentials to log in.



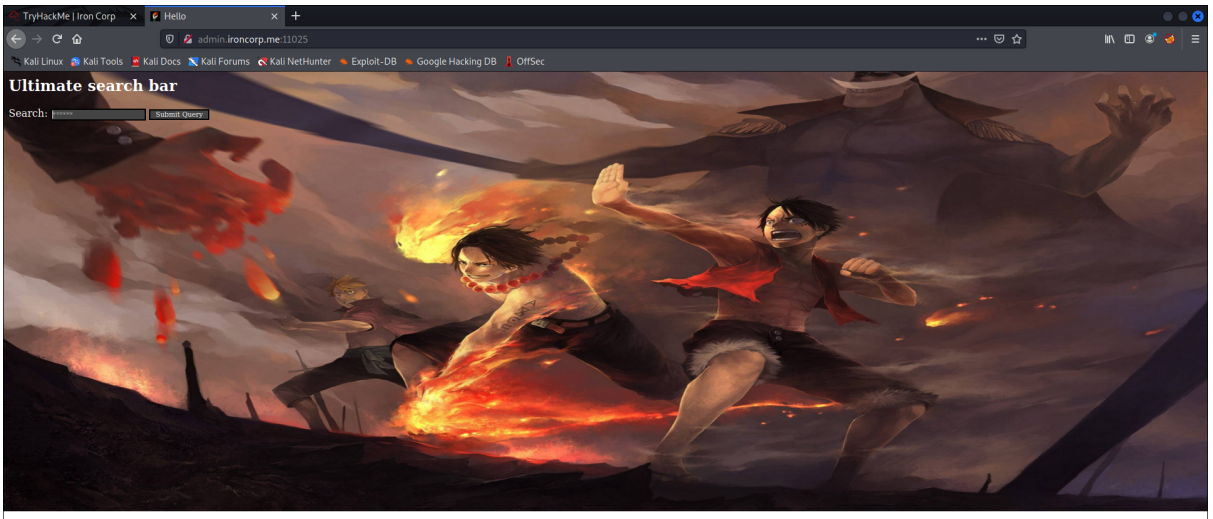
We use Hydra to perform password cracking. For the username we use namelist.txt provided in the kali machine, for the password, we use the wordlist fasttrack.txt which is also provided in the kali machine. It will print out different matches of usernames and passwords until it finds a matching username and password.



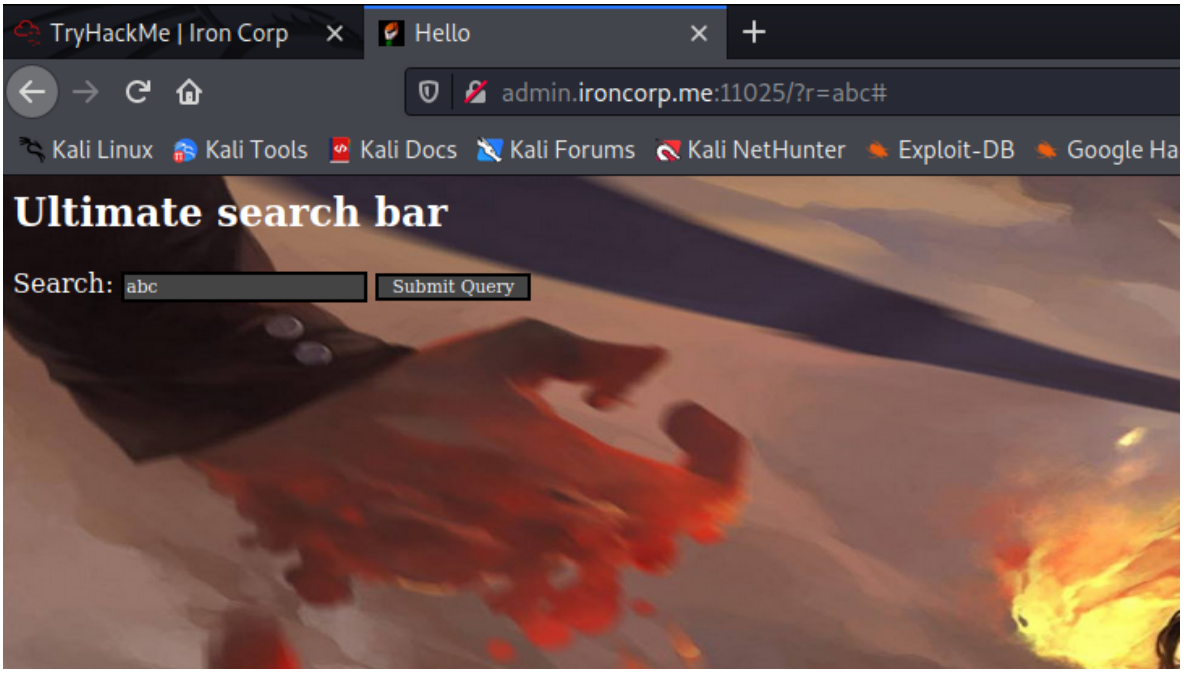
We have managed to obtain the username: admin and password: password123.



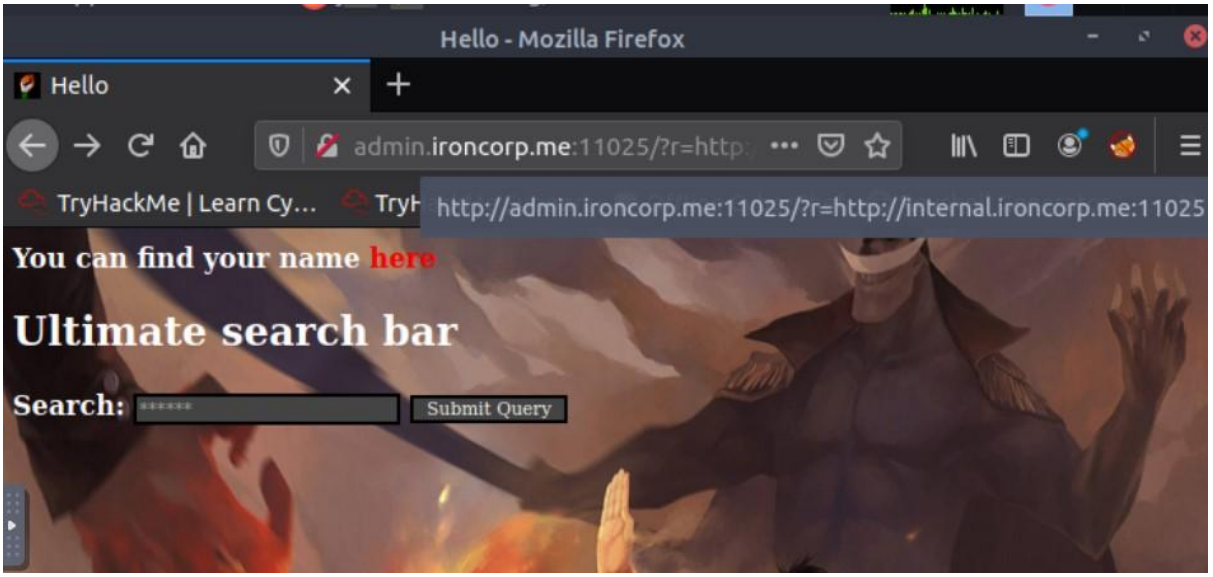
Once we log in with the credentials, a page will appear where we can make inquiries through a form.



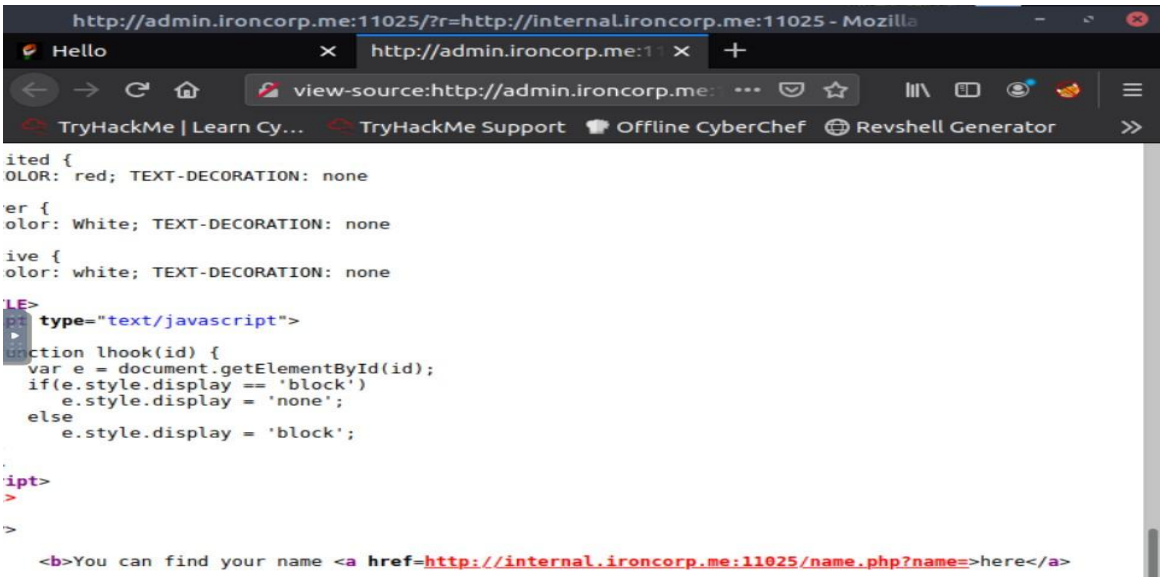
We tried to input anything and submit in the form. We can see in the url it prints out the same input text.



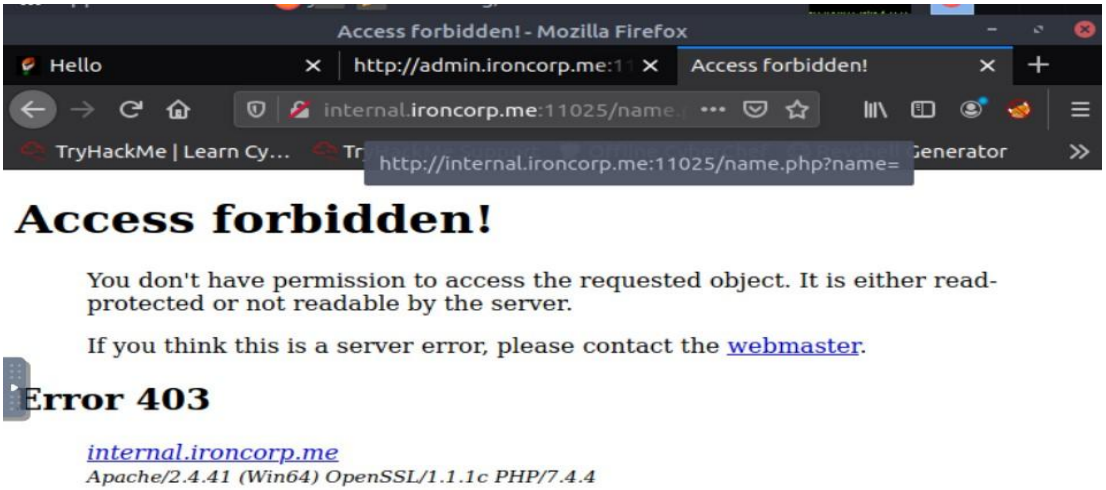
With this info, we deduced that we can perform a ssrf attack by injecting ssrf payloads. Since we know that internal.ironcorp.me could not be accessed, we tried to access it by inserting the url in the parameter.



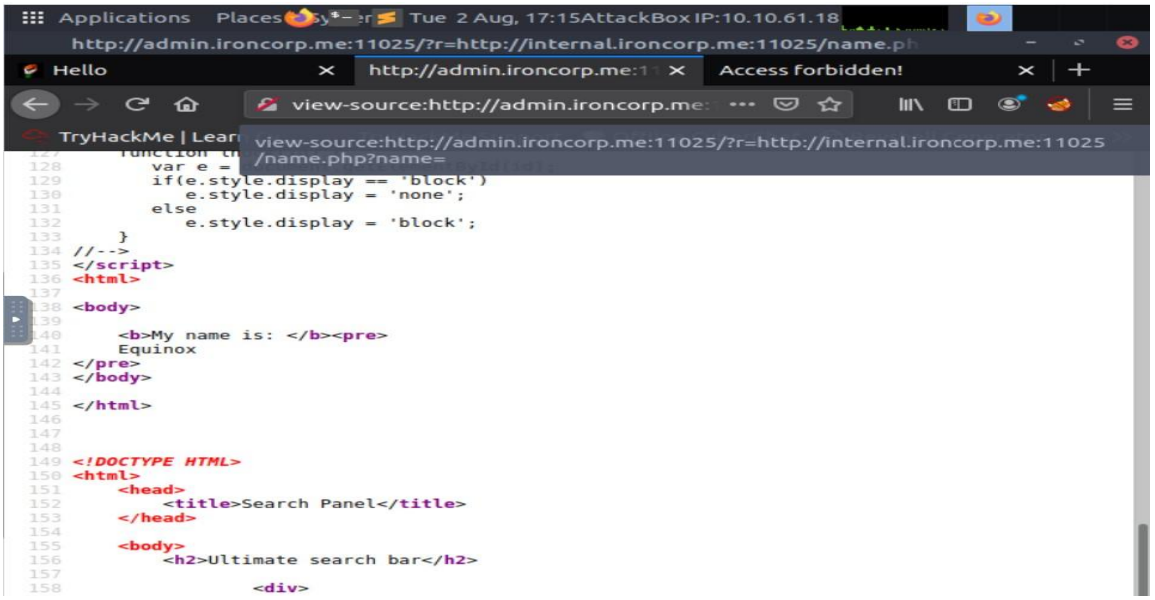
By viewing the page source, we found a message



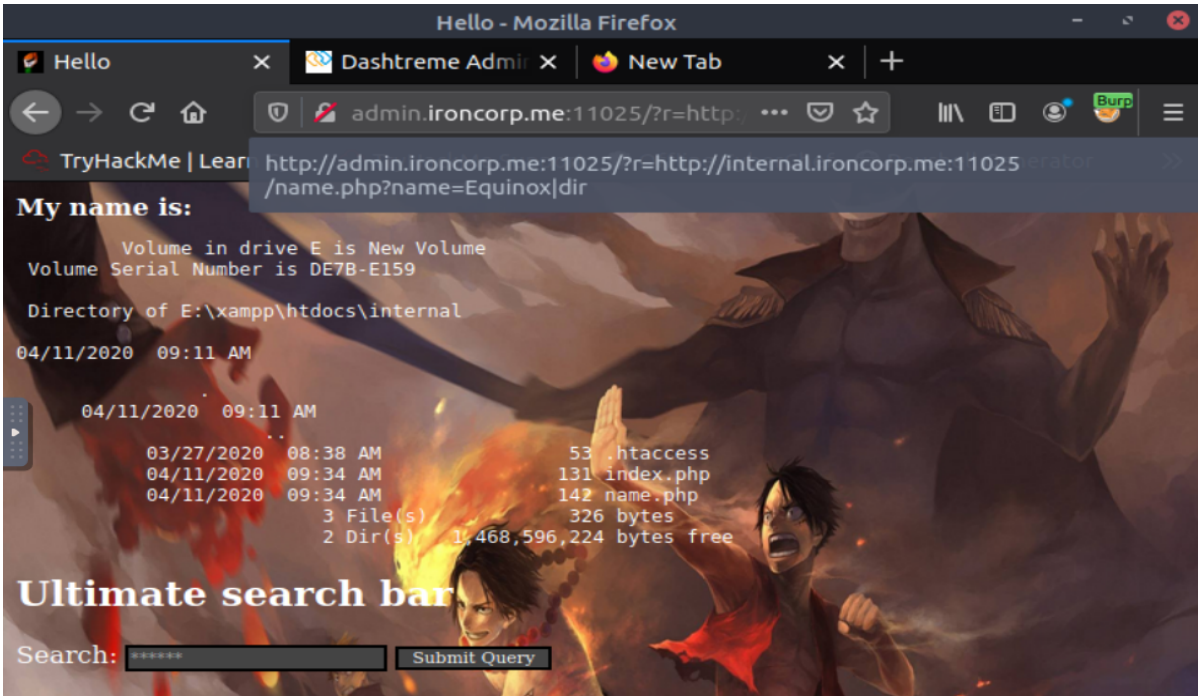
Follow the link that we found, it is also inaccessible.



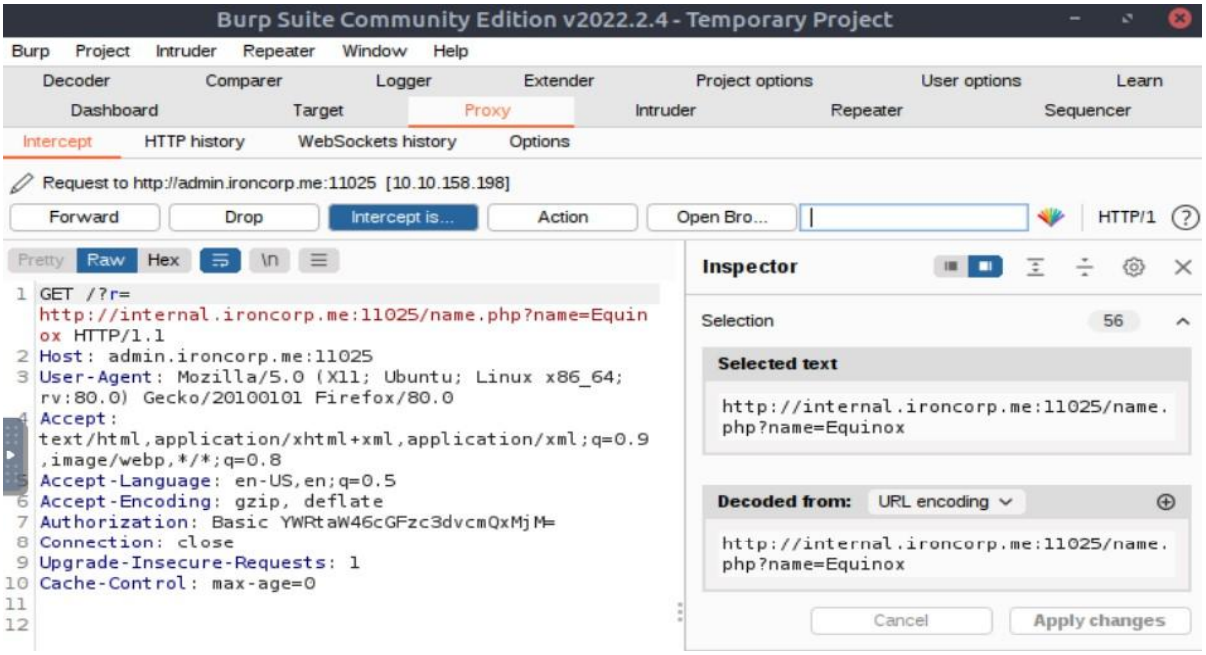
We can use the double link method to view the name.php



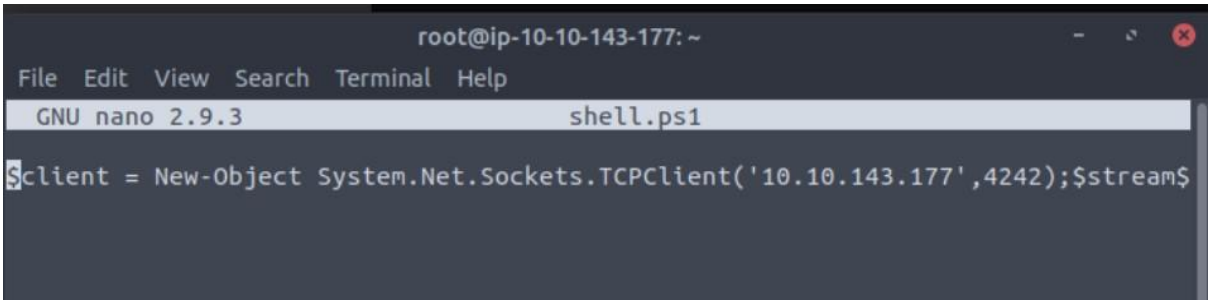
By using the command injection, we are able to view the directory. We can use the url to insert the reverse shell.



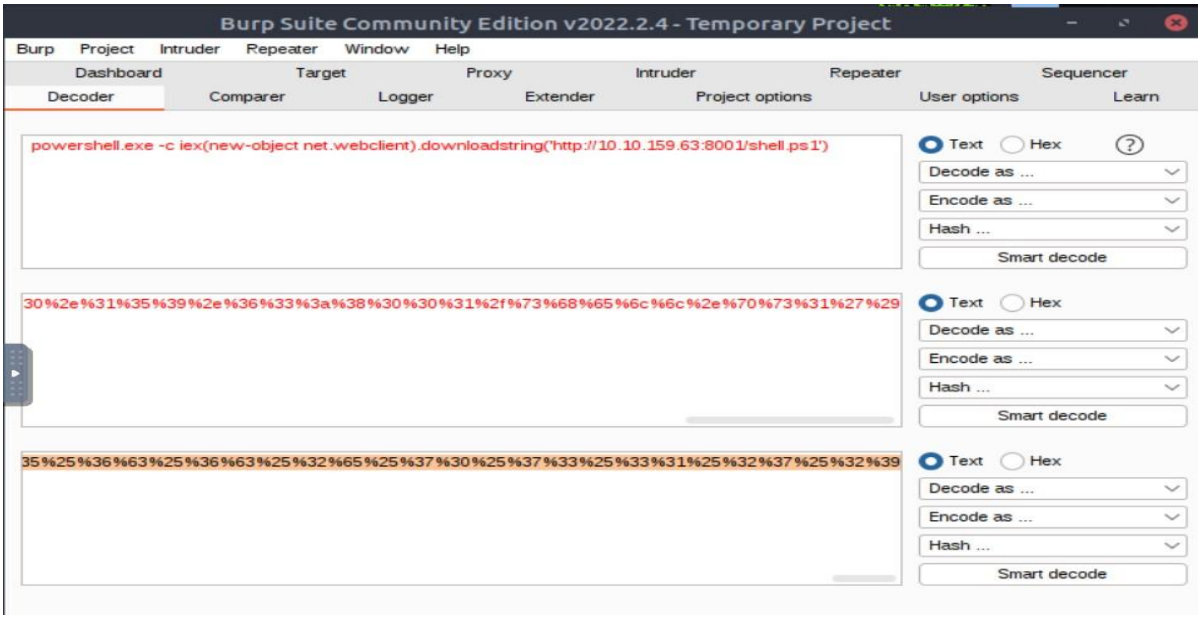
Open the burp in Firefox, by refreshing the page the last page, we will get the intercept. Next, we send it to Repeater and turn off the intercept.



Use the [powershell tcp reverse shell script] that we found in google. Then create a new reverse shell file.



We have to encode our command twice to get it executed.

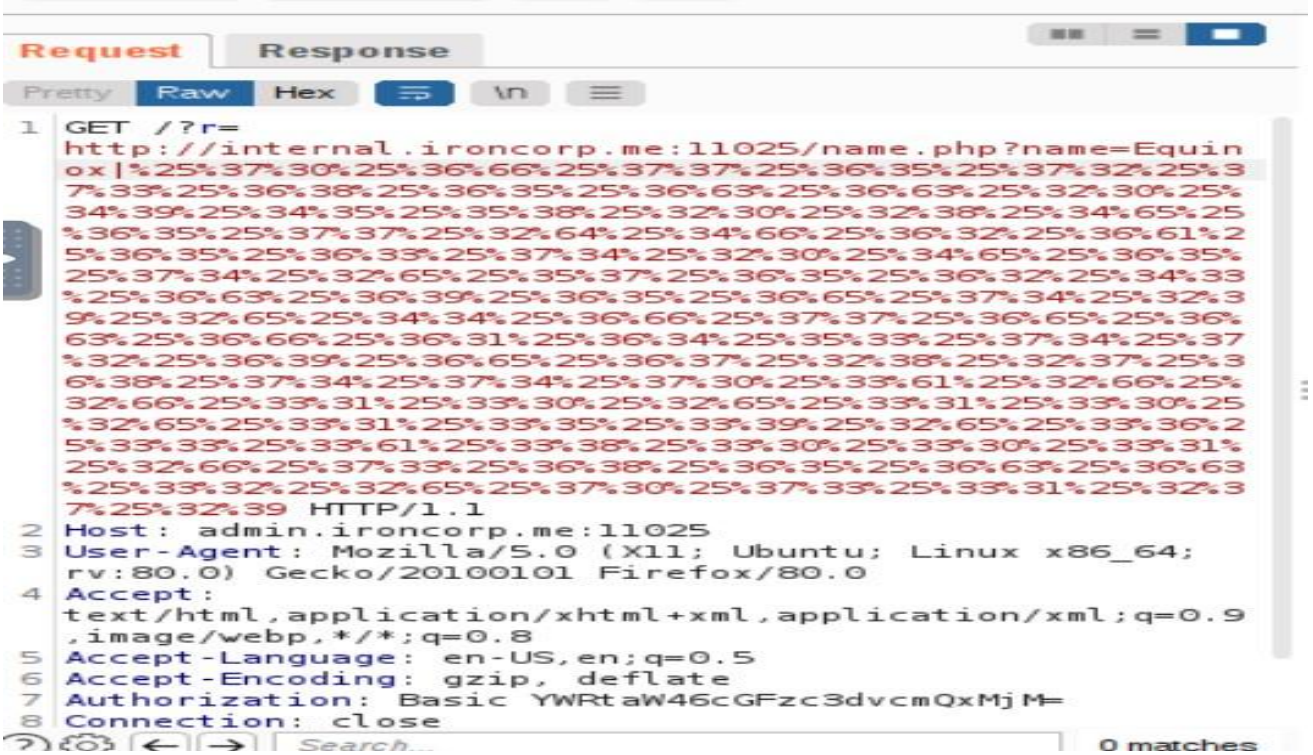


Set up python server and start nc listener

```
root@ip-10-10-159-63:~# python3 -m http.server 8001
Serving HTTP on 0.0.0.0 port 8001 (http://0.0.0.0:8001/) ...
```

```
root@ip-10-10-159-63: ~
File  Edit  View  Search  Terminal  Help
root@ip-10-10-159-63:~# nc -lvnp 4242
Listening on [0.0.0.0] (family 0, port 4242)
```

Use the Burp Suite repeater to send the below command to server

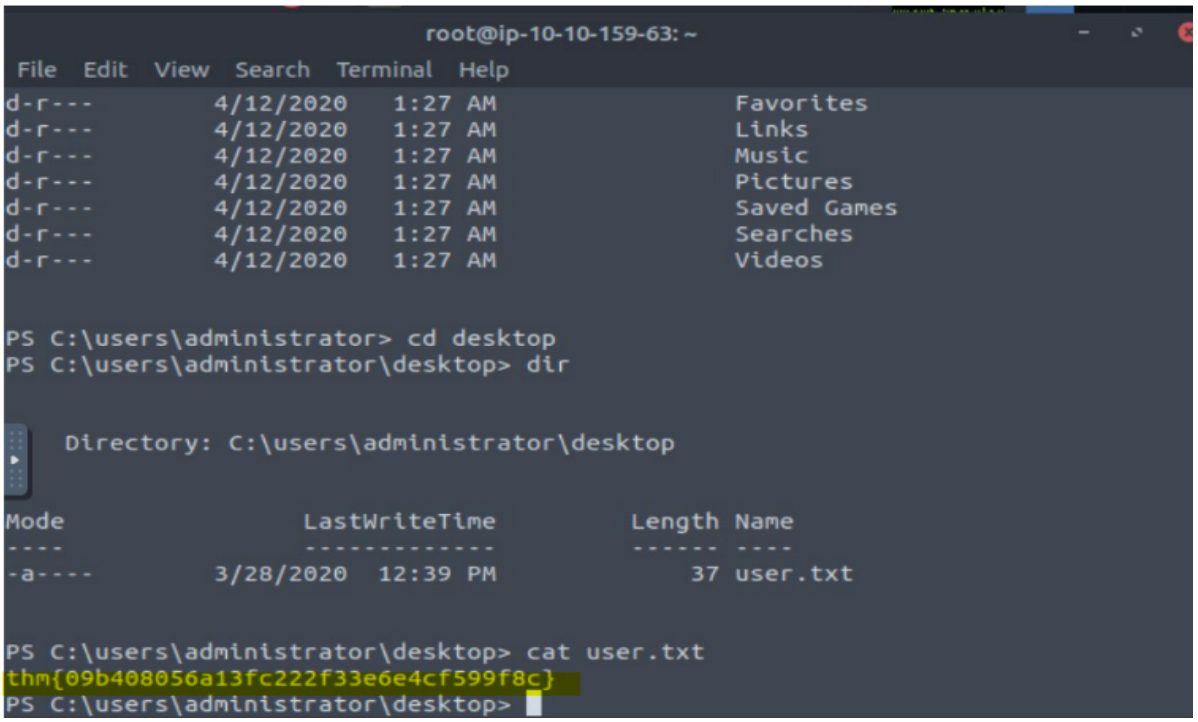


We execute and manage to get our shell.

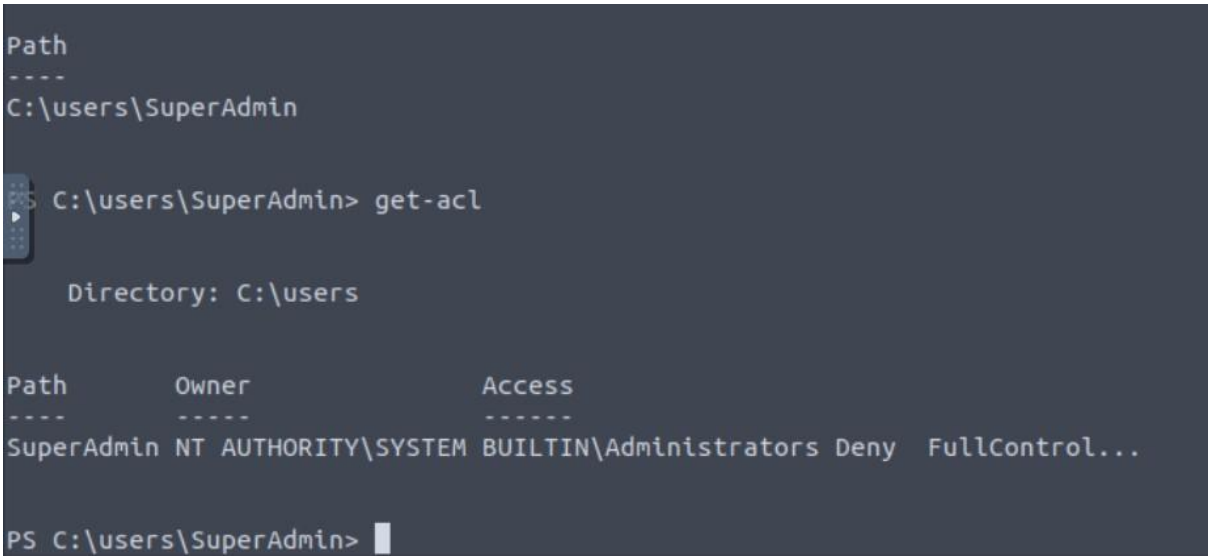
```
root@ip-10-10-159-63:~# python3 -m http.server 8001
Serving HTTP on 0.0.0.0 port 8001 (http://0.0.0.0:8001/) ...
10.10.161.201 - - [03/Aug/2022 13:10:15] "GET /shell2.ps1 HTTP/1.1" 200 -
10.10.161.201 - - [03/Aug/2022 13:11:47] "GET /shell2.ps1 HTTP/1.1" 200 -
```

```
root@ip-10-10-159-63: ~
File  Edit  View  Search  Terminal  Help
root@ip-10-10-159-63:~# nc -lvnp 4242
Listening on [0.0.0.0] (family 0, port 4242)
Connection from 10.10.161.201 50049 received!

PS E:\xampp\htdocs\internal> whoami
nt authority\system
PS E:\xampp\htdocs\internal>
```

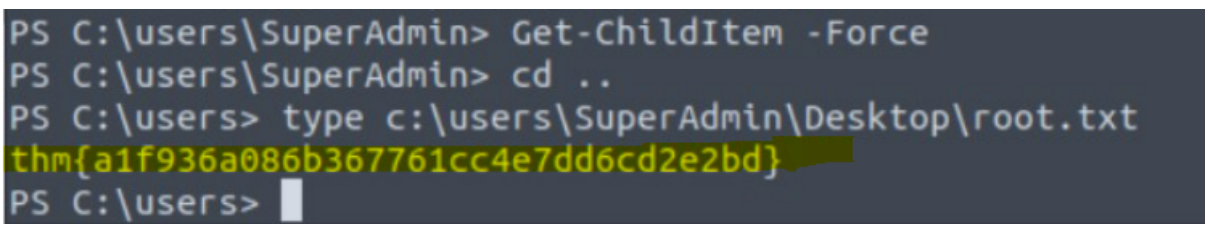
We have found our user flag, which is thm{09b408056a13fc222f33e6e4cf599f8c}



We cannot access the SuperAdmin directory, as the permission is denied.



We guess the file is in the Desktop folder too, so we use the "type" function command to display the contents of the text file. Luckily, our guessing is right, we finally got our root flag, which is thm{a1f936a086b367761cc4e7dd6cd2e2bd}



Thought process/methodology

Based on the instructions, we first edit the config file in nano /etc/hosts then run a nmap scanning. We saw that two ports 8080 and 11025 that run on http web service are open. Hence, we tried to access the site but not much information was found. To see any further information, we deduced that we should use the dig command and found two subdomains that are running internally, admin.ironcorp.me and internal.ironcorp.me. We then accessed the site by typing the site in the url but both pages could not be loaded. After some thoughts, we realized that both files run locally with the ip 127.0.0.1. Hence, we realized that in order to run it, we first have to add both addresses in /etc/hosts. We proceeded with it and managed to access admin.ironcorp.me, which requires the credentials to log in. However, internal.ironcorp.me is forbidden and is not accessible. We do not know the login credentials for the admin page. Hence, we did some research and found that we can use Hydra to perform password cracking. We tested it on our kali machine with the hydra command, -L to look for usernames and -P to look for passwords. At first, we used the file rockyou.txt for the username and password but the matching took too long. Hence, we decided to use another wordlist file, we use namelist.txt for the username and fasttrack.txt for the password, which both can be found in our kali machine. Thankfully, we managed to obtain the username and password after a few minutes then proceeded to log in with the credentials. Once we are logged in, we see that we can submit a query and deduce that we should test it with a random input. We tried inputting 'abc' and submitted the query, which turned out that our input is then printed out in a parameter. Hence, with this info, we deduced that we can perform a ssrf attack by injecting ssrf payloads. Since we know that internal.ironcorp.me could not be accessed, we tried to access it by inserting the url in the parameter. Next, burp the admin.ironcorp.me:11025/?r=http://internal.ironcorp.me:11025/name.php?name=Equinox, we will get an intercept. We sent it to the repeater and modified the command. Google a powershell reverse shell command and paste it in a new create reverse shell script with the extension of .ps1 . Then we set up a python http.server and netcat listener. Pasting the encoded command and reverse shell script in the burp suite repeater, we send the powershell one liner and we manage to get the reverse shell on the netcat listener that we set up earlier. We look for the directory to find the user.txt flag. It is in the C:\users\administrator\desktop . For the root flag, we guess it is in the SuperAdmin directory but we have no permission to access. Luckily, the "type" command works here, we manage to get the content of the root.txt file in the SuperAdmin directory.

Contributions

ID	Name	Contribution	Signatures
1211101775	Lam Yuet Xin	Find user & root flag, writeup	
1211101749	Teoh Xin Pei	Find user & root flag, writeup	
1211101398	Poh Ern Qi	Find user & root flag, writeup	
1211101800	Tan Jia Jin	Find user & root flag, writeup	

Video link: https://youtu.be/j2E8W1u6nHg

Pentest-2-TL7L-DASH